1301:7-7-01 Scope and administration.

Section 101 Scope and general requirements

101.1 Title. *The rules of the state fire marshal as set forth in Chapter 1301:7-7 of the Administrative Code shall be known as the "Ohio Fire Code" abbreviated "OFC," and hereinafter in such rules may also be referred to as the "state fire code" or "this code."*

101.1.1 Incorporation by reference. *Except as otherwise provided herein or as otherwise specified or modified in Ohio Administrative Code Chapters 1301:7-7-01 through 1301:7-7-80, Chapters 1 through 11 and 20 through 80 of the 2021 edition of the International Fire Code and Chapter 12 of the 2024 edition of the International Fire Code, as published by the International Code Council, Inc., and readily available at https://www.iccsafe.org, are hereby incorporated by reference in accordance with Sections 121.71 to 121.74 of the Revised Code as if set out at length herein.*

101.2 Scope. This code establishes *state fire marshal rules for the administration and enforcement of authorities granted to the fire marshal and fire code officials in Chapters 3701., 3731., 3737., 3741., 3743., 3781., 3791 and 5104., of the Revised Code and other applicable enactments, laws and rules including, but not limited to,* regulations affecting or relating to *all aspects of fire and life safety in* structures, processes, premises and safeguards regarding all of the following:

1. The hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices;

2. Conditions hazardous to life, property or public welfare in the occupancy of structures or premises;

3. Fire hazards in the structure or on the premises from occupancy or operation;

4. Matters related to the construction, extension, repair, alteration or removal of fire protection systems; and

5. Conditions affecting the safety of fire fighters and emergency responders during emergency operations.

101.2.1 Appendices. Provisions in the appendices *of any "International Fire Code" are not adopted as part of this code. A political subdivision with the authority to enact a local fire code may adopt these appendices as a part of such local codes.*

101.2.2 Activities, locations and persons subject to the Ohio Fire Code. *Unless specifically exempted or as limited by federal or state law or this code, the provisions of this code are intended to safeguard life and property from fire and explosion and shall apply to all aspects of fire safety at any structures, building, premises, vehicles or other locations within the territorial jurisdiction of the State of Ohio. The scope of this code includes, but is not limited to, property owned by the State of Ohio or other political subdivisions of the state, all residential occupancies and premises (including, but not limited to, one, two and three family dwellings and "R" occupancies as defined in this code), and all portions and uses of agricultural premises. The scope of this code includes all aspects of fire safety for any occupancy of or any activities at the places subject to this code, including actions of or uses*

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by any individual, corporation, business trust, estate, trust, partnership, association, the state, a political subdivision of the state, and any other entity, public or private.

101.2.2.1 Exemptions to the Ohio Fire Code. *This code does not apply to any of the following:*

1. *Property owned by the United States government in accordance with Chapter 159. of the Revised Code.*

2. *Structures owned by and used for a function of the United States government when such structures are designed, constructed and maintained in accordance with appropriate federal fire safety standards.*

3. *Structures controlled by the United States government used for a non-administrative military function of the United States government.*

4. *Structures owned or controlled by the State of Ohio that are used for a military function in accordance with 10 U.S.C. Chapter 1803.4.*

5. *The organization or structure of a municipal or township fire department. Unless otherwise specifically addressed in this code, this exemption includes items relating to matters like fire department grants, revolving loans, the firefighter's dependent's fund, municipal or township fire department or private fire company internal employment actions, taxation, funding and expenditure issues, minimum service and equipment levels, operational boundaries, or similar matters.*

6. *Structural building requirements covered by the Ohio Building Code.*

7. *Agricultural labor camps, to the extent required by Section 3733.42 of the Revised Code or rules adopted under that section.*

8. *Structures and premises subject to the exclusive jurisdiction of the power siting board as established in the Revised Code or in administrative rules promulgated by the power siting board, to the extent of such exclusivity.*

9. *The construction or installation of an industrialized unit regulated by the Ohio Building Code. All occupancy, operational and maintenance provisions of this code shall apply to all industrialized units.*

10. *Structures, ~~and~~ premises, and installations subject to the exclusive jurisdiction of the public utilities commission of Ohio as established in the Revised Code or in administrative rules promulgated by the public utilities commission, to the extent of such exclusivity.*

11. *The construction and operation of a mine or other underground cavern, wells, well pads, or derricks subject to the exclusive jurisdiction of the Ohio Department of Natural Resources, to the extent of such exclusivity.*

101.2.2.2 Limitations on applicability of the Ohio Fire Code. *This code shall not be construed to:*

1. *Cause an employer, in complying with it, to be in violation of the "Occupational Safety and Health Act of 1970," 84 Stat. 1590, 29 U.S.C.A. 651, or the "Consumer Product Safety Act of 1972," 86 Stat. 1207, 15 U.S.C.A. 2051;*

2. *Regulate manufacturers or manufacturing facilities with respect to occupational hazards where they are subject to regulation by the federal occupational safety and health administration;*

3. *Be inconsistent with, or in conflict with, regulations of the federal occupational safety and health administration or the hazardous materials regulations of the hazardous materials regulations board of the federal highway administration, United States department of transportation, or the public utilities commission;*

4. *Establish a minimum standard of flammability for consumer goods in any area where the "Flammable Fabrics Act," 81 Stat. 568 (1967), 15 U.S.C. 1191 authorizes the federal government or any department or agency of the federal government to establish national standards of flammability for consumer goods;*

5. *Establish a health or safety standard for the use of explosives in mining, for which the federal government through its authorized agency sets health or safety standards pursuant to section 6 of the "Federal Metal and Nonmetallic Mine Safety Act of 1966," 80 Stat. 772, 30 U.S.C. 725, or section 101 of the "Federal Coal Mine Health and Safety Act of 1969," 83 Stat. 745, 30 U.S.C. 811.*

101.2.3 Other existing codes. *Unless specifically stated otherwise in this code or the Revised Code, the Ohio Fire Code applies to and is enforceable against all activities, locations, and persons subject to this Code as specified in this section independently and regardless of the applicability of the building code or similar codes.*

101.2.4 Application of Ohio Fire Code to unpermitted, unapproved, or unauthorized matters. *Regardless of whether any of the permit, approval, or authorization provisions of this code do or could apply to or have been executed for any matter subject to this code, the substantive safety provisions of this code apply to all such activities, locations or persons.*

101.2.5 Previous fire codes. *Unless otherwise specified in this code or by law, and as of the effective date of this code or any rules herein, the Ohio Fire Code shall supersede any fire code provisions previously adopted by the state fire marshal and any political subdivision fire regulations that are in conflict with this code.*

101.3 ~~Intent~~Purpose. The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide a reasonable level of safety to firefighters and emergency responders during emergency operations.

101.4 Severability. If a section, subsection, sentence, clause or phrase of this code is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this code.

101.5 Validity. In the event any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions hereof, which are

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determined to be legal; and it shall be presumed that this code would have been adopted without such illegal or invalid parts or provisions.

Section 102 Applicability

102.1 Construction and design provisions.

102.1.1 General applicability. *Except as otherwise provided in Section 102.1.2, t*he construction and design provisions of this code shall apply to:

1. Structures, facilities and conditions*, including structural alterations, additions, or repairs subject to plan review by a code official,* arising after the adoption of this code. *This includes structures, facilities and conditions exempt from or not otherwise subject to Chapters 3781. or 3791. of the Revised Code.*

2. Existing structures, facilities and conditions*, including structural alterations, additions, or repairs subject to plan review by a code official,* not legally in existence at the time of adoption of this code.

3. Existing structures, facilities and conditions where required in Chapter 11.

~~3.~~4. Existing structures, facilities and conditions *not in strict compliance with the requirements of this code, regardless of whether such location is in substantial compliance with the applicable version of the building code~~, where the conditions~~* that, in the opinion of the fire code official, constitute a distinct hazard to life or property *~~in the opinion of the fire code official,~~ including existing structures subject to Chapter 11. If a distinct hazard to life or property cannot be proven by the fire official by a preponderance of the evidence, the provisions of this code shall not apply to an existing building or condition. This includes structures, facilities and conditions exempt from or not otherwise subject to Chapters 3781. or 3791. of the Revised Code.*

5. *Any structures that have had or are having a change of occupancy and use, including structures that were exempt, in part or in whole, from this code or the building code for any reason and the new intended or actual use of the structure is not in an exempt category under this code.*

102.1.2 Agricultural uses and locations. *The construction and design provisions of this code, including any construction permit requirements, shall not apply to structures:*

1. *Subject to section 3781.061 of the Revised Code, or*

2. *Otherwise exempt from the building code because such structures are being used for agricultural purposes as described in* division (B)(1) of *section 3781.06~~-~~of the Revised Code.*

Exceptions to paragraph 102.1.2 (1) and (2):

1. *~~If t~~The conditions at the structure constitute a distinct hazard to life or property.*
2. *~~or t~~The occupancy of structure constitutes a change of use or occupancy of the structure from one of the exempt uses listed in this ~~division~~ section to another occupancy classification subject to this code or the building code.*

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3. The structure is occupied or used on an agricultural premise for any reason by any person, other than by its owner, agent, lessee, manager, employee, or a contractor while such persons are engaged in an agricultural-related activity, operation or employment at the premise, and such occupancy or use would otherwise qualify for any non-agricultural use group as defined in this code or the building code, regardless of whether the use or occupancy is for a temporary, time-limited or permanent occupancy of the premises.

If a structure on an agricultural premise is not exempt from the application of the construction and design provisions of this code, the fire code official is authorized to require all reasonable measures, including but not exceeding full compliance with all or parts of the fire protection system construction features of this code that would otherwise apply to the occupancy category of the structure if it were not on an agricultural premise, as the fire code officials determines is necessary to provide reasonable public safety to structure occupants and to permanently abate any distinct hazards. This section applies regardless of other sections of law regulating agricultural structures and premises unless such laws specifically include this code within the scope of such laws and this code conflicts with such laws.

102.1.3 Non-required work. Any fire protection system, or portion thereof, not required by this code may be installed at any location subject to this code provided that the installation is in accordance with this code and the building code.

102.1.4. Additional special provisions for construction and design provisions. The construction and design provisions of this code do not apply to the following if, and to the extent that, such structures, occupancies, or features, as they are defined in the building code, are exempt from the building code or constructed in accordance with specifically applicable federal or state laws regulating the structures, occupancies, or features:

1. Wind turbines and solar arrays not connected to building services equipment.

2. Primitive transient lodging structures with only provisions for sleeping, with no building services equipment or piping, and not greater than 400 sq. ft. in area.

3. Intermodal shipping or freight containers, moving containers, storage containers, if used exclusively as a storage container temporarily for a period not to exceed 180 days.

4. Mobile computing units.

102.1.5 Intent of construction, design, maintenance and operational provisions of the Ohio Fire Code.

102.1.5.1 Construction and design provisions. It is the intent of this code that the construction and design provisions established in this section or elsewhere in this code will not be applied retroactively to an existing structure or associated premise unless at least one of the following is identified at the structure or premise by the fire code official:

1. Illegal construction, including construction that did not receive or obtain specifically required certificates, permits, approvals, or authorizations associated with the construction as described in this code or the building code.

2. A distinct hazard.

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3. Such construction is required by specific provisions of this code, the building code, or other laws.

4. A change of occupancy, when such a change occurs in violation of any provisions of this code or the building code, including any approval, permitting or plan review requirements.

102.1.5.2 Maintenance and operational provisions. *Unless specifically exempted from application by provisions of this code, federal law, or the Revised Code, the maintenance and operational provisions of this code apply to matters subject to this code even if the construction and design provisions of this code are exempted from or have limited applicability.*

102.2 Administrative, operational and maintenance provisions. The administrative, operational and maintenance provisions of this code shall apply to:

1. Conditions and operations arising after the adoption of this code.

2. Existing conditions and operations.

102.3 Minimum conditions of occupancy.

102.3.1. *All structures and premises subject to this code may be occupied by any person only in accordance with the provisions of this code, the building code and, at a minimum, the following paragraphs:*

1. New construction. Occupancy of a newly constructed structure must be in compliance with Section 105.3.3 *and* Section 109.1 *and* Section 901.5.

2. Existing structures.

2.1 Alterations. Any alterations to an existing structure shall be done in accordance with Section 102.4.

2.2 Change of occupancy. Any changes of occupancy to an existing structure shall be done in accordance with Section 102.3.3.

2.3 General occupancy. A new or existing structure or premises may only be occupied in accordance with Section 105.3.3 and Section 109.1. No existing structure or premises or part thereof that constitutes a distinct or serious hazard to life or property or is not legally in existence at the time of adoption of this code shall be occupied.

3. Structures, or portions thereof, subject to this code or the building code that have verified unapproved or unpermitted (when approvals or permits are required), illegal, or noncompliant construction, alterations, modifications, or repairs under such codes shall not be occupied or used as applicable, and no person shall engage in such activities or authorize such activities at a structure under their control.

102.3.1.1 *Occupancy of any structure, premise, vehicle or location that constitutes a distinct or serious hazard to life or property is hereby declared a public nuisance.*

102.3.2 ***Certificate of occupancy.*** *A responsible person shall maintain a copy of the current certificate of occupancy for a structure regulated by the building code and make it available*

to the fire code official upon request. This section only applies to a certificate of occupancy in existence as of ~~the effective date of this rule~~November 1, 2011, issued by a building official and/or a certificate of occupancy issued by a building official on or after ~~the effective date of this rule~~November 1, 2011.

102.3.3 Change of use or occupancy. ~~Changes~~ A change of occupancy shall not be made ~~in the use or occupancy of any structure that would place the structure in a different division of the same group or occupancy or in a different group of occupancies,~~ unless ~~such structure~~the use or occupancy is made to comply with the requirements of this code and the *building code*.

Exception: ~~Subject to the approval of~~Where approved by the fire code official, ~~the use or~~a change of occupancy ~~of an existing structure~~ shall be ~~allowed~~ permitted ~~to be changed and the structure is allowed to be occupied for purposes in other groups~~ without ~~conforming to all~~complying with the requirements of this code and the *building code* ~~for those groups,~~ provided that the new or proposed use or occupancy is less hazardous, based on life and fire risk, than the existing use.

102.3.4 Limited building code occupancy approvals. *Except as described in this paragraph, partial occupancy approvals issued under Section 111.1.1.3 of the building code, time limited occupancy approvals issued under Section 111.1.1.4 of the building code , temporary occupancy approvals issued under Sections 102.8 and 111.1.1.5 of the building code, certificates of completion for alterations and repairs issued under Sections 111.1.1 and 111.2 of the building code and variances to the building code issued by the state board of building appeals pursuant to section 3781.19 of the Revised Code shall be considered, to the extent of the approval or deviation from the building code issued by such officials, as conditions compliant with the construction and design provisions of this code. All maintenance and operational provisions of this code shall apply to such occupancies.*

Exception: *Any structure, location or condition that constitutes a distinct or serious hazard under this code. For such structure, location or condition, the fire code official may issue an order requiring compliance with any parts of this code or impose other conditions that such official determines are reasonably necessary to make such places safe for occupancy and use. If the local fire code official was provided an opportunity for input at a hearing conducted by the state board of building appeals pursuant to Section 3781.19 of the Revised Code and a variance to the building code for matters that impact fire safety was granted at such a hearing for a place subject to this exception, an order issued by a local fire code official under this exception shall be valid only if it is first authorized in writing by the state fire marshal.*

102.4 Application of building code. *In addition to compliance with this code, the planning, design and construction of new buildings and structures to provide the necessary egress facilities, fire protection, and built-in fire protection equipment shall be controlled by and comply with the building code of the jurisdiction, and any alterations, additions or changes of occupancy in buildings required by the provisions of this code which are within the scope of the building code shall be made in accordance therewith.*

102.5 Application of residential code *of Ohio*. Where structures are designed and constructed in accordance with the *residential code of Ohio*, the provisions of this code shall apply as follows:

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1. Construction and design provisions: *To the extent consistent with Chapter 3781. of the Revised Code, the provisions* of this code pertaining to the exterior of the structure shall apply including, but not limited to, premises identification, fire apparatus access and water supplies. Where interior or exterior systems or devices are installed *and such systems are not subject to the residential code of Ohio, the provisions for plan review and* construction permits required by *Chapter 1* shall also apply.

2. Administrative, operational and maintenance provisions of this code shall apply.

102.6 Historic buildings. The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or moving of buildings or structures shall not be mandatory for existing buildings or structures identified and classified by the state or local jurisdiction as historic buildings where such buildings or structures do not constitute a distinct hazard to life or property. Fire protection in designated historic buildings shall be provided in accordance with an approved fire protection plan as required in Section 1103.1.1.

102.7 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 80 and such codes and standards shall be *incorporated by reference into and* considered to be part of the requirements of this code to the prescribed extent of each such reference and as further regulated ~~in~~ by Sections 102.7.1 and 102.7.2.

102.7.1 ***References to Ohio codes.*** *References to the building code, mechanical code, plumbing code and residential code throughout this code shall be interpreted to mean the Ohio Building Code, Ohio Mechanical Code, Ohio Plumbing Code, Ohio Residential Code, respectively. References, if any, to the International Building Code, the International Mechanical Code, the International Plumbing Code, and the International Residential Code in this code shall be interpreted to mean the Ohio Building Code, Ohio Mechanical Code, Ohio Plumbing Code, Ohio Residential Code, respectively.*

102.7.2 **Conflicts.** Where conflicts occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply *unless otherwise provided in Section 3781.11 of the Revised Code*.

102.7.3 **Provisions in referenced codes and standards.** Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code, the provisions of this code, as applicable, shall take precedence over the provisions in the referenced code or standard.

102.7.4 *To the extent such rules relate to fire safety, the rules adopted by the state fire marshal in accordance with Chapter 3701., including Section 3701.82, Chapter 3721., including Section 3721.032, Chapter 3731., including Section 3731.02, Chapter 3737., including sections 3737.17, 3737.65 and 3737.73, Chapter 3743., including Sections 3743.02, 3743.03, 3743.04, 3743.05, 3743.06, 3743.15, 3743.17, 3743.18, 3743.53, 3743.56, 3743.58 and 3743.70 and Chapter 5104., including Section 5104.5 of the Revised Code, shall be incorporated by reference and considered part of this code.*

102.7.5 *Unless already addressed in and to the extent that such provisions do not conflict with the Revised Code or the rules listed in Section 102.7.1, the provisions of Sections 101, 102, 104, 105, ~~106~~108, ~~107~~109, ~~109~~112, ~~110~~114, ~~111~~113, ~~112~~115, ~~117~~ 120 and ~~122~~ 125 apply to the rules adopted by the state fire marshal in accordance with Chapter 3701., including Section 3701.82, Chapter 3721., including Section 3721.032, Chapter 3731., including*

Section 3731.02, Chapter 3737., including Sections 3737.17, 3737.65 and 3737.73, Chapter 3743., including Sections 3743.02, 3743.03, 3743.04, 3743.05, 3743.06, 3743.15, 3743.17, 3743.18, 3743.53, 3743.56, 3743.58 and 3743.70 and Chapter 5104., including Section 5104.5 of the Revised Code.

102.7.6 *To the extent not in conflict with the Revised Code, the applicable provisions of the "Ohio Fire Code" apply to and may be enforced against all persons, locations, things, structures, and activities regulated by Chapter 3701., including Section 3701.82, Chapter 3721., including Section 3721.032, Chapter 3731., including Section 3731.02, Chapter 3737., including Sections 3737.17, 3737.65 and 3737.73, Chapter 3743., including Sections 3743.02, 3743.03, 3743.04, 3743.05, 3743.06, 3743.15, 3743.17, 3743.18, 3743.53, 3743.56, 3743.58 and 3743.70 and Chapter 5104., including Section 5104.5 of the Revised Code.*

102.7.7 *Enforcement of rules adopted by the state fire marshal in accordance with Chapter 3701., including Section 3701.82, Chapter 3721., including Section 3721.032, Chapter 3731., including Section 3731.02, Chapter 3737., including Sections 3737.17, 3737.65 and 3737.73, Chapter 3743., including Sections 3743.02, 3743.03, 3743.04, 3743.05, 3743.06, 3743.15, 3743.17, 3743.18, 3743.53, 3743.56, 3743.58 and 3743.70 and Chapter 5104., including Section 5104.5 of the Revised Code shall be as provided in those Revised Code sections or such rules. In addition to such rules, any applicable provisions of the "Ohio Fire Code" may be used as a basis for such enforcement actions.*

102.8 *Deleted.*

102.9 *Deleted.*

102.10 ***Harmonizing*** **provisions.** Where there is a conflict between a general requirement and a specific requirement *of this code or its referenced standards*, the specific requirement shall be applicable. *A conflict occurs when both the general and specific requirements cannot be satisfied at the same time for the regulated matter.* Where, in a specific case, different sections of this code *or its referenced standards* specify different materials, methods of construction or other requirements, the most restrictive *provision that provides the highest degree of safety* shall govern. *If there is a conflict between a requirement of this code and a referenced standard, the provisions of this code shall govern unless otherwise provided in Section 3781.11 of the Revised Code.*

102.11 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

102.12 Application of references. References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

102.13 Underground storage tanks regulated by Chapter 1301:7-9 of the Administrative Code. *Underground storage tank systems subject to regulation by Chapter 1301:7-9 of the Administrative Code shall comply with the applicable regulations contained therein and the provisions of this code. If the provisions of this code address similar requirements or are in conflict with the requirements of Chapter 1301:7-9 of the Administrative Code, then the provisions of Chapter 1301:7-9 of the Administrative Code shall apply. Underground storage tank systems not subject to regulation by Chapter 1301:7-9 of the Administrative Code that are determined by the fire code official to comply with the installation, abandonment or removal requirements as set forth*

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in Chapter 1301:7-9 of the Administrative Code are deemed in compliance with the applicable provisions of Section 5704.2.11, 5704.2.13 or 5704.2.14. Such tanks are subject to all other applicable provisions of this code.

Section 103 *State and political subdivision (local) fire codes*

103.1 Fire code(s) or fire safety regulations within a political subdivision. *Consistent with this section, a political subdivision may, but is not required to, adopt and enforce a local fire code or fire safety regulations in accordance with the provisions of Ohio law. If a political subdivision adopts a local fire code, or other fire safety regulations, or other laws impacting fire safety, such local laws and regulations ~~that local fire code~~ constitute~~s~~ an additional set of fire safety regulations in the applicable jurisdiction. ~~A local fire code~~Such local laws and regulations shall not and do~~es~~ not modify, repeal, invalidate or otherwise nullify any provisions of this code, ~~or~~ any authorities reserved for the state fire marshal under this code, or any applicable authorities for certified fire safety inspectors to enforce the state fire code within their respective jurisdictions. Such local fire ~~codes~~ laws and regulations shall not be called the "Ohio Fire Code" even if such codes contain the same or similar substantive chapters as this code. Regardless of whether a political subdivision adopts a local fire code, this code remains in effect and is enforceable at all locations in the state in accordance with the applicable provisions of the Revised Code and this code.*

103.2 The state fire code is a minimum statewide standard. *This code shall constitute the minimum standards for safeguarding life and property from fire and explosion in this state. No political subdivision with the statutory authority to promulgate a local fire code or fire safety regulations may enact a local fire code or fire safety regulations, or parts thereof, or authorize a variance or waiver to such local fire code by any means, that provide a lower threshold of such safeguards or violate accepted engineering practice involving public safety. Only the State Fire Marshal, in accordance with Section 104.8 or the state board of building appeals pursuant to Section 3781.19 of the Revised Code may authorize a variance to any provisions of this code. Consistent with this section and the Revised Code, a political subdivision may promulgate local fire code or fire safety regulation provisions that meet or exceed the minimum safety requirements as set forth in this code or that are more extensive in scope than this code.*

103.3 Liability. *All liability related to the application or enforcement of this code by the state or a political subdivision shall be determined in accordance with all applicable laws, immunities and defenses, including Chapters 2743. and 2744. of the Revised Code and Sections 9.85, 9.86, 9.87, 2743.02 and 2744.03 of the Revised Code.*

103.4 ~~Certified f~~Fire safety inspectors. *The actions of fire safety inspectors, including certified fire safety inspectors, are subject to the applicable portions of the Ohio Revised Code, including Sections 3737.01(D), 3737.34, 3737.43(C) and 3737.64 of the Revised Code.*

103.5 Fire prevention officers. *For the purposes of Section 505.38(B) or 737.22(A) of the Revised Code, a fire prevention officer shall be appointed by the township trustees to provide services to any township without a fire department or unincorporated area of a township not served by that township's fire department as such a department was created pursuant to sections 505.37 and 505.38(A) of the Revised Code or to a village established under ~~t~~Title 7 of the Revised Code that has not organized a fire department.*

Section 104 ~~General authority~~Duties and ~~responsibilities~~ powers of the fire ~~code~~ official

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104.1 General. The fire code official is hereby authorized to enforce the provisions of this code and *to the extent the state fire marshal has not rendered an interpretation or issued a "Technical Bulletin" regarding a particular topic, the fire code official* shall have the authority to render interpretations of this code, and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall not have the effect of waiving requirements specifically provided for in this code. *To the extent the state fire marshal has rendered an interpretation or issued a "Technical Bulletin" regarding the provisions of this code, such interpretation shall be definitive throughout the state and in the discretion of the state fire marshal shall supersede all prior interpretations that may have been rendered by any other fire code official. No other fire code official shall render an interpretation in conflict with the state fire marshal's interpretation or technical bulletin or enforce provisions of this code in a manner in conflict with the interpretation or technical bulletin rendered by the state fire marshal.*

104.1.1. *The state fire marshal or fire chief of municipal corporations having fire departments or the fire chief of townships having fire departments shall enforce all provisions of Chapters 3781. and 3791. of the Revised Code, and any rules promulgated pursuant to those chapters, relating to fire prevention.*

104.2 Applications and permits. The fire code official is authorized to receive applications, review construction documents and issue permits for construction regulated by this code, issue permits for operations regulated by this code, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

104.2.1 Plan review for fire protection systems in structures regulated by the building code. *For the purposes of this paragraph, a fire code official is authorized to conduct plan review of fire protection systems in structures regulated by the building code in accordance with Section 106.1.2 of that code and the provisions of this section. The fire code official is authorized to:*

104.2.1.1 *Receive and review fire protection system and associated fire safety feature related construction documents when notice is provided to the building code official in accordance with Section ~~106.1.2~~107.4.5 of the building code.*

104.2.1.2 *Provide to the building official written findings of the reviewed construction documents for compliance with the provisions of this code. For each element of the reviewed construction document that does not meet the requirements of this code, the fire code official shall, in that official's written findings, provide a specific reference to the relevant sections of this code that have not been fully satisfied. The fire code official shall provide the written findings to the building code official within a reasonable time frame after receipt by the fire code official that is appropriate for compliance with the building official's statutory requirements.*

104.2.1.3 *As necessary to complete the plan review process, inspect the premises described in the construction documents.*

Pursuant to division (E) of Section 3791.04 of the Revised Code, the approval of plans and specifications by the building code official is a "license" to construct the building or structure in accordance with the approved plans and specifications to the extent of the application of the building code.

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104.2.2 *Except as noted in this section, construction of a structure subject to this section must be in compliance with the provisions of this code.*

104.2.2.1 *Prior to the issuance of a certificate of occupancy or other occupancy approval by a building code official, it is not a violation of this code for construction regulated by this code and the building code, or subject to a variance issued by the state board of building appeals pursuant to Section 3781.19 of the Revised Code, to occur in a manner or result in a condition contrary to the construction and design provisions of this code unless the state fire marshal first issues a written finding verifying that such construction and design provisions have been violated. If the state fire marshal issues such a finding, the fire code official is authorized to issue a citation and order pursuant to Section 3737.42 of the Revised Code requiring compliance with the applicable construction and design provisions of this code. As applicable, such orders may be concurrently appealed to the state board of building appeals pursuant to Section 3781.19 of the Revised Code with any adjudication orders issued by the building code official.*

104.2.2.2 *Notwithstanding any other provision of this section or Chapter 11, the minimum conditions of safe occupancy as specified in this code, including Sections 102.3.1 and 105.3.3.3, shall always apply to all structures, buildings, premises, conditions and activities subject to Section 101.2.*

104.3 Right of entry. *In accordance with Section 3737.14 of the Revised Code and constitutional provisions governing searches,* the fire code official, *and other officials or their designees as described in Section 3737.14 of the Revised Code,* shall have the authority to enter *all buildings or vehicles or upon all* premises, *as such locations are described in Section 101.2.2 and which are within that official's jurisdiction,* at all reasonable *hours* to *conduct an examination*, inspect *or investigate* or to perform the duties imposed upon the official by this code. If such building or premises is occupied, the official shall present credentials to the occupant and request entry. If such building or premises is unoccupied, the official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the building or premises and request entry. If entry is refused, the fire code official has recourse to every remedy provided by law to secure entry*, including obtaining a warrant in accordance with division (F) of Section 2933.21 of the Revised Code.*

104.3.1 Warrant. Where the fire code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the fire code official for the purpose of inspection and examination pursuant to this code.

104.4 Identification. The fire code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

104.5 Notices and orders. The fire code official is authorized to issue such notices or orders as are required to affect compliance with this code in accordance with Sections 112.1 and ~~109.2~~ 112.2.

104.6 Official records. The fire code official shall keep official records as required by Sections 104.6.1 through 104.6.4. Such official records shall be retained *in accordance with the provisions of Chapter 149. of the Revised Code.*

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104.6.1 Approvals. A record of approvals shall be maintained by the fire code official and shall be available for public inspection during business hours in accordance with applicable laws.

104.6.2 Inspections. The fire code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

104.6.3 Fire records. *All* fire departments shall keep a record of fires occurring within *their* jurisdiction *of organization,* and of facts concerning the same, including statistics as to the extent of such fires and the damage caused thereby, together with other information as required by the *state fire marshal. If a township or village does not have an organized fire department under its own authority or it does not exist concurrently with a municipality that has established its own fire department within its jurisdiction, then, regardless of whether it contracts for fire protection services, the fire prevention officer of such townships or villages shall ensure that the reporting functions of this section are complied with.*

104.6.3.1 Fire reports. *The fire department described in Section 104.6.3, the political subdivision served by such fire departments described in Section 104.6.3 or the fire prevention officer described in Section 104.6.3 shall report fire incidents required by Sections 3737.23 and 3737.24 of the Revised Code using coding information and procedures prescribed by the ~~"United States Fire Administration" in the "National Fire Incident Reporting System (NFIRS)"~~state fire marshal and shall send to the state fire marshal these reports in a manner approved by the state fire marshal. The reports shall include the "Incident Report~~,~~" ~~the "Civilian Casualty Report," and the "Fire Service Casualty Report."~~with all required sections/modules completed. Electronic reporting of fire incidents to the state fire marshal must be in a format approved by ~~both the "United States Fire Administration" and~~ the state fire marshal. ~~as being compatible with the current version of the "National Fire Incident Reporting System."~~ The state fire marshal, in the state fire marshal's sole discretion, may choose a federally recognized manner of reporting with which departments must comply. Any electronic reporting also must be in a format that is specifically compatible with the software used by the state fire marshal to process such reports and be transmitted in a format that has been approved by the state fire marshal.*

All reports required under this ~~paragraph~~ section shall be submitted to the state fire marshal within ~~thirty-one~~seven~~fifteen~~ days of the end of the calendar month in which the incident referenced in the report occurred. I*n months where no reportable fire incidents have occurred, the fire department described in Section 104.6.3 and the political subdivision served by the fire department described in Section 104.6.3 shall file a "No Activity Report" as prescribed by the state fire marshal and in a manner approved by the state fire marshal.*

104.6.4 Administrative. *As applicable,* the final decision of the fire code official shall be in writing and shall be officially recorded in the permanent records of the fire code official.

104.7 *Deleted.*

104.7.1 Deleted.

104.8 Approved materials and equipment. *Materials, equipment, devices and methods of construction within the scope of the building code* shall be approved *in accordance with the*

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provisions of the building code. Other materials, equipment and devices not within the scope of the building code that are approved by the fire code official shall be constructed and installed in accordance with such approval. The fire code official's approval of materials, equipment and devices shall be consistent with the listing and labeling or authenticated research reports from authoritative sources as set forth in Section 115 for such materials, equipment and devices.

104.8.1 Material and equipment reuse. Materials, equipment and devices shall not be reused or reinstalled unless such elements have been reconditioned, tested and placed in good and proper working condition and approved.

104.8.2 Technical assistance. To determine the acceptability of technologies, processes, products, facilities, materials and uses attending the design, operation or use of a building or premises subject to inspection by the fire code official, the fire code official is authorized to require the owner or owner's authorized agent to provide, without charge to the jurisdiction, a technical opinion and report. The opinion and report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the fire code official and shall analyze the fire safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to recommend necessary changes.

104.9 ***Variances (modifications) by state fire marshal.*** *Whenever there are practical difficulties involved in carrying out the provisions of the state fire code, the state fire marshal, in the state fire marshal's discretion, may modify any provision of the state fire code or any other administrative rule promulgated by the state fire marshal by issuing a variance upon written application by an affected party and upon demonstration by that party of both of the following:*

1. *That the variance will not threaten the public health, safety or welfare; and*

2. *That the party will provide measures to protect the public health, safety and welfare that are substantially equivalent to the measures otherwise required under the state fire code or other applicable laws, rules and regulations.*

104.9.1 *A request for variance submitted pursuant to this chapter shall only be considered upon production of any information or documentation requested by the state fire marshal. The particulars of such variance when granted shall be in writing, entered upon the records of the state fire marshal and furnished to the applicant and the authority having jurisdiction, if said authority is other than the state fire marshal.*

104.9.2 *Unless otherwise stipulated by the state fire marshal upon the granting of a variance, each variance granted pursuant to this section shall automatically terminate one year from the date of its issuance.*

104.9.3 *There shall be no automatic renewals of any variance granted pursuant to this paragraph. Each variance shall be specifically applied for in writing by the requesting party and independently considered by the state fire marshal.*

104.9.4 *Variances issued by the state board of building appeals to this code shall be in accordance with Section 3781.19 of the Revised Code and shall only apply to citations and orders issued under Sections 3737.41 and 3737.42 of the Revised Code.*

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104.9.5 *The state fire marshal, in the marshal's discretion, may issue variances to this code at times of public need, including in preparation for or response to natural or other disasters or emergencies.*

104.10 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any design or material or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. ~~The fire code official is authorized to approve a~~An alternative material or method of construction shall be approved where the fire code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, ~~at least~~not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not approved, the fire code official shall respond in writing, stating the reasons why the alternative was not approved. *For the installation of any material or the use of any method of construction that is subject to the building code, any approval of an alternative method or material must be done in accordance with that code.*

104.10.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

104.10.2 Tests. Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the fire code official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the fire code official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the fire code official for the period required for retention of public records.

104.11 Fire investigations. *The state fire marshal, or an assistant state fire marshal as designated by the state fire marshal, and the chief of the fire department of each municipal corporation in which a fire department is established, the chief of the fire department in each township in which a fire department is established, the chief of the fire department of a joint fire district, or the fire prevention officer in each township or village where no fire department is established in accordance with Section 3737.24 of the Revised Code and other Revised Code sections applicable to the investigating agency shall have the authority to investigate the ~~cause, origin~~origin, cause* and circumstances of any *major* fire *or* explosion. *For the purposes of Section 149.43 of the Revised Code, such investigations shall be considered law enforcement matters of a criminal, quasi-criminal, civil, or administrative nature. For the purposes of Section 3929.87 of the Revised Code, an investigation that has not made a final finding, but has made findings as to the origin and cause of a fire in accordance with accepted fire investigation practices qualifies as a determination under that statute, including a finding that the cause of a fire is "undetermined" as that term is commonly defined in national fire investigation standards.*

104.11.1 **Assistance from other agencies.** Police and other enforcement agencies shall have authority to render necessary assistance in the investigation of fires when requested to do so *in accordance with the laws of this state*.

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104.11.2 Major fire definition. *For the purposes of Section 3737.24 of the Revised Code and this code, a "major fire or explosion" means:*

1. *A fire or explosion that caused or had a substantial risk of causing death or serious physical harm to any person.*

2. *A fire or explosion that caused damage to or the destruction of any occupancy, property or vehicle and the estimated or actual loss associated with such fire or explosion exceeds $500,000 in value.*

3. *A fire or explosion that caused damage to or the destruction of any occupancy, property or vehicle that is owned, leased or directly controlled by the United States of America, the State of Ohio or any political subdivision of the State, including schools and other educational institutions; .*

4. *A fire or explosion that caused damage to or the destruction of any educational occupancy, whether owned by a unit of government or private entity, or any place of worship, or that harmed any person in such occupancies or locations.*

4.5. *A fire or explosion that any political subdivision Fire fire Chief chief determines, in that Chief's chief's discretion, to be a significant fire within that Chief's chief's jurisdiction.*

5.6. *Any fire or explosion so designated by the state fire marshal as a major fire or explosion.*

104.11.3 Major fire notifications to state fire marshal. *Political Notwithstanding the provisions of Section 104.6.3.1 and the timeframes within which fire incident information must be reported to the state fire marshal, political subdivision fire departments, including such departments and private fire companies providing services to another jurisdiction that does not have a fire department, must immediately report to the state fire marshal any fire or explosion occurring within its jurisdiction or response area that caused or had a substantial risk of causing death or serious physical harm to any person(s).*

104.11.4. *As used in this section, the phrases "substantial risk" and "serious physical harm" have the same meaning as the definitions of such phrases in divisions (A)(6) and (A)(8) of Sections 2901.01(A)(6) and (A)(8) of the Revised Code.*

104.12 Authority at fires and other emergencies. The fire chief or officer of the fire department in charge at the scene of a fire or other emergency involving the protection of life or property, or any part thereof, shall have the authority to direct such operation as necessary to extinguish or control any fire, perform any rescue operation, investigate the existence of suspected or reported fires, gas leaks or other hazardous conditions or situations, or take any other action necessary in the reasonable performance of duty. In the exercise of such power, the fire chief is authorized to prohibit any person, vehicle, vessel or thing from approaching the scene and is authorized to remove, or cause to be removed or kept away from the scene, any vehicle, vessel or thing that could impede or interfere with the operations of the fire department and, in the judgment of the fire chief, any person not actually and usefully employed in the extinguishing of such fire or in the preservation of property in the vicinity thereof.

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104.12.1 Barricades. The fire chief or officer of the fire department in charge at the scene of an emergency is authorized to place ropes, guards, barricades or other obstructions across any street, alley, place or private property in the vicinity of such operation so as to prevent accidents or interference with the lawful efforts of the fire department to manage and control the situation and to handle fire apparatus.

104.12.2 Obstructing operations. Persons shall not obstruct the operations of the fire department in connection with extinguishment or control of any fire, or actions relative to other emergencies, or disobey any lawful command of the fire chief or officer of the fire department in charge of the emergency, or any part thereof, or any lawful order of a police officer assisting the fire department.

104.12.3 Systems and devices. Persons shall not render a system or device inoperative during an emergency unless by direction of the fire chief or fire department official in charge of the incident.

104.12.4 Evacuation. *The fire department official in charge of an actual emergency response incident, as determined by such official, shall be authorized to order the immediate evacuation of any occupied building or premise deemed unsafe when such location has hazardous conditions that present life threatening danger to building or premise occupants. Persons so notified shall immediately leave the structure or premises and shall not enter or re-enter until authorized to do so by the fire department official in charge of the incident. For the purposes of this code, an emergency response incident involving an actual first responder services or ongoing fires, explosions or other hazardous events are, due to the actual occurrence of an emergency, distinguishable from events referenced in Section 3737.44 of the Revised Code.*

104.12.5 Utility disconnection. *A fire chief or other fire official in charge of an emergency response shall have authority to order the disconnection of utility services in accordance with Section 110.*

Section 105 Permits

105.1 General. Permits shall be in accordance with Sections 105.1.1 through ~~105.7.18~~ 105.6.24.

105.1.1 Permits required. A property owner or owner's authorized agent who intends to conduct an operation or business, or install or modify systems and equipment that are regulated by this code, or to cause any such work to be performed, shall first make application to the fire code official and obtain the required permit *when a permit is required by Section 105.1.1.1 or when a permit is required by a local fire code official in accordance with Section 105.1.1.2*.

105.1.1.1 Mandatory permits. *The following installations or operations require a permit. Such permits shall be obtained from the fire code official as follows:*

105.1.1.1.1 Explosives. *A permit is required for the manufacture, processing or storage of explosives and explosive materials. In addition to any discretionary permits for explosives required by the local fire code official, permits for explosives storage and explosive material storage shall be obtained from the state fire marshal.*

Exceptions:

1. *Fireworks exhibition storage pursuant to Section 5610.*

2. *A manufacturer or wholesaler of fireworks that has paid an original or a renewal application fee in accordance with Section ~~5617~~5616.1.*

105.1.1.1.2 Flammable and combustible liquid tanks. *A permit is required to install, alter, place temporarily out of service, remove, abandon or otherwise dispose of a flammable or combustible liquid tank or any line or dispensing device connected thereto. Permits to install, alter, remove, abandon or otherwise dispose of a flammable or combustible liquid tank or any line or dispensing device connected thereto shall be obtained from the state fire marshal when such permits are not issued by the local fire code official.*

Exceptions:

1. *No permit shall be required to install, alter, place temporarily out of service, remove, abandon or otherwise dispose of a listed, lockable engine mounted tank that is connected to stationary pieces of equipment if all of the following apply:*

   1.1. The tank has a capacity of 500 gallons or less; and

   1.2. The equipment remains locked at all times unless the equipment is being serviced or the tank is being filled; and

   1.3. All other provisions of this code, including other security provisions such as vehicle protection, are complied with.

2. *No permit shall be required to install, alter, place temporarily out of service, remove, abandon or otherwise dispose of a stationary flammable or combustible liquid storage tank with a capacity of 1,100 gallons or less utilized for residential heating oil or agricultural purposes.*

3. *No permit shall be required for a stationary flammable or combustible liquid storage tank utilized at a construction site for a period of less than 90 days.*

105.1.1.1.3 Exhibition of fireworks. *A permit is required for the temporary storage and exhibition of fireworks as set forth in Revised Code Chapter 3743. and Chapter 56. Permits required for the temporary storage and exhibition of fireworks shall be obtained from the local fire code official in accordance with the provisions of the Revised Code and Chapter 56.*

105.1.1.1.4 Ammonium nitrate. *A permit is required for the storage, use, manufacture, processing or handling of ammonium nitrate in either solid form or prill form for any facility that will at any time have an aggregate quantity of ammonium nitrate on-site in an amount in excess of 5,000 pounds. In addition to any discretionary permit required by the local fire code official, an annual operational permit shall be obtained from the state fire marshal for the storage, use, manufacture, processing or handling of ammonium nitrate under this paragraph.*

Exceptions:

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1. This requirement for an annual operational permit from the state fire marshal shall not apply to ammonium nitrate within the state of Ohio that is subject to a permit under Section 105.1.1.1.1.

2. This requirement for an annual operational permit from the state fire marshal shall not apply to ammonium nitrate that is otherwise regulated by DOTn.

105.1.1.2 Discretionary permits. *The local fire code official is authorized, but not required, to establish a permit program and issue a permit for the hazardous activities set forth in Sections 105.5 and 105.6. Regardless of whether or not the local fire code official has established a permit program to issue permits for the hazardous activities set forth in Sections 105.5 and 105.6, all other provisions of this code shall remain in full force and effect.*

105.1.1.3 Notification of hazardous activities. *When a permit is not required to engage in any hazardous activity set forth in this chapter, the person intending to engage in the hazardous activity shall first notify the local fire code official of that person's intent to engage in that hazardous activity.*

105.1.2 Types of permits.

1. Operational permit. An operational permit allows the applicant to conduct an operation or a business for which a permit is *to be issued* for either:

   1.1 A prescribed period.

   1.2 Until renewed or revoked.

2. Construction permit. A construction permit allows the applicant to install or modify systems and equipment for which a permit is *to be issued*.

105.1.3 Multiple permits for the same location. Where more than one permit is required for the same location, the fire code official is authorized to consolidate such permits into a single permit provided that each provision is listed in the permit.

105.1.4 Emergency repairs. Where equipment replacement and repairs must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the fire code official.

105.1.5 Repairs. Application or notice to the fire code official is not required for ordinary repairs to structures, equipment or systems. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall any repairs include addition to, alteration of, replacement or relocation of any standpipe, fire protection water supply, automatic sprinkler system, fire alarm system or other work affecting fire protection or life safety.

105.1.6 Annual permit. Instead of an individual construction permit for each alteration to an already approved system or equipment installation, the fire code official is authorized to issue

an annual permit upon application therefor to any person, firm or corporation regularly employing one or more qualified tradespersons in the building, structure or on the premises owned or operated by the applicant for the permit.

105.1.6.1 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The fire code official shall have access to such records at all times or such records shall be filed with the fire code official as designated.

105.2 Application. Application for a permit required by this code shall be made to the fire code official in such form and detail as prescribed by the fire code official. Applications for permits shall be accompanied by such plans as prescribed by the fire code official. *The requirement for plan review for fire protection systems in structures regulated by the building code submitted for plan review in accordance with this section is subject to and does not supersede or otherwise conflict with the requirements of Section 104.2.1.*

105.2.1 Refusal to issue permit. If the application for a permit describes a use that does not conform to the requirements of this code and other pertinent laws and ordinances, the fire code official shall not issue a permit, but shall return the application to the applicant with the refusal to issue such permit. Such refusal shall, where requested, be in writing and shall contain the reasons for refusal.

105.2.2 Inspection authorized. Before a new operational permit is approved, the fire code official is authorized to inspect the receptacles, vehicles, buildings, devices, premises, storage spaces or areas to be used to determine compliance with this code or any operational constraints required.

105.2.3 Time limitation of application. An application for a permit for any proposed work or operation shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been diligently prosecuted or a permit shall have been issued; except that the fire code official is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause demonstrated.

105.2.4 Action on application. The fire code official shall examine or cause to be examined applications for permits and amendments thereto within a reasonable time after filing. If the application or the construction documents do not conform to the requirements of pertinent laws, the fire code official shall reject such application in writing, stating the reasons therefore. If the fire code official is satisfied that the proposed work or operation conforms to the requirements of this code and laws and ordinances applicable thereto, the fire code official shall issue a permit therefore as soon as practicable.

105.3 Conditions of a permit. A permit shall constitute permission to maintain, store or handle materials; or to conduct processes that produce conditions hazardous to life or property; or to install equipment utilized in connection with such activities; or to install or modify any fire protection system or equipment or any other construction, equipment installation or modification in accordance with the provisions of this code where a permit is *issued. When issued, s*uch permission shall not be construed as authority to violate, cancel or set aside any of the provisions of this code or other applicable regulations or laws of the jurisdiction.

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105.3.1 Expiration. An operational permit, *when issued,* shall remain in effect until reissued, renewed, or revoked or for such a period of time as specified in the permit. Construction permits, *when issued,* shall automatically become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. Before such work recommences, a new permit shall be first obtained and the fee to recommence work, if any, shall be one-half the amount required for a new permit, *when issued,* for such work, provided that changes have not been made and will not be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded one year. *When issued, p*ermits are not transferable and any change in occupancy, operation, tenancy or ownership shall require that a new permit be issued.

105.3.2 Extensions. A permittee holding an unexpired permit shall have the right to apply for an extension of the time within which the permittee will commence work under that permit where work is unable to be commenced within the time required by this section for good and satisfactory reasons. The fire code official is authorized to grant, in writing, one or more extensions of the time period of a permit for periods of not more than 180 days each. Such extensions shall be requested by the permit holder in writing and justifiable cause demonstrated.

105.3.3 Occupancy.

105.3.3.1 Acceptance testing of fire protection systems. *Prior to the issuance by the building official of any certificate of occupancy for any building subject to Section 104.2.1, the responsible person shall notify the fire code official to be present to witness the acceptance testing of all fire protection systems.*

105.3.3.2 Final inspection. *Prior to the issuance by the building official of any certificate of occupancy for any building subject to Section 104.2.1, the responsible person shall notify the fire code official to conduct a final inspection. The fire code official shall report any deficiencies of the fire protection systems to the building official.*

105.3.3.3 Minimum conditions for safe occupancy. *No structure, premises or building, or any portion thereof, shall be occupied unless:*

105.3.3.3.1 *Such structures, premises or buildings or portions thereof are in substantial compliance with the applicable provisions of this code and the building code.*

105.3.3.3.2 *The structure, premises or building, or any portion thereof, does not constitute a distinct or serious hazard to life or property in accordance with the provisions of this code.*

105.3.4 Conditional *approvals and* permits. Where *approval by the fire code official or* permits are required and on the request of *the* applicant, the fire code official is authorized to issue a conditional *approval or permit to engage in the permitted activity or use provided that the permitted activity or use is safe and does not endanger life or public welfare.* The fire code official shall notify the applicant of any limitations or restrictions necessary to keep the *regulated activity or use* safe. The holder of a conditional *approval or* permit shall proceed only to the point for which approval has been given, at the *applicant's* own risk and without

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assurance that approval for the occupancy or the utilization of the entire premises, equipment or operations will be granted.

105.3.5 Posting the permit. Issued permits shall be kept on the premises designated therein at all times and shall be readily available for inspection by the fire code official.

105.3.6 Compliance with code. The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the fire code official from requiring the correction of errors in the construction documents and other data. Any addition to or alteration of approved construction documents shall be approved in advance by the fire code official, as evidenced by the issuance of a new or amended permit.

105.3.6.1 For structures regulated by the building code. *If a building official issues a permit, plan approval or certificate of occupancy for a structure in accordance with the building code for a structure regulated by this code, the responsible person is not exempted from compliance with this code, including provisions for fire safety functions. If a review of fire protection system plans in accordance with Section 104.2.1) of this rule is not completed or a permit for construction is not issued pursuant to this code, the absence of such review or permit does not prohibit construction from occurring in accordance with the building official's approval.*

105.3.7 Information on the permit. The fire code official shall issue all permits required by this code on an approved form furnished for that purpose. The permit shall contain a general description of the operation or occupancy and its location and any other information required by the fire code official. Issued permits shall bear the signature of the fire code official or other approved legal authorization.

105.3.8 Validity of permit. The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinances of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents, operational documents and other data shall not prevent the fire code official from requiring correction of errors in the documents or other data.

~~(4) **105.4 Construction documents.** Construction documents shall be in accordance with this *paragraph. The requirement for plan review of fire protection systems in structures regulated by the building code as listed in rule 1301:7-7-80 of the Administrative Code submitted for plan review in accordance with this paragraph is subject to and does not supersede or otherwise conflict with the requirements of paragraphs (D)(2)(a)(104.2.1) of this rule.*~~

~~(a) **105.4.1 Submittals.** *Subject to the provisions of paragraph* (D)(2)(a)(104.2.1) *of this rule,* construction documents and supporting data shall be submitted in two or more sets with each application for a permit and in such form and detail as required by the fire code official. The construction documents shall be prepared by an appropriate person where required by the *Revised Code.*~~

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Exception: The fire code official is authorized to waive the submission of construction documents and supporting data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

(i) **105.4.1.1 Examination of documents.** The fire code official shall examine or cause to be examined the accompanying construction documents and shall ascertain by such examinations whether the work indicated and described is in accordance with the requirements of this code.

(b) **105.4.2 Information on construction documents.** Construction documents shall be drawn to scale upon suitable material. Electronic media documents are allowed to be submitted where approved by the fire code official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations as determined by the fire code official.

(i) **105.4.2.1 Fire protection system shop drawings.** *Subject to the provisions of paragraph* (D)(2)(a)(104.2.1) *of this rule,* shop drawings for the fire protection system(s) shall be submitted to indicate compliance with this code and the construction documents and shall be approved prior to the start of installation. Shop drawings shall contain all information as required by the referenced installation standards in *rule 1301:7-7-09 of the Administrative Code*.

(c) **105.4.3 Applicant responsibility.** It shall be the responsibility of the applicant to ensure that the construction documents include all of the fire protection requirements and the shop drawings are complete and in compliance with the applicable codes and standards.

(d) **105.4.4 Approved documents.** Construction documents *reviewed by the fire code official in accordance with paragraph (D)(2)(a)(104.2.1) of this rule or construction documents* approved by the fire code official are *reviewed and* approved with the intent that such construction documents comply in all respects with this code. Review and approval by the fire code official shall not relieve the applicant of the responsibility of compliance with this code.

(i) **105.4.4.1 Phased approval.** *Subject to the provisions of paragraph* (D)(2)(a)(104.2.1) *of this rule, t*he fire code official is authorized to issue a permit for the construction of part of a structure, system or operation before the construction documents for the whole structure, system or operation have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for parts of a structure, system or operation shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure, system or operation will be granted.

(e) **105.4.5 Amended construction documents.** Work shall be installed in accordance with the approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

(i) ***105.4.5.1*** *Where actual construction demonstrates substantial deviation from the construction documents approved by the building code official, the fire code official shall have the authority to require the responsible party to submit corrected construction*

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~~*documents to the building code official having jurisdiction for approval in accordance with the building code as listed in rule 1301:7-7-80 of the Administrative Code and to the fire code official for review in accordance with paragraph (D)(2)(104.2) of this rule.*~~

~~(f) **105.4.6 Retention of construction documents.** One set of construction documents shall be retained by the fire code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.~~

~~105.5~~105.4 **Revocation.** The fire code official is authorized to revoke a permit issued under the provisions of this code where it is found by inspection or otherwise that there has been a false statement or misrepresentation as to the material facts in the application or construction documents on which the permit or approval was based including, but not limited to, any one of the following:

1. The permit is used for a location or establishment other than that for which it was issued.
2. The permit is used for a condition or activity other than that listed in the permit.
3. Conditions and limitations set forth in the permit have been violated.
4. There have been any false statements or misrepresentations as to the material fact in the application for permit or plans submitted or a condition of the permit.
5. The permit is used by a different person or firm than the name for which it was issued.
6. The permittee failed, refused or neglected to comply with orders or notices duly served in accordance with the provisions of this code within the time provided therein.
7. The permit was issued in error or in violation of an ordinance, regulation or this code.

~~105.6~~105.5 **Operational permits.** The *local* fire code official *and, when specified in this rule, the state fire marshal are* authorized *in accordance with Section 105.1.1.2* to issue operational permits *as provided for in this chapter*.

105.5.1 Additive manufacturing. An operational permit ~~is required~~ to conduct additive manufacturing operations regulated by Section 320.3.

~~105.6.1~~105.5.2 **Aerosol products, aerosol cooking spray products and plastic aerosol 3 products.** An operational permit to manufacture, store or handle an aggregate quantity of Level 2 or Level 3 aerosol products, aerosol cooking spray products or plastic aerosol 3 products in excess of 500 pounds (227 kg) net weight.

~~105.6.2~~105.5.3 **Amusement buildings.** An operational permit to operate a special amusement building.

~~105.6.3~~105.5.4 **Aviation facilities.** An operational permit to use a Group H or Group S occupancy for aircraft servicing or repair and aircraft fuel-servicing vehicles.

Note: for copyright claim information, please see the notice on the last page of this rule.

~~(d) **105.6.4 Carbon dioxide systems used for beverage dispensing applications.** An operational permit for carbon dioxide systems used in beverage dispensing applications having more than 100 pounds of carbon dioxide.~~

~~105.6.5~~105.5.5 Carnivals and fairs. An operational permit to conduct a carnival or fair.

~~105.6.6~~105.5.6 Cellulose nitrate film. An operational permit to store, handle or use cellulose nitrate film in a Group A occupancy.

~~105.6.7~~105.5.7 Combustible dust-producing operations. An operational permit to operate a grain elevator, flour starch mill, feed mill, or a plant pulverizing aluminum, coal, cocoa, magnesium, spices or sugar, or other operations producing combustible dusts as defined in Chapter 2.

~~105.6.8~~105.5.8 Combustible fibers. An operational permit for the storage and handling of combustible fibers in quantities greater than 100 cubic feet (2.8 m^3).

Exception: A permit for agricultural storage.

~~105.6.9~~105.5.9 Compressed gases. An operational permit for the storage, use or handling at normal temperature and pressure (NTP) of compressed gases in excess of the amounts listed in Table 105.6.9.

Exception: Vehicles equipped for and using compressed gas as a fuel for propelling the vehicle.

Table ~~105.6.9~~105.5.9
Permit amounts for compressed gases

Type of gas	Amount (cubic feet at NTP)
Carbon dioxide used in carbon dioxide enrichment systems	875 (100 lb.)
Carbon dioxide used in insulated liquid carbon dioxide beverage dispensing applications	875 (100 lb.)
Corrosive	200
Flammable (except cryogenic fluids and liquefied petroleum gases)	200
Highly toxic	Any amount
Inert and simple asphyxiant[a]	6,000
Oxidizing (including oxygen)	504
Pyrophoric	Any amount
Toxic	Any amount

For SI: 1 cubic foot = 0.02832 m^3.

a. For carbon dioxide used in beverage dispensing applications, see Section 105.6.4.

~~105.6.10~~105.5.10 Covered and open mall buildings. An operational permit for:

1. The placement of retail fixtures and displays, concession equipment, displays of highly combustible goods and similar items in the mall.

Note: for copyright claim information, please see the notice on the last page of this rule.

2. The display of liquid- or gas-fired equipment in the mall.

3. The use of open-flame or flame-producing equipment in the mall.

~~105.6.11~~105.5.11 **Cryogenic fluids.** An operational permit to produce, store, transport on site, use, handle or dispense cryogenic fluids in excess of the amounts listed in Table ~~105.6.11~~105.5.11.

Exception: Permits for vehicles equipped for and using cryogenic fluids as a fuel for propelling the vehicle or for refrigerating the lading.

Table ~~105.6.11~~105.5.11
Permit amounts for cryogenic fluids

Type of cryogenic fluid	Inside building (gallons)	Outside building (gallons)
Flammable	More than 1	60
Inert	60	500
Oxidizing (includes oxygen)	10	50
Physical or health hazard not indicated above	Any amount	Any amount

For SI: 1 gallon = 3.785 L.

~~105.6.12~~105.5.12 **Cutting and welding.** An operational permit to conduct cutting or welding operations within the jurisdiction.

~~105.6.13~~105.5.13 **Dry cleaning.** An operational permit to engage in the business of dry cleaning or to change to a more hazardous cleaning solvent used in existing dry cleaning equipment.

105.5.14 Energy storage systems. An operational permit for stationary and mobile energy storage systems regulated by Section 1207.

~~105.6.14~~105.5.15 **Exhibits and trade shows.** An operational permit to operate exhibits and trade shows.

~~105.6.15~~105.5.16 **Explosives.** An operational permit for the manufacture, storage, handling, sale or use of any quantity of explosives, explosive materials, fireworks, or pyrotechnic special effects within the scope of Chapter 56*, and when such permits do not conflict with or are not inconsistent with the requirements of Chapter 3743. of the Revised Code*.

Exception: Storage in Group R-3 occupancies of smokeless propellant, black powder and small arms primers for personal use, not for resale and in accordance with Section 5606.

~~105.6.16~~105.5.17 **Fire hydrants and valves.** An operational permit to use or operate fire hydrants or valves intended for fire suppression purposes that are installed on water systems and ~~accessible to~~provided with ready access from a fire apparatus access road that is open to or generally used by the public.

Exception: A permit for authorized employees of the water company that supplies the system or the fire department to use or operate fire hydrants or valves.

Note: for copyright claim information, please see the notice on the last page of this rule.

~~105.6.17~~105.5.18 **Flammable and combustible liquids.** An operational permit:

1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the off-site transportation in pipelines regulated by the Department of Transportation (DOTn) nor does it apply to piping systems.

2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except for the following:

   2.1 The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the *local* fire code official, would cause an unsafe condition.

   2.2 The storage or use of paints, oils, varnishes or similar flammable mixtures where such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.

3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.

4. To store, handle or use Class IIIB liquids in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.

   Exception: Fuel oil and used motor oil used for space heating or water heating.

5. To remove Class I or Class II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary on-site pumps normally used for dispensing purposes.

6. To operate tank vehicles, equipment, tanks, plants, terminals, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.

7. To place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or combustible liquid tank.

8. To change the type of contents stored in a flammable or combustible liquid tank to a material that poses a greater hazard than that for which the tank was designed and constructed.

9. To manufacture, process, blend or refine flammable or combustible liquids.

10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or to engage in on-demand mobile fueling operations in accordance with Section 5707.

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11. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, marine craft and other special equipment at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or, where required by the fire code official, to utilize a site for on-demand mobile fueling operations in accordance with Section 5707.

~~105.6.18~~105.5.19 **Floor finishing.** An operational permit for floor finishing or surfacing operations exceeding 350 square feet (33 m^2) using Class I or Class II liquids.

~~105.6.19~~105.5.20 **Fruit and crop ripening.** An operational permit to operate a fruit- or crop-ripening facility or conduct a fruit-ripening process using ethylene gas.

~~105.6.20~~105.5.21 **Fumigation and insecticidal fogging.** An operational permit to operate a business of fumigation or insecticidal fogging and to maintain a room, vault or chamber in which a toxic or flammable fumigant is used.

~~105.6.21~~105.5.22 **Hazardous materials.** An operational permit to store, transport on site, dispense, use or handle hazardous materials in excess of the amounts listed in Table ~~105.6.21~~105.5.22.

Table ~~105.6.21~~105.5.22
Permit amounts for hazardous materials

Type of material	Amount
Combustible liquids	See Section ~~105.6.17~~ 105.5.18
Corrosive materials Gases Liquids Solids	 See Section ~~105.6.9~~ 105.5.9 55 gallons 1000 pounds
Explosive materials	See Section ~~105.6.15~~105.6.14
Flammable materials Gases Liquids Solids	 See Section ~~105.6.9~~ 105.5.9 See Section ~~105.6.17~~ 105.5.18 100 pounds
Highly toxic materials Gases Liquids Solids	 See Section ~~105.6.9~~ 105.5.9 Any amount Any amount

Note: for copyright claim information, please see the notice on the last page of this rule.

Oxidizing materials	
Gases	See Section ~~105.6.9~~ 105.5.9
Liquids	
Class 4	Any amount
Class 3	1 gallon[a]
Class 2	10 gallons
Class 1	55 gallons
Solids	
Class 4	Any amount
Class 3	10 pounds[b]
Class 2	100 pounds
Class 1	500 pounds
Organic peroxides	
Liquids	
Class I	Any amount
Class II	Any amount
Class III	1 gallon
Class IV	2 gallons
Class V	No permit required
Solids	
Class I	Any amount
Class II	Any amount
Class III	10 pounds
Class IV	20 pounds
Class V	No permit required
Pyrophoric materials	
Gases	Any amount
Liquids	Any amount
Solids	Any amount
Toxic materials	
Gases	See Section ~~105.6.9~~ 105.5.9
Liquids	10 gallons
Solids	100 pounds
Unstable (reactive) materials	
Liquids	
Class 4	Any amount
Class 3	Any amount
Class 2	5 gallons
Class 1	10 gallons
Solids	
Class 4	Any amount
Class 3	Any amount
Class 2	50 pounds
Class 1	100 pounds
Water-reactive materials	
Liquids	
Class 3	Any amount
Class 2	5 gallons
Class 1	55 gallons

Note: for copyright claim information, please see the notice on the last page of this rule.

Solids	
Class 3	Any amount
Class 2	50 pounds
Class 1	500 pounds

For SI: 1 gallon = 3.785 L, 1 pound = 0.454 kg.

a. ~~20~~22 gallons where Table 5003.1.1(1) note k applies and hazard identification signs in accordance with Section 5003.5 are provided for quantities of ~~20~~22 gallons or less.
b. ~~200~~220 pounds where Table 5003.1.1(1) note k applies and hazard identification signs in accordance with Section 5003.5 are provided for quantities of ~~200~~220 pounds or less.

~~105.6.22~~105.5.23 **HPM facilities.** An operational permit to store, handle or use hazardous production materials.

~~105.6.23~~105.5.24 **High-piled storage.** An operational permit to use a building or portion thereof with more than 500 square feet (46 m^2), including aisles, ~~as a~~of high-piled combustible storage ~~area exceeding 500 square feet (46 m^2)~~.

~~105.6.24~~105.5.25 **Hot work operations.** An operational permit for hot work including, but not limited to:

1. Public exhibitions and demonstrations where hot work is conducted.
2. Use of portable hot work equipment inside a structure.

   Exception: Work that is conducted under a construction permit.
3. Fixed-site hot work equipment, such as welding booths.
4. Hot work conducted within a wildfire risk area.
5. Application of roof coverings with the use of an open-flame device.
6. Where approved, the fire code official *may* issue a permit to carry out a hot work program. This program allows approved personnel to regulate their facility's hot work operations. The approved personnel shall be trained in the fire safety aspects denoted in the *state fire code* and shall be responsible for issuing permits requiring compliance with the requirements found in Chapter 35. These permits shall be issued only to their employees or hot work operations under their supervision.

~~105.6.25~~105.5.26 **Industrial ovens.** An operational permit for operation of industrial ovens regulated by Chapter 30.

~~105.6.26~~105.5.27 **Lumber yards and woodworking plants.** An operational permit for the storage or processing of lumber exceeding 100,000 board feet (8333 ft^3) (236 m^3).

~~105.6.27~~105.5.28 **Liquid- or gas-fueled vehicles or equipment in assembly buildings.** An operational permit to display, operate or demonstrate liquid- or gas-fueled vehicles or equipment in assembly buildings.

~~105.6.28~~105.5.29 **LP-gas.** An operational permit for:

Note: for copyright claim information, please see the notice on the last page of this rule.

1. Storage and use of LP-gas.

   Exception: A permit for individual containers with a 500-gallon (1893 L) water capacity or less or multiple container systems having an aggregate quantity not exceeding 500 gallons (1893 L), serving occupancies in Group R-3.

2. Operation of cargo tankers that transport LP-gas.

~~105.6.29~~105.5.30 **Magnesium.** An operational permit to melt, cast, heat treat or grind more than 10 pounds (4.54 kg) of magnesium.

~~105.6.30~~105.5.31 **Miscellaneous combustible storage.** An operational permit to store in any building or ~~upon~~on any premises in excess of 2,500 cubic feet (71 m^3) gross volume of combustible empty packing cases, boxes, barrels or similar containers, combustible pallets, rubber tires, *asphalt shingles*, rubber, cork or similar combustible material.

105.5.32 Mobile food preparation vehicles. A permit for mobile food preparation vehicles equipped with appliances that produce smoke or grease-laden vapors.

~~105.6.31~~105.5.33 **Motor fuel-dispensing facilities.** An operational permit for the operation of automotive, marine and fleet motor fuel-dispensing facilities.

~~105.6.32~~105.5.34 **Open burning.** An operational permit for the kindling or maintaining of an open fire or a fire on any public street, alley, road, or other public or private ground. Instructions and stipulations of the permit shall be ~~adhered to~~complied with.

Exception: Recreational fires.

~~105.6.33~~105.5.35 **Open flames and torches.** An operational permit to remove paint with a torch; or to use a torch or open-flame device in a wildfire risk area.

~~105.6.34~~105.5.36 **Open flames and candles.** An operational permit to use open flames or candles in connection with assembly areas, dining areas of restaurants or drinking establishments.

~~105.6.35~~105.5.37 **Organic coatings.** An operational permit for any organic-coating manufacturing operation producing more than 1 gallon (4 L) of an organic coating in one day.

105.5.38 Outdoor assembly event. An operational permit to conduct an outdoor assembly event where planned attendance exceeds 1,000 persons.

~~105.6.36~~105.5.39 **Places of assembly.** An operational permit for a place of assembly.

105.5.40 Plant extraction systems. An operational permit to use plant extraction systems.

~~105.6.37~~105.5.41 **Private fire hydrants.** An operational permit for the removal from service, use or operation of private fire hydrants.

Exception: A permit for private industry with trained maintenance personnel, private fire brigade or fire departments to maintain, test and use private hydrants.

Note: for copyright claim information, please see the notice on the last page of this rule.

~~105.6.38~~105.5.42 **Pyrotechnic special effects material.** An operational permit is required for use and handling of pyrotechnic special effects material.

~~105.6.39~~105.5.43 **Pyroxylin plastics.** An operational permit for storage or handling of more than 25 pounds (11 kg) of cellulose nitrate (pyroxylin) plastics, and for the assembly or manufacture of articles involving pyroxylin plastics.

~~105.6.40~~105.5.44 **Refrigeration equipment.** An operational permit to operate a mechanical refrigeration unit or system regulated by Chapter 6.

~~105.6.41~~105.5.45 **Repair garages.** An operational permit for operation of repair garages.

~~105.6.42~~105.5.46 **Rooftop heliports.** An operational permit for the operation of a rooftop heliport.

~~105.6.43~~105.5.47 **Spraying or dipping.** An operational permit to conduct a spraying or dipping operation utilizing flammable or combustible liquids, or the application of combustible powders regulated by Chapter 24.

~~105.6.44~~105.5.48 **Storage of scrap tires and tire byproducts.** An operational permit to establish, conduct or maintain storage of scrap tires and tire byproducts that exceeds 2,500 cubic feet (71 m^3) of total volume of scrap tires, and for indoor storage of tires and tire byproducts.

~~105.6.45~~105.5.49 **Temporary membrane structures and tents.** An operational permit to operate an air-supported temporary membrane structure, a temporary stage canopy or a tent having an area in excess of 400 square feet (37 m^2).

Exceptions:

1. Tents used exclusively for recreational camping purposes.

2. Tents open on all sides, which comply with all of the following:

   2.1. Individual tents having a maximum size of 700 square feet (65 m^2).

   2.2. The aggregate area of multiple tents placed side by side without a fire break clearance of not less than 12 feet (3658 mm) not exceed 700 square feet (65 m^2) total.

   2.3. A minimum clearance of 12 feet (3658 mm) to structures and other tents *is* provided.

~~105.6.46~~105.5.50 **Tire-rebuilding plants.** An operational permit for the operation and maintenance of a tire-rebuilding plant.

~~105.6.47~~105.5.51 **Waste handling.** An operational permit for the operation of wrecking yards, junk yards and waste material-handling facilities.

~~105.6.48~~105.5.52 **Wood products.** An operational permit to store chips, hogged material, lumber or plywood in excess of 200 cubic feet (6 m^3).

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105.5.53 Lithium-ion and lithium metal batteries. *An operational permit for the storage of lithium-ion or lithium metal batteries in excess of 15 cubic feet (0.42 m³).*

~~105.7~~105.6 **Construction permits.** The *local* fire code official *and, when specified in this rule, the state fire marshal are* authorized *in accordance with Section 105.1.1.2* to issue construction permits for work *as provided for in this chapter*.

~~105.7.1~~105.6.1 **Automatic fire-extinguishing systems.** A construction permit for installation of or modification to an automatic fire-extinguishing system. Maintenance performed in accordance with ~~the *state fire code*~~this code is not considered to be a modification and does not require a permit.

~~**105.7.2 Battery systems.** A permit to install stationary storage battery systems having a liquid capacity of more than 50 gallons (189 L).~~

~~105.7.3~~105.6.2 **Compressed gases.** Where the compressed gases in use or storage exceed the amounts listed in Table ~~105.6.9~~105.5.9, a construction permit to install, repair damage to, abandon, remove, place temporarily out of service, or close or substantially modify a compressed gas system.

Exceptions:

1. Routine maintenance.

2. For emergency repair work performed on an emergency basis, application shall be made within two working days of commencement of work.

~~105.7.4~~105.6.3 **Cryogenic fluids.** A construction permit for installation of or alteration to outdoor stationary cryogenic fluid storage systems where the system capacity exceeds the amounts listed in Table 105.6.11. Maintenance performed in accordance with ~~*the state fire code*~~this code is not considered to be an alteration and does not require a construction permit.

~~105.7.5~~105.6.4 **Emergency responder ~~radio~~communication coverage system.** A construction permit for installation of or modification to in-building, two-way emergency ~~radio~~communication responder radio coverage systems and related equipment. Maintenance performed in accordance with this chapter is not considered to be a modification and does not require a construction permit.

105.6.5 Energy storage systems. A construction permit to install energy storage systems regulated by Section 1207.

~~105.7.6~~105.6.6 **Fire alarm and detection systems and related equipment.** A construction permit for installation of or modification to fire alarm and detection systems and related equipment. Maintenance performed in accordance with ~~the *state fire code*~~this code is not considered to be a modification and does not require a construction permit.

~~105.7.7~~105.6.7 **Fire pumps and related equipment.** A construction permit for installation of or modification to fire pumps and related fuel tanks, jockey pumps, controllers, and generators. Maintenance performed in accordance with ~~the *state fire code*~~ths code is not considered to be a modification and does not require a permit.

Note: for copyright claim information, please see the notice on the last page of this rule.

~~105.7.8~~105.6.8 **Flammable and combustible liquids.** A construction permit:

1. To install, repair or modify a pipeline for the transportation of flammable or combustible liquids.

2. To install, construct or alter tank vehicles, equipment, tanks, plants, terminals, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.

3. To install, alter, remove, abandon or otherwise dispose of a flammable or combustible liquid tank *and any line or dispensing device connected thereto*.

105.6.9 Fuel cell power systems. A construction permit to install stationary fuel cell power systems.

105.6.10 Gas detection systems. A construction permit for the installation of or modification to gas detection systems. Maintenance performed in accordance with this code is not considered a modification and shall not require a permit.

~~105.7.9~~105.6.11 **Gates and barricades across fire apparatus access roads.** A construction permit for the installation of or modification to a gate or barricade across a fire apparatus access road.

~~105.7.10~~105.6.12 **Hazardous materials.** A construction permit to install, repair damage to, abandon, remove, place temporarily out of service, or close or substantially modify a storage facility or other area regulated by Chapter 50 where the hazardous materials in use or storage exceed the amounts listed in Table 105.6.21.

Exceptions:

1. Routine maintenance.

2. For ~~emergency~~ repair work performed on an emergency basis, application for permit shall be made within two working days of commencement of work.

105.6.13 High-piled combustible storage. A construction permit for the installation of or modification to a structure with more than 500 square feet (46 m^2), including aisles, of high-piled combustible storage. Maintenance performed in accordance with this code is not considered to be a modification and does not require a construction permit.

~~105.7.11~~105.6.14 **Industrial ovens.** A construction permit for installation of industrial ovens covered by Chapter 30.

Exceptions:

1. Routine maintenance.

2. For repair work performed on an emergency basis, application for permit shall be made within two working days of commencement of work.

Note: for copyright claim information, please see the notice on the last page of this rule.

~~105.7.12~~105.6.15 **LP-gas.** A construction permit for installation of or modification to an LP-gas system. Maintenance performed in accordance ~~with the state fire code~~this code is not considered to be a modification and does not require a permit.

105.6.16 **Motor vehicle repair rooms and booths.** A construction permit to install or modify a motor vehicle repair room or booth. Maintenance performed in accordance with this code is not considered to be a modification and does not require a permit.

105.6.17 **Plant extraction systems.** A construction permit for installation of or modification to plant extraction systems. Maintenance performed in accordance with this code is not considered to be a modification and does not require a permit.

~~105.7.13~~105.6.18 **Private fire hydrants.** A construction permit for the installation or modification of private fire hydrants. Maintenance performed in accordance with ~~the state fire~~this code is not considered to be a modification and does not require a permit.

~~105.7.14~~105.6.19 **Smoke control or smoke exhaust systems.** Construction permits for installation of or alteration to smoke control or smoke exhaust systems. Maintenance performed in accordance with ~~the state fire~~ this code is not considered to be an alteration and does not require a permit.

~~105.7.15~~105.6.20 **Solar photovoltaic power systems.** A construction permit to install or modify solar photovoltaic power systems. Maintenance performed in accordance with ~~the state fire~~this code is not considered to be a modification and does not require a permit.

105.6.21 **Special event structure.** A single construction permit to erect and take down a temporary special event structure.

~~105.7.16~~105.6.22 **Spraying or dipping.** A construction permit to install or modify a spray room, dip tank or booth. Maintenance performed in accordance with ~~the state fire~~this code is not considered to be a modification and does not require a permit.

~~105.7.17~~105.6.23 **Standpipe systems.** A construction permit for the installation, modification, or removal from service of a standpipe system. Maintenance performed in accordance with ~~the state fire~~this code is not considered to be a modification and does not require a permit.

~~105.7.18~~105.6.24 **Temporary membrane structures and tents.** A construction permit to erect an air-supported temporary membrane structure, a temporary stage canopy or a tent having an area in excess of 400 square feet (37 m^2).

Exceptions:

1. Tents used exclusively for recreational camping purposes.

2. Funeral tents and curtains, or extensions attached thereto, when used for funeral services.

3. Tents and awnings open on all sides which comply with all of the following:

3.1. Individual tents hav*ing* a maximum size of 700 square feet (65 m^2).

Note: for copyright claim information, please see the notice on the last page of this rule.

3.2. The aggregate area of multiple tents placed side by side without a fire break clearance of not less than 12 feet (3658 mm) not exceeding 700 square feet (65 m^2) total.

3.3. A minimum clearance of 12 feet (3658 mm) to structures and other tents *is* maintained.

***105.7 Local permit fees**. When permits are issued by the local fire code official, the local fire code official is authorized, but not required to, establish and collect fees for such permits in accordance with the applicable law.*

Section 106 Construction documents

~~(4) **105.4 Construction documents.** Construction documents shall be in accordance with this paragraph. The requirement for plan review of fire protection systems in structures regulated by the building code as listed in rule 1301:7-7-80 of the Administrative Code submitted for plan review in accordance with this paragraph is subject to and does not supersede or otherwise conflict with the requirements of paragraphs (D)(2)(a)(104.2.1) of this rule.~~

[A] ~~105.4.1~~**106.1 Submittals.** ~~Subject to the provisions of paragraph (D)(2)(a)(Section 104.2.1) of this rule,~~ construction documents and supporting data shall be submitted in two or more sets with each application for a permit and in such form and detail as required by the fire code official. The construction documents shall be prepared by an appropriate person where required by the *Revised Code*.

Exception: The fire code official is authorized to waive the submission of construction documents and supporting data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

~~105.4.1.1~~**[A] 106.2 Examination of documents.** The fire code official shall examine or cause to be examined the accompanying construction documents and shall ascertain by such examinations whether the work indicated and described is in accordance with the requirements of this code.

~~105.4.2~~**[A] 106.2.1 Information on construction documents.** Construction documents shall be drawn to scale upon suitable material. ~~Electronic media documents~~Documents in a digital format are allowed to be submitted where approved by the fire code official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations as determined by the fire code official.

~~105.4.2.1~~**[A] 106.2.2 Fire protection system shop drawings.** ~~Subject to the provisions of paragraph (D)(2)(a)(Section 104.2.1) of this rule,~~ shop drawings for the fire protection system(s) shall be submitted to indicate compliance with this code and the construction documents and shall be approved prior to the start of installation. Shop drawings shall contain all information as required by the referenced installation standards in ~~*rule 1301:7-7-09 of the Administrative Code*~~Chapter 9.

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~~105.4.3~~[A] 106.2.3 **Applicant responsibility.** It shall be the responsibility of the applicant to ensure that the construction documents include all of the fire protection requirements and the shop drawings are complete and in compliance with the applicable codes and standards.

~~105.4.4~~[A] 106.2.4 **Approved documents.** Construction documents *reviewed* by the fire code official *in accordance with ~~paragraph (D)(2)(a)(~~Section 104.2.1) ~~of this rule~~ or construction documents approved by the fire code official* are *reviewed and* approved with the intent that such construction documents comply in all respects with this code. Review and approval by the fire code official shall not relieve the applicant of the responsibility of compliance with this code.

~~105.4.4.1~~[A] 106.2.4.1 **Phased approval.** *~~Subject to the provisions of paragraph (D)(2)(a)(Section 104.2.1) of this rule.~~ t*he fire code official is authorized to issue a permit for the construction of part of a structure, system or operation before the construction documents for the whole structure, system or operation have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for parts of a structure, system or operation shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure, system or operation will be granted.

~~105.4.5~~[A] 106.3 **Amended construction documents.** Work shall be installed in accordance with the approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

~~105.4.5.1~~106.3.1 Where actual construction demonstrates substantial deviation from the construction documents approved by the building code official, the fire code official shall have the authority to require the responsible party to submit corrected construction documents to the building code official having jurisdiction for approval in accordance with the building code ~~as listed in rule 1301:7-7-80 of the Administrative Code~~ and to the fire code official for review in accordance with ~~paragraph (D)(2)(~~Section 104.2) ~~of this rule~~.

~~105.4.6~~[A] 106.4 **Retention of construction documents.** One set of construction documents shall be retained by the fire code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of approved construction documents shall be returned to the applicant~~,~~ and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

Section 107 ~~Fees~~ *Deleted*

Section ~~106~~108 Inspections

~~106.1~~[A] 108.1 **Inspection authority.** The fire code official is authorized to enter and examine any building, structure, marine vessel, vehicle or premises in accordance with Section 104.3 for the purpose of enforcing this code.

~~106.2~~[A] 108.2 **Inspections.** The fire code official is authorized to conduct such inspections *in accordance with Section 3737.14 of the Revised Code* as are deemed necessary to determine the extent of compliance with the provisions of this code and to approve reports of inspection by approved agencies or individuals. Reports of such inspections shall be prepared and submitted

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in writing for review and approval. Inspection reports shall be certified by a responsible officer of such approved agency or by the responsible individual. The fire code official is authorized to engage such expert opinion as deemed necessary to report upon unusual, detailed or complex technical issues subject to the approval of the governing body.

~~106.2.1~~[A] 108.2.1 **Inspection requests.** *When required by the fire code official or as a condition of a permit, it* shall be the duty of the holder of the permit or their duly authorized agent to notify the fire code official when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

~~106.2.2~~[A] 108.2.2 **Approval required.** *When required by the fire code official, w*ork shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the fire code official. The fire code official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the fire code official.

~~106.3~~[A] 108.3 **Concealed work.** *When required by the fire code official, i*t shall be the duty of the permit applicant to cause the work to remain ~~accessible and exposed~~visible and able to be accessed for inspection purposes. Where any installation subject to *an* inspection *as required by this code or Chapter 3731., 3737., or 3743. of the Revised Code* prior to *its* use is covered or concealed without having first been inspected, *the responsible party, subject to Section 104.2.2, must uncover the work for fire code official inspection.* Neither the fire code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

~~106.4~~ [A] 108.4 **Approvals.** Approval as the result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction*, regardless of when such violations occurred*. Inspections presuming to give authority to violate or cancel provisions of this code or of other ordinances of the jurisdiction shall not be valid.

Section ~~107~~109 Maintenance

~~107.1~~[A] 109.1 **Maintenance of safeguards *and conditions as originally approved*.** Where any *feature, including any* device, equipment, system, condition, arrangement, level of protection, *installation, or construction,* or any other feature *subject to this code* is required for compliance with the provisions of this code *or the life safety portions of the building code*, or otherwise installed, such *feature, including any* device, equipment, system, condition, arrangement, level of protection, *installation, or construction,* or other feature shall thereafter be continuously *and properly* maintained in accordance with this code*, the applicable portions of the building code,* and applicable referenced standards. *Such features must also comply with and properly maintain all items required by any initial or subsequent approvals, authorizations, conditions, permits, variances, and certificates applicable to such features issued pursuant to this code, the building code, or other laws. All subsequent construction, alteration, modifications, or repairs to such features shall be done in accordance with this code and the building code.*

~~107.2~~[A] 109.2 **Testing and operation.** Equipment requiring periodic testing or operation to ensure maintenance shall be tested or operated as specified in this code.

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~~107.2.1~~[A] 109.2.1 **Reinspection and testing.** Where any work or installation does not pass an initial test or inspection, the necessary corrections shall be made so as to achieve compliance with this code. The work or installation shall then be resubmitted to the fire code official for inspection and testing.

~~107.3~~ [A] 109.3 **Recordkeeping.** A record of periodic inspections, tests, servicing and other operations and maintenance shall be maintained on the premises or other approved location for not less than 3 years, or a different period of time where specified in this code or referenced standards. Records shall be made available for inspection by the fire code official, and a copy of the records shall be provided to the fire code official upon request.

The fire code official is authorized to prescribe the form and format of such recordkeeping. The fire code official is authorized to require that certain required records be filed with the fire code official.

~~107.4~~[A] 109.4 **Supervision.** Maintenance and testing shall be under the supervision of a responsible person who shall ensure that such maintenance and testing are conducted at specified intervals in accordance with this code.

~~107.5~~109.5 **Rendering equipment inoperable.** Portable or fixed fire-extinguishing systems or devices, and fire-warning systems, shall be provided with ready access and shall not be rendered inoperative ~~or inaccessible~~, except as necessary during emergencies, maintenance, repairs, alterations, drills or prescribed testing.

~~107.6~~[A] 109.6 **Overcrowding.** *It shall be a violation of this code for a responsible person to permit or engage in the overcrowding of any structure, building or premise beyond the approved capacity of such structure, building or premise or in a manner that constitutes a hazard to the occupants of the location.* Overcrowding or admittance of any person beyond the approved capacity of a building or a portion thereof shall not be allowed. The fire code official, upon finding any overcrowding conditions or obstructions in aisles, passageways or other means of egress, or upon finding any condition that constitutes a life safety hazard, shall be authorized to order the event to be stopped until such condition or obstruction is corrected.

Section 110 Service Utilities

110.1 Authority to disconnect service utilities. The fire *chief or other fire* official *in charge of an emergency response* shall have the authority to authorize *or order the* disconnection of utility services to a building, structure, or system in order to safely execute *necessary* emergency operations or to *temporarily abate* an immediate hazard *to the public or emergency responders. During non-emergency response conditions, the fire code official may order the disconnection of utility services to a building, structure, or system to abate hazards to the public and emergency responders in accordance with the provisions of Sections 3737.41 through 3737.51 of the Revised Code and Section 112.*

Section ~~108~~111 *Appeal of orders*

~~108.1~~111.1 ***Appeals of orders.*** *Citations and orders issued by the fire code official relative to the application of this code may be appealed by the responsible person to the state board of building appeals in accordance with the provisions of Chapters 3737. and 3781. of the Revised Code including ~~s~~Sections 3737.43 and 3781.19 of the Revised Code.*

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Section ~~109~~112 Violations

~~109.1~~112.1 **Unlawful acts.** It shall be unlawful for a person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize a building, occupancy, premises or system regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

*~~109.1.1~~112.1.1 **Imminent hazards.** Conditions or practices in any building or upon any premises which violate the state fire code and are such that a fire or explosion hazard exists which could reasonably and imminently be expected to cause death or serious physical harm shall be addressed in accordance with Section 3737.44 of the Revised Code, including obtaining the authorization of the state fire marshal or chief deputy state fire marshal prior to the issuance of any oral orders directing that a building or premises be vacated immediately.*

*~~109.1.2~~112.1.2 **Distinct hazards.** Structural or premise conditions constituting a distinct hazard, including as described in Section 102.1.1, shall, in addition to other remedies authorized by Sections 3737.41 through 3737.51 of the Revised Code, be resolved through the issuance of a citation in accordance with Section 3737.42 of the Revised Code. As described in Section 102.1.1, such a citation may require the application of the construction and design provisions of this code to an existing structure or condition, regardless of whether such location is in substantial compliance with the applicable version of the building code.*

*~~109.1.3~~112.1.3 **Serious hazards.** If the state fire marshal, assistant state fire marshal, or certified fire safety inspector, upon examination or inspection, finds either of the following:*

1. *a structure, premise or location to be a "serious hazard" as that term is defined in this code; or*

2. *the conditions at such structure, premise or location constitute a violation of, or require the application of Section 107.6, 901.7 or 1001.2 to such places;*

the state fire marshal, assistant state fire marshal, or certified fire safety inspector is authorized to verbally order or order in writing, on a form approved by the state fire marshal, the structure, premise or location to comply with the fire code, including as described in Section 107.6, 901.7 or 1001.2, or otherwise abate the conditions causing the serious hazard.

~~109.1.4~~112.1.4. After issuance, verbal orders shall forthwith be reduced to writing on a form proscribed by the state fire marshal. Once written, all orders under this section shall be provided to the responsible person and prominently posted by the responsible person at the hazard site at a location observable by any members of the public at, or by any emergency responders to, the site. If no responsible person can readily be identified, the fire code official shall post the written orders at the site. Failure to comply with an order issued under this section is a violation of this code. All orders issued under this section shall be converted to a citation pursuant to Section 3737.42 of the Revised Code as soon as is practicable and shall include a reference to this section (so that a responsible person may appeal such order and associated code violations in accordance with Section 3737.43 of the Revised Code). If the state fire marshal, assistant state fire marshal, or certified fire safety inspector withdraws, modifies or cancels an order under this section, such official shall immediately provide written notification to the responsible person on a form proscribed by the state fire marshal.

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~~109.1.5~~112.1.5 **General fire code enforcement (R.C. 3737.42(A)).** *If upon inspection or investigation, the state fire marshal, an assistant state fire marshal, or a certified fire safety inspector believes that the state fire code or associated order has been violated, including for a distinct or serious hazard, the state fire marshal, assistant state fire marshal, or certified fire safety inspector shall issue a citation to the responsible person in accordance with Section 3737.42* (A) *of the Revised Code and Section 112.3.*

~~109.1.5.1~~112.1.5.1 **Minor hazards (R.C. 3737.42(B)).** *If a violation of this code has no direct or immediate relationship to safety or health, the state fire marshal, assistant state fire marshal, or the certified fire safety inspector may issue a notice in lieu of a citation with respect to such de minimis violation in accordance with division (B) of Section 3737.42 of the Revised Code and Section 112.1.5.1.1. If such violations are not remedied within the time frame established by the fire code official, such official may issue a citation in accordance with division (A) of Section 3737.42 of the Revised Code.*

~~109.1.5.1.1~~112.1.5.1.1 **Notice of *de minimis* violation.** *In accordance with division (B) of Section 3737.42 of the Revised Code, when the fire code official finds a building, premises, vehicle, storage facility or outdoor area that is in violation of this code, but such a violation has no direct or immediate relationship to safety or health, the fire code official is authorized to prepare a written notice of de minimis violation describing the conditions deemed unsafe and, when compliance is not immediate, specifying a time for reinspection.*

~~109.1.5.1.2~~112.1.5.1.2 **Service.** A notice of de minimis violation issued pursuant to this code shall be served upon the owner, the owner's authorized agent, operator, occupant or other person responsible for the condition or violation, either by personal service, mail, or by delivering the same to, and leaving it with, some person of responsibility upon the premises. For unattended or abandoned locations, a copy of such notice of violation shall be posted on the premises in a conspicuous place at or near the entrance to such premises and the notice of violation shall be mailed by certified mail with return receipt requested or a certificate of mailing, to the last known address of the owner, the owner's authorized agent or occupant.

~~109.1.5.1.3~~112.1.5.1.3 **Compliance with orders and notices.** A notice of de minimis violation issued or served as provided by this code shall be complied with by the owner, the owner's authorized agent, operator, occupant or other person responsible for the condition or violation to which the notice of violation pertains.

~~109.1.5.1.4~~112.1.5.1.4 ***Remedies for noncompliance.*** If the notice of violation is not complied with within the specified period of abatement, the fire code official is authorized *to take further enforcement actions in accordance with Section 112.3 or* to request the legal counsel of the jurisdiction to institute the appropriate legal proceedings at law or in equity to restrain, correct or abate such violation of this code or of the order or direction made pursuant hereto.

~~109.1.5.1.5~~112.1.5.1.5 **Unauthorized tampering.** Signs, tags or seals posted or affixed by the fire code official shall not be mutilated, destroyed or tampered with, or removed, without authorization from the fire code official.

~~109.1.6~~112.1.6 ***Enforcement to remedy dangerous conditions.*** *If the state fire marshal, assistant state fire marshal, or certified fire safety inspector, upon examination or inspection,*

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finds a building or other structure especially liable to fire or endangers life or other buildings or property, or finds a building or any premises with combustible, explosive or flammable materials which are dangerous to the safety of persons or finds any structure, tank, container or vehicle used for the storage, handling or transportation of flammable or combustible materials to be dangerous to the safety of persons, the state fire marshal, assistant state fire marshal, or certified fire safety inspector shall issue a citation in accordance with Section 3737.41 of the Revised Code and Section 112.3. Nothing in this paragraph shall be construed as prohibiting or limiting a fire code official's ability to take any other enforcement actions authorized by Chapter 3737. of the Revised Code, including issuance of citation pursuant to Section 3737.42 of the Revised Code.

~~109.2~~112.2 **Owner/occupant responsibility.** Correction and abatement of violations of this code shall be the responsibility of the owner *or responsible person*. If an occupant creates, or allows to be created, hazardous conditions in violation of this code, the occupant shall *also* be held responsible for the abatement of such hazardous conditions.

~~109.3~~112.3 Citations and notices of hearing. *Issuance and enforcement of citations and orders are regulated by Sections 3737.41 to 3737.46 of the Revised Code. Citations, orders and notices of hearing shall be issued in accordance with this section and Chapter 119. of the Revised Code.*

~~109.3.1~~112.3.1 Form of citation. *Every citation and notice of hearing shall be in writing.*

~~109.3.2~~112.3.2 Citation requirements. *Every citation shall be issued in accordance with Section 3737.41 or 3737.42 of the Revised Code.*

Each citation issued under Section 3737.42 of the Revised Code shall be in writing and shall describe with particularity the nature of the violation, including a reference to the provision of the state fire code or associated order alleged to have been violated. In addition, the citation shall fix a reasonable time for the abatement of the violation. When the citation is issued by a certified fire safety inspector or an assistant fire marshal, a copy of the citation shall be furnished to the fire marshal.

~~109.3.3~~112.3.3 Posting of citation by responsible party. *For each citation issued under Section 3737.42 of the Revised Code, a copy or copies of the citation shall be prominently posted by the responsible person at or near each place a violation referred to in the citation occurs and shall be clearly visible to any member of the public that enters a structure or premises that is subject to the citation. Citations shall remain posted until dismissed, the state board of building appeals authorizes the removal of the posted citation or all of the hazardous conditions in the citation are verified by the issuing agency as being remedied. If a responsible party refuses or is unable to post a citation, the fire code official is authorized to post citations issued by that authority at a location clearly visible to any member of the public that enters a structure or premises that is subject to the citation.*

~~109.3.4~~112.3.4 Notice of appeal. *Every responsible person issued a citation under Section 3737.41 or 3737.42 of the Revised Code shall be given, as provided by Section 3737.43 of the Revised Code and within a reasonable time after such inspection or investigation and in accordance with Chapter 119. of the Revised Code, notice of the citation and penalty, if any, proposed to be assessed under Section 3737.51 of the Revised Code, and of the responsible person's right to appeal the citation and penalty, under Chapter 119. of the Revised Code, to the state board of building appeals established under Section 3781.19 of the Revised Code within thirty days after receipt of the notice.*

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~~109.3.5~~112.3.5 **Service of citations.** Every citation and notice of hearing shall be delivered in accordance with section ~~119.07~~119.05 of the Revised Code. ~~Every citation and notice of hearing shall be delivered by registered mail, return receipt requested and a copy of the notice shall be mailed to attorneys or other representatives of record representing the party. When any notice sent by registered mail, as required by Sections 119.01 to 119.13 of the Revised Code, is returned because the party fails to claim the notice, the agency shall send the notice by ordinary mail to the party at the party's last known address and shall obtain a certificate of mailing. Service by ordinary mail is complete when the certificate of mailing is obtained unless the notice is returned showing failure of delivery.~~

~~If any notice sent by registered or ordinary mail is returned for failure of delivery, the agency either shall make personal delivery of the notice by an employee or agent of the agency or shall cause a summary of the substantive provisions of the notice to be published once a week for three consecutive weeks in a newspaper of general circulation in the county where the last known address of the party is located. When notice is given by publication, a proof of publication affidavit, with the first publication of the notice set forth in the affidavit, shall be mailed by ordinary mail to the party at the party's last known address and the notice shall be deemed received as of the date of the last publication. An employee or agent of the agency may make personal delivery of the notice upon a party at any time.~~

It shall be the responsibility of the agency serving adjudication documents to follow the most current provisions of Revised Code Chapter 119., including the service provisions contained in Section 119.05 of the Revised Code.

~~109.4~~112.4 **Civil penalties for violations of the Ohio Fire Code.** Penalties are specified in ~~s~~Sections 3737.51 and 3737.99 of the Revised Code. In accordance with Section 3737.51 of the Revised Code, the fire code official may propose a civil penalty for each violation of this code as follows:

1. Any person who has received a citation for a serious violation of the fire code or any order issued pursuant to it, shall be assessed a civil penalty of not more than one thousand dollars for each such violation.

2. Any person who has received a citation for a violation of the fire code or any order issued pursuant to it, and such violation is specifically determined not to be of a serious nature, may be assessed a civil penalty of not more than one thousand dollars for each such violation.

3. Any person who fails to correct a violation for which a citation has been issued within the period permitted for its correction, may be assessed a civil penalty of not more than one thousand dollars for each day during which such failure or violation continues.

4. Any person who violates any of the posting requirements, as prescribed by division (C) of Section 3737.42 of the Revised Code, shall be assessed a civil penalty of not more than one thousand dollars for each violation.

~~109.4.1~~112.4.1 **Appropriateness of penalty.** ~~Due~~ In accordance with division (F) of Section 3737.51 of the Revised Code, due consideration to the appropriateness of the penalty with respect to the gravity of the violation, the good faith of the person being charged, and the

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history of previous violations shall be given whenever a penalty is assessed under this chapter.

***~~109.4.2~~112.4.2* Serious violation.** *~~For purposes of this section~~In accordance with division (G) of Section 3737.51 of the Revised Code, a serious violation shall be considered to exist if there is a substantial probability that an occurrence causing death or serious physical harm to persons could result from a condition which exists, or from one or more practices, means, methods, operations or processes which have been adopted or are in use, unless the person did not and could not with the exercise of reasonable diligence, know of the presence of the violation.*

***~~109.4.3~~112.4.3* Payment of civil penalties.** *~~Civil~~ In accordance with division (H) of section 3737.51 of the Revised Code, civil penalties imposed by this chapter shall be paid to the fire marshal for deposit into the general revenue fund. Such penalties may be recovered in a civil action in the name of the state brought in the court of common pleas of the county where the violation is alleged to have occurred.*

~~(J) **Section 110 Unsafe buildings**~~

~~(1) **110.1 General.** If during the inspection of a premises, *the fire code official finds* a building or structure or any building system, in whole or in part, constitutes a *dangerous condition described in division (A), (B) or (C) of section 3737.41 of the Revised Code*, the fire code official shall issue such *citation and* orders to remove or remedy the condition as shall be deemed necessary in accordance with *section 3737.41 of the Revised Code* and shall, as appropriate, refer the building to the building department for any repairs, alterations, remodeling, removing or demolition required. *Nothing in this paragraph shall be construed as prohibiting or limiting a fire code official's ability to take any other enforcement actions authorized by Chapter 3737. of the Revised Code, including issuance of citation pursuant to section 3737.42 of the Revised Code.*~~

~~(a) **110.1.1 Unsafe conditions.** Structures or existing equipment that are or hereafter become unsafe or deficient because of inadequate means of egress or which constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or which involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. A vacant structure that is not secured against unauthorized entry as required by *paragraph* (K)(311) *of rule 1301:7-7-03 of the Administrative Code* shall be deemed unsafe.~~

~~*(i) If the fire code official finds an unsafe condition as described in this paragraph that constitutes an imminent hazard, as that term is used in section 3737.44 of the Revised Code, such fire code official shall take actions as required by section 3737.44 of the Revised Code and paragraph (I)(1)(a)(109.1.1) of this rule.*~~

~~(ii) If the fire code official finds an unsafe condition as described in this paragraph that is especially liable to fire or endangers life or other buildings or property, such fire code official shall issue a citation and order that the responsible person take all necessary remedial actions as required by section 3737.41 of the Revised Code.~~

~~(iii) *If the fire code official finds an unsafe condition as described in this paragraph that violates specific provisions of this code, such fire code official shall take such enforcement actions as provided for in this rule including, but not limited to, the issuance of a citation pursuant to section 3737.42 of the Revised Code. This includes the*~~

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~~*issuance of a citation for a distinct hazard pursuant to paragraph (I)(1)(b)(109.1.2) of this rule and for a serious hazard pursuant to paragraph (I)(1)(c)(109.1.3) of this rule.*~~

~~(b) **110.1.2 Structural hazards.** Where an apparent structural hazard is caused by the faulty installation, operation or malfunction of any of the items or devices governed by this code, the fire code official shall immediately notify the building code official in accordance with *paragraph* (J)(1)(110.1) *of this rule*.~~

Section ~~111~~113 Stop work order

~~111.1~~113.1 ~~Order~~Authority**.** Whenever the fire code official finds any work *relating to the fire prevention provisions of Chapters 3781. and 3791. of the Revised Code or work subject to Section 104.2.1 contrary to the approved plans or work otherwise* regulated by this code being performed in a manner contrary to the provisions of *the Revised Code or* this code, in a dangerous or unsafe manner, the fire code official is authorized, subject to Section 104.2.2, to issue a stop work order *in accordance with Section 3781.031 of the Revised Code or this code*.

~~111.2~~113.2 **Issuance.** A stop work order shall be *issued in accordance with Section 3737.42 of the Revised Code, be* in writing and shall be given to the owner of the property, ~~or to~~ the owner's authorized agent; or ~~to~~ the person ~~doing~~performing the work *and a copy shall be provided to the building official having jurisdiction*. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work is authorized to resume.

~~111.3~~113.3 **Emergencies.** Where an emergency exists, *meeting the definition of an imminent hazard as described in Section 3737.44 of the Revised Code,* the fire code official shall not be required to give a written notice prior to stopping the work*, provided that the stop work order is issued in accordance with and as a part of actions filed or taken under Sections 3737.44 and 3737.46 of the Revised Code*.

~~111.4~~113.4 **Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be *subject to penalties in accordance with Section 109.4 or other applicable laws, rules and regulations*.

Section ~~110~~114 Unsafe ~~buildings~~ structures or equipment

~~110.1~~114.1 **General.** If during the inspection of a premises, *the fire code official finds* a building or structure or any building system, in whole or in part, constitutes a *dangerous condition described in division (A), (B) or (C) of Section 3737.41 of the Revised Code*, the fire code official shall issue such *citation and* orders to remove or remedy the conditions as shall be deemed necessary in accordance with *Section 3737.41 of the Revised Code* and shall*, as appropriate,* refer the building to the building *department* for any repairs, alterations, remodeling, removing or demolition required. *Nothing in this section shall be construed as prohibiting or limiting a fire code official's ability to take any other enforcement actions authorized by Chapter 3737. of the Revised Code, including issuance of citation pursuant to Section 3737.42 of the Revised Code.*

~~110.1.1~~ 114.1.1 **Unsafe conditions.** Structures or existing equipment that are or hereafter become unsafe~~, insanitary~~ or deficient because of inadequate means of egress~~, inadequate light and ventilation,~~ or *which*conditions that constitute a fire hazard~~, or~~ are otherwise dangerous to human life or the public welfare, or ~~which~~ involve illegal or improper occupancy

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or inadequate maintenance, shall be deemed an unsafe condition. ~~Unsafe structures shall be taken down and removed or made safe, as the fire code official deems necessary and as provided for in this section.~~ A vacant structure that is not secured against unauthorized entry ~~as required by *paragraph* (K)(~~Section ~~311~~ shall be deemed unsafe.

114.1.1.1 *If the fire code official finds an unsafe condition as described in this section that constitutes an imminent hazard, as that term is used in Section 3737.44 of the Revised Code, such fire code official shall take actions as required by Section 3737.44 of the Revised Code and Section 112.1.1.*

114.1.1.2 *If the fire code official finds an unsafe condition as described in this section that is especially liable to fire or endangers life or other buildings or property, such fire code official shall issue a citation and order that the responsible person take all necessary remedial actions as required by Section 3737.41 of the Revised Code.*

114.1.1.3 *If the fire code official finds an unsafe condition as described in this paragraph that violates specific provisions of this code, such fire code official shall take such enforcement actions as provided for in this rule including, but not limited to, the issuance of a citation pursuant to Section 3737.42 of the Revised Code. This includes the issuance of a citation for a distinct hazard pursuant to Section 112.1.2 and for a serious hazard pursuant to Section 112.1.3.*

114.1.1.4 *If the fire code official finds an unsafe condition as described in this section that constitutes a de minimus hazard that has no direct or immediate relationship to safety of health, such fire code official shall take such enforcement actions as provide for in this rule including, but not limited to, the issuance of a notice pursuant to division (B) of Section 3737.42 of the Revised Code and Section 112.1.5.1.*

~~110.1.2~~**114.1.2 Structural hazards.** Where an apparent structural hazard is caused by the faulty installation, operation or malfunction of any of the items or devices governed by this code, the fire code official shall immediately notify the building code official in accordance with Section ~~*paragraph* (J)(1)(~~110.1114.1~~*) of this rule*~~.

114.2 Evacuation. *As authorized by and in accordance with division (C) of Section 3737.44 of the Revised code, the* fire code official ~~or the fire department official in charge of an incident~~ shall be authorized to order the immediate evacuation of any occupied structure deemed unsafe where such structure has hazardous conditions that pose an imminent danger to structure occupants. Persons so notified shall immediately leave the structure or premises and shall not enter or re-enter until authorized to do so by the fire code official ~~or the fire department official in charge of the incident~~.

114.3 ~~**Record.** The fire code official shall cause a report to be filed on an unsafe condition. The report shall state the occupancy of the structure and the nature of the unsafe condition.~~***General requirements.*** *All enforcement actions taken under this section shall comply with the provisions of Section 112 and Sections 3737.41 through 3737.51 of the Revised Code.*

[A] 114.4 ~~**Notice.** If an unsafe condition is found, the fire code official shall serve on the owner of the structure or the owner's authorized agent a written notice that describes the condition deemed unsafe and specifies the required repairs or improvements to be made to abate the unsafe condition, or requires the unsafe structure to be demolished within a stipulated time. Such notice~~

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~~shall require the person thus notified to declare immediately to the fire code official acceptance or rejection of the terms of the order.~~*Deleted.*

[A] 114.5 ~~Method of service.~~ ~~Such notice shall be deemed properly served where a copy thereof is served in accordance with one of the following methods:~~

~~1. A copy is delivered to the owner personally.~~

~~2. A copy is sent by certified or registered mail addressed to the owner at the last known address with return receipt requested.~~

~~3. A copy is delivered in any other manner as prescribed by local law.~~

~~If the certified or registered letter is returned showing that the letter was not delivered, a copy thereof shall be posted in a conspicuous place in or about the structure affected by such notice. Service of such notice in the foregoing manner on the owner's authorized agent shall constitute service of notice on the owner.~~*Deleted.*

[A] 114.6 Restoration or abatement. The structure or equipment determined to be unsafe by the fire code official is permitted to be restored to a safe condition. The *responsible person, including the* owner, the owner's authorized agent, operator or occupant of a structure, premises or equipment deemed unsafe by the fire code official, shall abate or cause to be abated or corrected such unsafe conditions either by repair, rehabilitation, demolition or other approved corrective action *in accordance with the provisions of Section 112 and Sections 3737.41 through 3737.51 of the Revised Code*. To the extent that repairs, alterations or additions are made or a change of occupancy occurs during the restoration of the structure, such repairs, alterations, additions or change of occupancy shall comply with the requirements of ~~Section~~*this code, including Sections 102.3 and* 105.1.5, and the ~~International Existing Building Code~~*building code*.

114.7 ~~Summary abatement.~~ ~~Where conditions exist that are deemed hazardous to life and property, the fire code official or fire department official in charge of the incident is authorized to abate summarily such hazardous conditions that are in violations of this code.~~*Deleted.*

Section ~~112~~115 State fire marshal permits and inspection fees

~~112.1~~115.1 Permit fees. *The fee for all permits issued by the state fire marshal shall be seventy-five dollars unless specifically indicated otherwise in this code.*

Exceptions:

1. *If a manufacturer or wholesaler of fireworks has paid an original or a renewal licensure application fee in accordance with Section ~~5617~~5616.1, then the manufacturer or wholesaler of fireworks is not required to pay a fee for the Class 1 magazine storage permit required by Section 105.1.1.1.1.*

2. *A permit fee is not required for the construction of a temporary membrane structure or tent erected on state property.*

~~112.1.1~~115.1.1 Fees for multiple permits. *When multiple permits are applied for to the state fire marshal for a specific event or approved construction at the same location, such permit application may be consolidated into a single permit application. The total fees otherwise*

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required for such multiple permits may be consolidated into a single fee, which may be reduced at the discretion of the state fire marshal in an amount proportionate to the corresponding inspection activity.

***~~112.2~~115.2* Construction inspection fees.** *The state fire marshal shall require new construction inspection fees as follows:*

1. *Initial inspection fee of two hundred dollars.*
2. *Re-inspection fee of fifty dollars.*
3. *First follow-up inspection fee of one hundred dollars.*
4. *Second follow-up inspection fee of one hundred-fifty dollars.*
5. *Third follow-up inspection fee of two hundred dollars.*
6. *Fourth follow-up inspection fee of three hundred dollars.*
7. *Subsequent follow-up inspection fees are increased in fifty~~-~~dollar increments.*

***~~112.3~~115.3* Fire safety inspection fees.** *The state fire marshal shall require fire safety inspection fees for all other inspections as follows:*

1. *Inspection fee of one hundred dollars.*
2. *First re-inspection fee of fifty dollars.*
3. *Second re-inspection fee of seventy-five dollars.*
4. *Subsequent re-inspection fees are increased in fifty-dollar increments.*

Exceptions:

1. *The inspection fee for the initial inspection conducted pursuant to the application for any license issued by the state fire marshal shall be included in the application fee.*
2. *Fire safety inspection fees for child daycare and child foster homes caring for eleven or fewer children shall be fifty dollars.*
3. *Fire safety inspection fees for the storage of explosives and explosive materials are waived for storage facilities located on a licensed premises pursuant to Chapter 3743. of the Revised Code and Chapter 56.*

Section ~~113~~116 Amendments to the fire code

***~~113.1~~116.1* When any person desires to petition the state fire marshal to adopt, amend or rescind a provision of this code, such person shall file on a format prescribed by the state fire marshal the petition with the state fire marshal.**

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~~113.1.1~~116.1.1**.** *The adoption, amendment or rescission of any provision of this code shall be accomplished according to Chapter 119. and Sections 3737.82 and 3737.86 of the Revised Code.*

~~113.2~~116.2 *The petition shall include the following:*

1. *The date the petition is submitted;*
2. *The number of the section of this code which is proposed for amendment, adoption or rescission;*
3. *The section numbers of all other sections of this code which will be affected by the matter proposed;*
4. *The name and address of the petitioner and the name of the petitioner's representative if a representative is employed;*
5. *The provisions of this code, which are proposed for adoption, amendment or rescission stated in full and in the form specified in this rule;*
6. *The reasons for and purpose of the matter proposed.*

~~113.3~~116.3 **Changes.** *Petitions for adoption, amendment or rescission of this code, required under this chapter, shall conform to the requirements of this rule including:*

~~113.3.1~~116.3.1**.** *All matter proposed to be eliminated from this code shall be deleted by means of striking through the text.*

~~113.3.2~~116.3.2**.** *All proposed new matter to be inserted into this code shall be inserted and be underlined.*

Section ~~114~~117 Notice of public hearing

~~114.1~~117.1 **Procedures.** *The procedure of the state fire marshal for giving public notice for the adoption, amendment or recession of the rules shall be in accordance with Chapter 119. and ~~s~~Section 3737.86 of the Revised Code, and this section.*

~~114.2~~117.2 *The state fire marshal shall cause:*

1. *A statement of its intention to consider adopting, amending or rescinding a chapter;*
2. *A synopsis of the proposed chapter, amendment, or rule to be rescinded or a general statement of the subject matter to which the proposed chapter, amendment, or rescission relates;*
3. *A statement of the reason or purpose for adopting, amending or rescinding the chapter;*
4. *Public notice to be filed with the "Legislative Service Commission" and the "Joint Commission on Agency Rule Review" on the "Register of Ohio."*

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~~114.3~~117.3 The state fire marshal shall be authorized to give additional notice to such public hearing as the state fire marshal deems necessary; however, the giving of such additional notice shall not be mandatory and the failure to give notice by any means other than as specified in Section 114.2 shall not in any way invalidate any action which may be taken by the state fire marshal.

Section ~~115~~118 Research reports and testing laboratories

~~115.1~~118.1 In those cases in which a product is proposed for use in Ohio, but such product does not meet specific standards set by the "Ohio Fire Code," the state fire marshal may require authenticated research reports from conformity assessment bodies recognized by the board of building standards pursuant to Section 114 of the "Ohio Building Code." If no applicable or appropriate conformity assessment body is recognized by the board of building standards for the product proposed for use in Ohio, the state fire marshal may require authenticated research reports from approved authoritative sources to assist in determining the acceptability of that product.

~~115.2~~118.2 Authoritative sources recognized by the state fire marshal for matters not within the scope of the building code, or as otherwise determined by the state fire marshal, include but are not limited to:

*"American National Standards Institute, Inc. (**ANSI**)*
25 West 43rd Street
New York, New York 10018"

*"American Society of Testing Materials (**ASTM**)*
PO Box C700
West Conshohocken, Pennsylvania 19428-2959"

*"National Institute of Standards and Technology (**NIST**)*
Building and Fire Research Laboratory
100 Bureau Drive
Building 226, Room B216
Gaithersburg, Maryland 20899-8600"

*"Underwriters' Laboratories, Inc. (**UL**)*
333 Pfingsten Road
Northbrook, Illinois 60062"

*"Underwriters Laboratories of Canada (**ULC**)*
7 Underwriters Road
Scarborough, Ontario, Canada M1R 3A9"

Section ~~116~~119 Flammability of consumer goods

~~116.1~~119.1 Unless otherwise provided by the Revised Code, the federal standards of flammability for consumer goods are adopted and incorporated in the state fire code as the minimum standards of flammability for consumer goods in Ohio. If such federal standards change subsequent to the effective date of this chapter, only those chapters or portions of those chapters which are identical to the federal standards shall remain in effect.

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Section ~~117~~120 Procedure in the event of fire

~~117.1~~120.1 Notification of fires in buildings. *In the event of an unfriendly fire ~~(as defined in Chapter 2)~~ in any building regulated by the building code, the responsible person ~~(as defined in Chapter 2)~~ shall, in accordance with Section 3737.63 of the Revised Code, immediately and with all reasonable dispatch and diligence, call or otherwise notify the fire department concerning the fire and shall spread an alarm immediately to all occupants of the building.*

~~117.2~~120.2 Notification of fires at a premises. *In the event of an unfriendly fire ~~(as defined in Chapter 2)~~ at any premises, the responsible person ~~(as defined in Chapter 2)~~ shall immediately and with all reasonable dispatch and diligence, call or otherwise notify the fire department concerning the fire and shall spread an alarm immediately to all occupants of the premises.*

~~117.3~~120.3 Reporting of fires. *Unfriendly fires shall be reported to the fire department having jurisdiction. As described in Section 104.6.3, the fire chief or other specified authority shall make a report and forward a copy of said report to the state fire marshal of such unfriendly fires. As required by Section 3737.24 of the Revised Code, the reporting official shall immediately notify the state fire marshal of the fire being investigated in accordance with that section, and within one week of the occurrence of the fire shall furnish the state fire marshal with a written statement of all facts relating to its cause and origin and such other information as is required by forms provided by the state fire marshal.*

Section ~~118~~121 Hotel and SRO facility license

~~118.1~~121.1 License to operate a hotel or SRO facility. *For those facilities defined as a hotel or SRO facility in Section 3731.01 of the Revised Code, the issuance of a license shall be contingent upon compliance with Chapter 3731. of the Revised Code and rules adopted pursuant to Section 3731.02 of the Revised Code.*

~~118.1.1~~121.1.1. *As required by division (D) of Section 3731.03 of the Revised Code, all hotel and SRO licenses shall expire on the last day of December of each year. All applications to renew a license to operate a hotel shall be submitted to the state fire marshal in accordance with this section.*

~~118.1.2~~121.1.2. *If any owner, operator, lessee, or responsible person in control of a hotel or SRO facility licensed pursuant to Chapter 3731. of the Revised Code and this section maintains or operates a hotel or SRO facility where accommodations for assignation purposes are furnished, or if any owner, operator, or responsible person in control of such a hotel or SRO facility has been convicted of keeping a place in violation of the law relating to houses of assignation or places of public nuisance the owner, operator, or responsible person shall notify the state fire marshal of the conviction or finding in writing by submitting a copy of the judgement entry or other court termination or of the operation in writing by submitting other documentation notifying the state fire marshal of the activity. The notification to the state fire marshal shall be made within 60 days of the activity, the conviction or the finding, or upon submission of a license renewal application, whichever is earlier.*

~~118.2~~121.2 Definitions. *The following terms are defined in Chapter 2.*

Agricultural labor camp.

Apartment house.

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Approved.

Boarding, lodging, rooming house.

Constantly attended location.

Cooking devices.

Cooking device listed as safe for residential use.

Dwelling unit.

Dwelling unit features.

Efficiency unit.

Emergency egress routes/Escape routes.

Extended stay hotel.

Guestroom.

[Hospital/college] Dormitory.

Hotel.

Light hazard occupancy.

Person/responsible person.

Residential hotel.

Residential premises.

Single room occupancy.

Sleeping room.

SRO facility.

Temporary residence.

Transient.

Transient hotel.

Transient 270 day stay hotel room.

~~118.3~~121.3 Hotel and SRO facilities.

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~~118.3.1~~121.3.1 "Hotel" does not include agricultural labor camps, apartment houses, lodging houses, rooming houses, or hospital or college dormitories.

~~118.3.2~~121.3.2 A SRO facility shall include, at a minimum, a sleeping area with adequate sleeping accommodations for the guest such as a bed, bunk, cot or other furniture designed for sleeping.

~~118.3.3~~121.3.3 No person licensed to maintain and operate a hotel or SRO facility shall also maintain and operate an agricultural labor camp, apartment house, lodging house, rooming house, or hospital or college dormitory in the same structure as is located the licensed hotel, unless the agricultural labor camp, apartment house, lodging house, rooming house or hospital or college dormitory has been constructed as, and been approved by the building official having jurisdiction over it as being a separate building within the hotel structure in accordance with approved building rated separation assemblies.

~~118.3.3.1~~121.3.3.1 Upon initial application for licensure or upon request of the state fire marshal, a hotel or SRO facility seeking approval of separated uses as described in Section ~~118.3.2~~ 121.3.2, must submit to the state fire marshal a valid certificate of occupancy that clearly indicates the separation of such uses as issued by the building official having jurisdiction and any other documentation requested by the state fire marshal.

~~118.3.3.2~~121.3.3.2 The state fire marshal shall not issue more than one hotel or SRO license for any structure.

~~118.3.4~~121.3.4 The most current license issued to a hotel or SRO facility shall be kept in the office of such hotel or SRO facility and produced for review when requested by the fire code official or displayed in a conspicuous and public manner therein.

~~118.3.5~~121.3.5 For purposes of determining compliance with administrative licensure requirements, each hotel or SRO facility shall maintain on the premises, a register or guest information records or written occupancy agreement for a period of two years and provide such information upon request of the state fire marshal or fire code official. The register, guest information records or written occupancy agreements shall clearly indicate the dates of arrival and departure for occupants in such guestroom.

~~118.3.6~~121.3.6 Each licensed hotel or SRO facility shall maintain a responsible person on duty on the premises or provide appropriate notification information posted in a conspicuous place visible from the exterior.

~~118.3.7~~121.3.7 Every hotel and SRO facility shall have proper plumbing, lighting and ventilation installed and maintained in accordance with the building code, plumbing code and mechanical code and this code.

~~118.3.8~~121.3.8 The responsible person for the hotel or SRO facility must safely and properly maintain the building, structure, premises or lot at all times in accordance with this code, other jurisdictional codes and ordinances and the International Property Maintenance Code.

~~118.3.9~~121.3.9 The responsible person of a licensed hotel shall post in each guestroom the hotel room rate indicating the maximum actual rate and include the maximum rate per number of actual occupants.

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~~118.3.10~~121.3.10 The responsible person or licensee of a hotel or SRO facility shall post the arson laws, as set forth in Sections 2909.02 and 2909.03 of the Revised Code, in a conspicuous place in each guestroom, sleeping room, or dwelling unit in the facility.

~~118.3.11~~121.3.11 The responsible person or licensee of a hotel or SRO facility shall post emergency egress routes or escape routes in a conspicuous place in each guestroom, sleeping room, or dwelling unit in the facility.

~~118.4~~121.4 **Transient hotels.**

~~118.4.1~~121.4.1 The requirements of this section are specific to licensed transient hotels but the responsible person and licensee of the licensed transient hotel is not exempt from the requirements of Section ~~118.3~~ 121.3.

~~118.4.2~~121.4.2 No person licensed to operate a transient hotel shall also maintain and operate an agricultural labor camp, apartment house, lodging house, rooming house, or hospital or college dormitory in the same structure as is located a licensed transient hotel, unless the licensee complies with the requirements of Sections 121.3.3, ~~118.3.3.1~~ 121.3.3.1 and ~~118.3.3.2~~ 121.3.3.2.

~~118.4.3~~121.4.3 The responsible person or licensee of a transient hotel licensed pursuant to division (A)(2) of Section 3731.01 of the Revised Code shall not permit guests to stay in guestrooms or sleeping rooms for periods in excess of thirty (30) days.

Exception: Guests are permitted to stay up to 270 days in transient hotel guestrooms and sleeping rooms when all of the following conditions are met:

1. Not more than 40 percent of the total transient guestrooms and sleeping rooms in the facility are transient 270 day stay hotel rooms.
2. The designation of specific guestrooms or sleeping rooms on the license application or change of status application as 270 day stay hotel rooms does not change to another category or type during the annual hotel license period.
3. The responsible person or licensee of the licensed transient hotel submits the list of 270 day stay hotel room numbers to the state fire marshal not less than 30 days prior to the first day any guest is allowed to stay in any 270 day stay hotel room.
4. The responsible person or licensee of the transient hotel designates each specific 270 day stay hotel room by room number.
5. The building official having jurisdiction and the state fire marshal have approved the existing fire alarm system.
6. 270 day stay hotel room guests do not accumulate combustible materials within the 270 day stay hotel rooms to the point that the hazard classification of the hotel room would no longer be light hazard in the opinion of the fire code official.
7. No cooking devices except for those listed as safe for residential use as the terms are defined in Chapter 2 are stored or used within the 270 day stay hotel room.

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8. Smoke detectors, which shall be properly installed in all guestrooms and sleeping rooms of a transient hotel that provides 270 day stay hotel rooms to guests, annunciate at a constantly attended location from which the structure's fire alarm system can be manually activated.

9. A means to manually activate the structure's fire alarm system is provided at the constantly attended location where the guestroom or sleeping room smoke detectors are annunciated.

~~118.5~~121.5 Extended stay hotels.

~~118.5.1~~121.5.1 The requirements of this section are specific to licensed extended stay hotels but the responsible person and licensee of the licensed extended stay hotel is not exempt from the requirements of Section ~~118.3~~ 121.3.

~~118.5.2~~121.5.2 No person licensed to operate an extended stay hotel shall also maintain and operate an agricultural labor camp, apartment house, lodging house, rooming house, or hospital or college dormitory in the same structure as is located a licensed extended stay hotel, unless the licensee complies with the requirements of Sections ~~118.3.3~~ 121.3.3, ~~118.3.3.1~~ 121.3.3.1 and ~~118.3.3.2~~ 121.3.3.2.

~~118.5.3~~121.5.3 No person shall operate an extended stay hotel as defined in Chapter 2 without first obtaining a license from the state fire marshal for the extended stay hotel licensure category pursuant to Section ~~118.1~~ 121.1.

~~118.5.4~~121.5.4 The responsible person or licensee of the licensed extended stay hotel may permit stays of less than thirty (30) days within dwelling units or other rooms within the structure only if such dwelling units or rooms are specifically constructed and approved as also being transient sleeping rooms.

~~118.5.4.1~~121.5.4.1 The building official having jurisdiction shall approve through a valid certificate of occupancy and the state fire marshal shall approve any dwelling unit or other room that is to be used for stays of less than thirty (30) days. This certificate of occupancy shall indicate the specific rooms within the structure that are approved for use as transient sleeping rooms.

~~118.5.5~~121.5.5 The state fire marshal shall not issue an extended stay hotel license for a facility and no person shall operate a facility as an extended stay hotel as defined in ~~(c) 118.5.3~~ Section 121.5.3 No person shall operate an extended stay hotel as defined in Chapter 2 without first obtaining a license from the state fire marshal for the extended stay hotel licensure category pursuant to Section ~~118.1~~ 121.1 unless a valid certificate of occupancy has been obtained for the facility.

~~118.5.6~~121.5.6 Provisions for cooking, as approved by the building official having jurisdiction, shall be provided in each dwelling unit and consist of a space for food preparation, one cooking appliance, and a properly plumbed kitchen sink separate from the bathroom lavatory.

~~118.5.7~~121.5.7 Provisions for eating within the dwelling unit shall be provided and shall consist of appropriate furnishings for the consumption of food.

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~~118.5.8~~121.5.8 *Provisions for living within the dwelling unit shall be provided and shall consist of a bath area for personal hygiene that is separated from other areas in the dwelling unit and is equipped with a properly plumbed water closet, lavatory and tub/shower.*

~~118.5.9~~121.5.9 *Provisions for sleeping within the dwelling unit shall be provided and, at a minimum, consist of a sleeping area with adequate sleeping accommodations for each guest such as a bed, bunk, cot or other furniture designed for sleeping and accompanying bedding, mattress, box spring, pillow(s), sheets and pillow cases.*

~~118.6~~121.6 ***Residential hotel.***

~~118.6.1~~121.6.1 *The requirements of this section are specific to licensed residential hotels but the responsible person and licensee of the licensed residential hotel is not exempt from the requirements of Section ~~118.3~~ 121.3.*

~~118.6.2~~121.6.2 *No person licensed to operate a residential hotel shall also maintain and operate an agricultural labor camp, apartment house, lodging house, rooming house, or hospital or college dormitory in the same structure as is located a licensed residential hotel, unless the licensee complies with the requirements of Sections ~~118.3.3~~ 121.3.3, ~~118.3.3.1~~ 121.3.3.1 and ~~118.3.3.2~~ 121.3.3.2.*

~~118.6.3~~121.6.3 *No person shall operate a residential hotel as defined in Chapter 2 without first obtaining a license from the state fire marshal for the residential hotel licensure category pursuant to Section ~~118.1~~ 121.1.*

~~118.6.4~~121.6.4 *Residential hotels shall only be kept, used, maintained, advertised, and held out to the public for minimum stays of more than thirty (30) days.*

~~118.6.5~~121.6.5 *Responsible persons and licensees of licensed residential hotels shall, upon request of the dwelling unit guest, provide furniture adequate for living, eating, cooking, sanitation and sleeping within the dwelling unit. Furniture or furnishings provided for sleeping and sanitation shall include bed, blankets, sheets and pillow cases, towels and washcloths. The residential hotel may charge appropriate additional fees for the provision of any furniture or provisions pursuant to this section.*

~~118.7~~121.7 ***Licensure.***

~~118.7.1~~121.7.1 *To obtain a new or renewal hotel or SRO facility license, the applicant shall submit to the state fire marshal an application with the appropriate fee payment as set forth in Section 118.7.3. The application shall be in a form as prescribed by the state fire marshal and shall include all information required by Chapter 3731. of the Revised Code, by this section and by the state fire marshal.*

~~118.7.2~~121.7.2 *Each applicant for a hotel facility license shall specify on the application provided by the state fire marshal the appropriate licensure category, indicating whether the facility is a transient hotel (including those that contain transient 270 day stay hotel rooms), extended stay hotel, or a residential hotel as those terms are defined in Chapter 2.*

~~118.7.2.1~~121.7.2.1 *Each applicant for a transient hotel licensure category license shall provide documentation accompanying the license application as prescribed by the state fire marshal. Upon initial application or request of the state fire marshal, such*

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documentation shall include a valid certificate of occupancy demonstrating approval of sleeping accommodations for transient guests for a period of thirty days or less.

~~118.7.2.1.1~~121.7.2.1.1 Each applicant for a transient hotel facility license shall specify on the application provided by the state fire marshal which rooms, meeting the requirements of Section 3731.041 of the Revised Code, by room number, are offered for a period of more than 30 days but less than 270 days.

~~118.7.2.2~~121.7.2.2 Each applicant for an extended stay hotel licensure category license shall provide documentation accompanying the license application as prescribed by the state fire marshal. Upon initial application or request of the state fire marshal such documentation shall include a valid certificate of occupancy demonstrating that each unit the licensee intends to use as an extended stay guestroom has been specifically approved as a dwelling unit or efficiency containing provisions for living, eating, cooking, sanitation and sleeping.

~~118.7.2.2.1~~121.7.2.2.1 Each applicant for an extended stay hotel facility license shall specify on the application provided by the state fire marshal which rooms, by room number, are offered for occupancy for periods exceeding 30 days.

~~118.7.2.2.2~~121.7.2.2.2. The valid certificate of occupancy shall list the specific rooms by room number that are approved as dwelling units. In addition, the valid certificate of occupancy shall demonstrate that the dwelling units have both of the following types of features:

1. *The required dwelling unit features for non-transient residence purposes in accordance with the residential group R-2 use and occupancy classification adopted by the board of building standards pursuant to Section 3781.10 of the Revised Code, or any subsequent classification established by the board that is substantially similar to that classification;*

2. *All of the transient residential occupancy features of a transient hotel in accordance with the residential group R-1 use and occupancy classification adopted by the board pursuant to that paragraph, or any subsequent classification established by the board that is substantially similar to that classification.*

~~118.7.2.3~~121.7.2.3 Each applicant for a SRO facility license shall complete the application provided by the state fire marshal.

~~118.7.2.3.1~~121.7.2.3.1 Upon initial application or request of the state fire marshal, each applicant for an SRO facility license shall provide a valid certificate of occupancy demonstrating a use group classification for the SRO facility of R-2 as approved and issued by the building official having jurisdiction. Any facility operating prior to October 16, 1996, in the nature of an SRO facility, whether previously licensed as a hotel or not, shall be permitted to provide documentation of a use group classification of either R-1 or R-2 as approved and issued by the building official having jurisdiction.

~~118.7.2.3.2~~121.7.2.3.2 Each applicant for an SRO facility license shall specify on the application provided by the state fire marshal which rooms, by room number, are offered for occupancy for periods of 30 days or less.

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~~118.7.2.4~~121.7.2.4. *Each applicant for a residential hotel licensure category license shall provide documentation accompanying the license application as prescribed by the state fire marshal. Upon initial application or request of the state fire marshal such documentation shall include a valid certificate of occupancy demonstrating that each unit the licensee intends to use as a residential stay guestroom has been specifically approved as a dwelling unit or efficiency containing provisions for living, eating, cooking, sanitation and sleeping. In addition, the certificate of occupancy shall demonstrate that the hotel has all of the transient residential occupancy features of a transient hotel in accordance with the residential group R-1 use and occupancy classification adopted by the board of building standards pursuant to ~~c~~Chapter 3781. of the Revised Code.*

~~118.7.2.4.1~~121.7.2.4.1. *Each applicant for a residential hotel facility license shall specify on the application provided by the state fire marshal which rooms, by room number, are offered for occupancy for periods exceeding 30 days.*

~~118.7.2.5~~121.7.2.5. ***Transfer and information changes.*** *If the ownership of a hotel or SRO facility is transferred from one person to another person, upon the sale or disposition of the hotel or SRO facility or its removal to a new location, the new owner shall request a transfer of the license from the state fire marshal. No license shall be transferred without the consent of the state fire marshal. A completed application as prescribed by the state fire marshal for transfer shall be received by the state fire marshal no later than the earlier of the following:*

1. *The end of the calendar year in which the transfer occurred; or*

2. *90 days from the date of the transfer; or*

3. *Upon submission of an application to renew a hotel license.*

Exception: *Transfers of a license occurring before the effective date of this code shall be submitted to the state fire marshal within ninety (90) days from the effective date of this code.*

Transfer fees shall be assessed in accordance with Section ~~118.7.3.4~~ 121.7.3.4.

The transfer of a hotel license shall be contingent upon an inspection verifying compliance with Chapter 3731. of the Revised Code and rules adopted pursuant to Section 3731.02 of the Revised Code.

~~118.7.2.5.1~~121.7.2.5.1. *If the approval of the proposed transfer would be contrary to applicable law or this code, the state fire marshal may refuse to permit a license already issued to be transferred to a different owner or may refuse to grant any license to operate a hotel or to permit a license already issued to be transferred. Pursuant to and in accordance with Chapter 119. of the Revised Code, the aggrieved party may request a hearing on the denial of transfer. Such hearing shall be in accordance with Chapter 119. of the Revised Code.*

~~118.7.3~~121.7.3 ***License fees.***

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~~118.7.3.1~~121.7.3.1 **License fees.** The initial licensure fee for a new hotel or SRO facility shall be:

1. For all hotels or SRO facilities with exterior corridor rooms only, two thousand dollars;

2. For all hotels or SRO facilities with interior corridor rooms only, three thousand dollars;

3. For all hotels or SRO facilities with exterior or interior corridor rooms and places of assembly, such as restaurant, lounge, banquet facility, etc., four thousand dollars.

~~118.7.3.2~~121.7.3.2 **Renewal, reactivation and re-application fees.** On or before December first of each year a renewal application as prescribed by the state fire marshal shall be submitted with the appropriate renewal fee.

The renewal fee for each hotel or SRO facility license shall be ~~a minimum of one hundred ten dollars or one dollar per room, whichever is greater.~~as follows:

1. For a hotel or SRO facility containing at least six but less than twenty-six rooms, twenty-five dollars;

2. For a hotel or SRO facility containing at least twenty-six but less than fifty-one rooms, fifty dollars;

3. For a hotel or SRO facility containing at least fifty-one but less than seventy-six rooms, seventy-five dollars;

4. For a hotel or SRO facility containing seventy-six or more rooms, one hundred dollars.

Beginning with the renewal application process for the licensing year commencing January 1, 2019, renewal applications received after the last day of December of each year shall be made inactive and require reactivation. The reactivation fee shall be three hundred dollars which shall be paid in addition to the renewal fee. Beginning with the renewal application process for the licensing year commencing January 1, 2019, renewal applications received on or after March 1st shall be considered a new application in accordance with Section ~~118.7~~ 121.7 and shall pay fees in accordance with Sections ~~118.7.3.1~~ 121.7.3.1 through ~~118.7.3.1~~ 121.7.3.1. Hotel or SRO facilities that fail to timely renew their licenses on or before December 31st, shall cease to operate as a hotel or SRO facility until a valid license to operate is issued to the facility by the state fire marshal.

~~118.7.3.3~~121.7.3.3 **Change of license information.** Changes to license information shall require a twenty-five-dollar fee.

~~118.7.3.4~~121.7.3.4 **Transfer of license.** The fee for the transfer of a license shall be five hundred dollars and a completed application for transfer shall be accompanied by documentation evidencing the sale or transfer as required by the state fire marshal. Any transfer application that is not received in a timely manner as set forth in Section 118.7.2.5

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shall be accompanied by a late fee of two hundred and fifty dollars in addition to the five-hundred-dollar transfer fee.

~~118.7.3.5~~121.7.3.5 ***Adding newly constructed portions.*** *The fee shall be five hundred dollars for one to twenty guestroom additions, one thousand dollars for more than twenty guestroom additions, and fifteen hundred dollars for the addition of guestrooms and/or places of assembly such as restaurants, lounges, banquet facilities, mercantile or office space.*

~~118.7.3.6~~121.7.3.6 ***Adding a previously licensed portion.*** *The fee shall be two hundred dollars for one to twenty guestroom additions, four hundred dollars for more than twenty guestroom additions, and five hundred dollars for the addition of guestrooms and/or places of assembly such as restaurants, lounges, banquet facilities, mercantile or office space.*

~~118.7.3.7~~121.7.3.7 ***Duplicate license.*** *An application for a duplicate hotel or SRO license shall be made in writing to the state fire marshal and shall be accompanied by a ten-dollar fee.*

121.7.3.8 Automatic denial for non-payment. *An application for any license issued pursuant to Section 121 shall be automatically denied if an applicant fails to provide valid payment for any fee related to an application. If a license is issued by the state fire marshal prior to the return and/or invalidation of a payment, including but not limited to return for insufficient funds, the license application shall, IN ACCORDANCE WITH CHAPTER 119 OF THE REVISED CODE, be deemed denied as of the expiration date of the previous license cycle and any license that may have been issued shall be deemed null and void.*

~~118.7.4~~121.7.4 Removal, transfer and licensing of a portion of a facility.

~~118.7.4.1~~121.7.4.1 If a licensee seeks to remove or transfer a portion of a currently licensed hotel or SRO facility, the licensee shall notify the state fire marshal in writing of such portions of the licensed hotel or SRO facility premises that are to be affected by the change to license information and pay the fee set forth in Section ~~118.7.3.3~~ 121.7.3.3.

~~118.7.4.2~~121.7.4.2 To add a previously licensed portion of a licensed premises to a current hotel or SRO facility license, the licensee shall apply to the state fire marshal to change the license information. Such application shall include documentation as required by the state fire marshal including, but not limited to, a valid certificate of occupancy in accordance with Sections ~~118.7.2.1~~ 121.7.2.1 through ~~118.7.2.4.1~~ 121.7.2.4.1. This application shall reflect the entire hotel or SRO facility.

~~118.7.4.3~~121.7.4.3 To add a newly constructed portion that would change the total number of guestrooms, sleeping rooms and/or dwelling units to an existing licensed hotel or SRO facility, the licensee shall apply to the state fire marshal to change the license information. Such application shall include documentation as requested by the state fire marshal including, but not limited to, a valid certificate of occupancy in accordance with Sections ~~118.7.2.1~~ 121.7.2.1 through ~~118.7.2.4.1~~ 121.7.2.4.1. This application shall reflect the entire hotel or SRO facility.

~~118.7.4.4~~121.7.4.4 The state fire marshal shall not issue more than one hotel or SRO facility license for a hotel or SRO facility or portion thereof as licensed under this section.

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~~118.7.5~~121.7.5 **Compliance.**

~~118.7.5.1~~121.7.5.1 The owner, proprietor, or agent in charge of any business or property or any business or property subject to licensure in accordance with Chapter 3731. of the Revised Code shall comply with the following:

~~118.7.5.1.1~~121.7.5.1.1 No hotel or SRO facility shall be maintained, conducted, or advertised without a license.

~~118.7.5.1.2~~121.7.5.1.2 No person shall advertise, conduct, maintain or operate any structure as a hotel or as an SRO facility, or any business or property meeting the definition of a hotel or SRO facility, without a license.

~~118.7.5.1.3~~121.7.5.1.3 No person shall operate a structure subject to licensure in accordance with Chapter 3731. of the Revised Code that is not equipped in the manner and conditions as required under Chapter 3731. of the Revised Code, this section or the state fire code adopted pursuant to Section 3737.82 of the Revised Code.

~~118.7.5.1.4~~121.7.5.1.4 No person shall advertise, conduct, maintain, or operate a licensed hotel or licensed SRO facility in a manner that is inconsistent with the requirements of Chapter 3731. of the Revised Code, this section or the state fire code adopted pursuant to Section 3737.82 of the Revised Code.

~~118.7.5.1.5~~121.7.5.1.5 No person shall fail or refuse to comply with Sections 3731.01 through 3731.21 of the Revised Code, this paragraph or the state fire code adopted pursuant to Section 3737.82 of the Revised Code.

121.7.5.1.6 No person, licensed hotel, or licensed SRO shall engage in any hotel or SRO facility construction, alteration, modification, or repair activity subject to the plan submission or approval processes or permit processes of the building code or fire code without obtaining all such necessary approvals and permits and fully complying with such processes, the building code and the fire code for such activities.

121.7.5.1.7 No person, licensed hotel, or licensed SRO shall engage in any hotel or SRO facility construction or operations or activity in a manner or condition that violates the building code or the fire code.

~~118.7.5.1.6~~121.7.5.1.8 Each day of violation of Sections ~~118.7.5.1.1~~ 121.7.5.1.1 through ~~118.7.5.1.5~~ 121.7.5.1.5 constitutes a separate offense.

121.7.5.1.9 In accordance with Section 118.7.3.8, no applicant shall fail or refuse to provide valid payment for any fee related to an application submitted in accordance with Chapter 3731. of the Revised Code.

~~118.7.5.2~~121.7.5.2 **Inspection.** The state fire marshal may inspect any business or property subject to Chapter 3731. of the Revised Code at any reasonable time. Such inspections may be conducted, upon a complaint received by the state fire marshal, for licensure purposes or for any other reason, to determine if a business or property is in compliance with Chapter 3731. of the Revised Code, this paragraph or any other applicable laws, rules or regulations.

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~~118.7.5.3~~121.7.5.3 **Notice of violation.** *Whenever, upon inspection, it is found that a business or property is not being conducted or is not equipped in the manner and condition required by Chapter 3731. of the Revised Code, this section, or the state fire code adopted pursuant to Section 3737.82 of the Revised Code, the state fire marshal shall notify the owner, proprietor, or agent in charge of such business, or the owner or agent of the building so occupied, of such violations and of any changes or alterations as may be necessary to effect complete compliance with Sections 3731.01 to 3731.21 of the Revised Code, this section or the state fire code adopted pursuant to Section 3737.82 of the Revised Code.*

~~118.7.5.4~~121.7.5.4 **Compliance.** *The owner, proprietor, or agent in charge of any business or property receiving a notice of violation in accordance with Section 118.7.5.3 shall bring the business or property into compliance with the requirements of Chapter 3731. of the Revised Code, this section or the state fire code adopted pursuant to Section 3737.82 of the Revised Code within a reasonable time set by the state fire marshal.*

~~118.7.5.5~~121.7.5.5 **Methods of enforcement.** *If an owner, proprietor, or agent in charge of any business or property receiving a notice of violation in accordance with Section ~~118.7.5.3~~ 121.7.5.3 does not bring the business or property into compliance with the requirements of Chapter 3731. of the Revised Code, this paragraph or the state fire code adopted pursuant to Section 3737.82 of the Revised Code within a reasonable time set by the state fire marshal, the state fire marshal may take any enforcement actions permitted by law including, but not limited to, issuance of a notice of opportunity for hearing to deny, suspend or revoke licensure, issuance of a citation pursuant to Section 3737.41 and/or 3737.42 of the Revised Code, injunctive relief pursuant to Sections 3731.05, 3731.21 and 3737.44 through 3737.46 of the Revised Code and/or criminal prosecution pursuant to Sections 3731.03, 3731.05 and 3731.99 of the Revised Code.*

~~118.7.5.5.1~~121.7.5.5.1 *Nothing in this section shall be construed to limit the authority of the state fire marshal to take any action permitted under Sections 3737.41 to 3737.51 of the Revised Code against a hotel or SRO facility in addition to or instead of taking action against the hotel or SRO facility, or the license issued to the hotel or SRO facility under Chapter 3731. of the Revised Code or this chapter.*

~~118.7.5.6~~121.7.5.6 *For any denial, revocation or suspension of licensure actions taken by the state fire marshal, such actions shall be taken in accordance with applicable law, including Chapter 119. of the Revised Code and Sections 3731.05 and 3731.06 of the Revised Code.*

~~118.7.6~~121.7.6 **Licensure limitations.**

~~118.7.6.1~~121.7.6.1 *Each applicant for a hotel or SRO facility license shall specify on the application provided by the state fire marshal which rooms are offered for occupancy for a period of thirty days or less and which rooms are offered for occupancy for a period of 270 days or less.*

~~(8) **118.8121.8 "Ohio Safe Stay Hotel" designation.** There is hereby created within the state of Ohio the "Safe Stay Hotel" designation. The "Ohio Safe Stay Hotel" program is designed to incentivize and encourage hotel owners and operators within the state of Ohio to work with the state fire marshal to establish and maintain compliance with applicable provisions of this section, the Administrative Code, and the sanitary compliance standards set forth in Chapter~~

~~3731. of the Revised Code. The purpose of this designation is to provide to the citizens of and visitors to the state of Ohio information regarding what hotel facilities within the state of Ohio are operating within those applicable standards and in conformance with the criteria set forth herein.~~

~~(a) **118.8.1121.8.1 Scope.** The provisions of this section govern the implementation of the "Ohio Safe Stay Hotel" program and set forth the requirements and criteria for participation in the program.~~

~~(b) **118.8.2121.8.2 Terms used for Section 118.8 121.8.** The following words take on exclusive meaning as used in Section 118.8 121.8 and for the purposes of this paragraphsection have the following meaning:~~

~~**"Hotel."** A hotel as defined in Section 3731.01 of the Revised Code.~~

~~**"Minor violation."** A violation of the Ohio Fire Code that in the discretion of the state fire marshal is of such character and nature that it does not pose an immediate threat to life or property and that can be corrected immediately and without delay, and that is corrected during the course of an inspection.~~

~~**"Safe Stay Hotel."** A hotel that meets all of the qualifications and criteria set forth in Section 118.8.3 121.8.3 and that is designated as an "Ohio Safe Stay Hotel" by the state fire marshal.~~

~~(c) **118.8.3121.8.3 Qualifications for "Ohio Safe Stay Hotel" designation.** In order to be designated as an "Ohio Safe Stay Hotel" by the state fire marshal, a hotel must meet all of the following:~~

~~(i) The hotel must have been issued a valid license to operate a hotel by the state fire marshal for the applicable calendar year; and~~

~~(ii) The state fire marshal must receive from a hotel a hotel license renewal application to operate a hotel in a timely manner and the application shall contain true and accurate information; and~~

~~(a) For the purposes of qualifying for an "Ohio Safe Stay Hotel" designation, a hotel license renewal application is considered timely if the application, all required paperwork, and all associated fees are received by the division of state fire marshal on or before October 1 of each calendar year. The state fire marshal may change or extend this deadline in the state fire marshal's sole discretion. Notice of any change or extension of the deadline for timely submission of a hotel license renewal application shall be given as set forth in Section 118.8.9 121.8.9.~~

~~(iii) The hotel must not be in violation of any provision of this code, Section 118 121, or of the sanitary compliance standards set forth in Chapter 3731. of the Revised Code or any rules adopted pursuant thereto; and~~

~~**Exception:** A hotel having only minor violations of this code at the time of inspection may qualify for the "Ohio Safe Stay Hotel" designation if all minor violations are immediately corrected during the course of the inspection and before the state fire marshal concludes the inspection as documented in an inspection report and said minor~~

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~~violations do not result in the issuance of a citation pursuant to Section 3737.41 or Section 3737.42 of the Revised Code.~~

~~(ii) No finding of nuisance shall have been issued by a court of competent jurisdiction against the hotel, hotel owner, operator, or responsible person, or against the property upon which the hotel is located; and~~

~~(iii) No finding of or conviction for lewdness, assignation or prostitution, or an offense which constitutes a felony violation of Chapter 2925. or Chapter 3719. of the Revised Code shall have been entered by a court of competent jurisdiction against any hotel owner, operator, or responsible person, wherein the offense or conviction relate to conduct that occurred at any structure licensed under, subject to the licensure requirements of, or previously licensed under Chapter 3731. of the Revised Code; and~~

~~(iv) No finding of or conviction for lewdness, assignation or prostitution, or an offense which constitutes a felony violation of Chapter 2925. or Chapter 3719. of the Revised Code shall have been entered by a court of competent jurisdiction against any person wherein the conduct that is the basis for such finding or conviction was engaged in on the premises of the hotel seeking a designation under this section and it is demonstrated that the hotel owner, operator or responsible person knew or should have known of such conduct prior to its occurrence.~~

~~(d) **118.8.4**~~**121.8.4** ~~**"Ohio Safe Stay Hotel" designation.** Commencing with the licensure period after the effective date of this rule and upon submission of an application to renew a license to operate a hotel, the state fire marshal may designate the hotel as an "Ohio Safe Stay Hotel" if both of the following are met:~~

~~(i) The hotel is in compliance with the qualifications set forth in Sections 118.8.3~~ 121.8.3 ~~through 118.8.3~~ 121.8.3 ~~for a period of twenty-four consecutive months immediately preceding the licensure period to which the application applies; and~~

~~(ii) The hotel is in compliance with the qualifications set forth in Sections 118.8.3~~ 121.8.3 ~~through 118.8.3~~ 121.8.3 ~~for a period of sixty consecutive months preceding the licensure period to which the application applies.~~

~~(e) **118.8.5**~~**121.8.5** ~~**Documentation.** Each qualifying "Ohio Safe Stay Hotel" shall receive documentation from the state fire marshal verifying that the hotel is an "Ohio Safe Stay Hotel." Such documented designation shall be in a format that is capable of display by the hotel and that is uniform and readily identifiable to the public.~~

~~(f) **118.8.6**~~**121.8.6** ~~**Publication.** The state fire marshal shall create and maintain a current registry of all licensed hotels in the state of Ohio that have been designated as an "Ohio Safe Stay Hotel." The list shall be readily available to the public and shall be published in electronic format on the division's website.~~

~~(g) **118.8.7**~~**121.8.7** ~~**Use of qualifying "Ohio Safe Stay Hotel" designation.** Any hotel that is designated as an "Ohio Safe Stay Hotel" may represent itself as such in any publication or marketing tools used by the hotel for promotion and may utilize the logo, decal, or designation issued to it by the state fire marshal for such purposes. Such logo, decal, or designation may be reproduced by the hotel for use under this rule at any time during which the hotel is designated as an "Ohio Safe Stay Hotel" as determined by the state fire marshal. The logo,~~

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~~decal or designation may be used and reproduced by the facility for marketing, promotional, or other similar purposes in digital, print or other media formats, including hardcopy reproduction for use in literature or promotional materials and display in the licensed facility, and electronic reproduction for use in digital marketing campaigns.~~

~~(i) No person or entity shall use the "Ohio Safe Stay Hotel" logo, decal, or designation unless and until such logo, decal, or designation is issued to it by the state fire marshal. Any hotel that has previously been issued an "Ohio Safe Stay Hotel" logo, decal, or designation shall immediately cease the use of the logo, decal, or designation if such logo, decal or designation has been revoked or not renewed by the state fire marshal. No person or entity shall misuse the logo, decal, or designation or misrepresent to the public that a hotel is or has been designated by the state fire marshal as an "Ohio Safe Stay Hotel."~~

(h) ~~**118.8.8**~~**121.8.8 ~~Revocation or non-renewal of designation.~~** ~~The state fire marshal may revoke or deny renewal of the designation of a hotel as an "Ohio Safe Stay Hotel" in the event of any of the following:~~

~~(i) Upon a determination by the state fire marshal that the hotel is not in compliance with any of the provisions of Section 118.8.3~~ 121.8.3~~) or 118.8.4~~ 121.8.4~~; or~~

~~(ii) An alteration or modification of the hotel that is not approved and/or permitted in conformance with the provisions of this rule and/or the building code; or~~

~~(iii) Misuse of the "Ohio Safe Stay Hotel" logo, decal, or designation or misrepresentation of a hotel as a designated "Ohio Safe Stay Hotel" at any time within sixty consecutive months immediately preceding the licensure period during which the state fire marshal becomes aware of the misuse or misrepresentation.~~

~~If a hotel's designation is revoked or not renewed by the state fire marshal, the logo, decal, or designation shall be immediately removed from the hotel facility and from all of its literature and marketing and advertising campaigns in any format or medium, the hotel's designation as an "Ohio Safe Stay Hotel" in the registry of hotels shall be removed, and the hotel shall immediately cease all use and/or reproduction of the logo, decal or designation in any manner.~~

(i) ~~**118.8.9**~~**121.8.9 ~~Notification.~~** ~~The state fire marshal shall publish on its website a written policy describing how affected persons or entities shall be notified of any revocations or non-renewals of any designations under Section 118.8.8~~ 121.8.8~~ and any extensions of application deadlines described in Section 118.8.3~~ 121.8.3~~. A facility having its designation revoked or not renewed or facilities affected by a deadline extension shall be provided notice of such actions per the policy published on the division's website.~~

(j) ~~**118.8.10**~~**121.8.10 ~~Effective date.~~** ~~The provisions of this paragraph shall become effective September 1, 2015.~~

Section ~~119~~122 Small government fire department services revolving loan program

~~119.~~122.1 Scope. *This section applies to the small government fire department services revolving loan program.*

122.. Definitions. *The following terms are defined in ~~rule~~ Chapter 2:*

Qualifying small government.

Fire district.

Joint fire district.

State fire marshal.

Joint fire and ambulance district.

Loan.

~~119.2~~122.3 Qualifications.

122.3.1 Currently operating. *Only a qualifying small government that meets the definition of "qualifying small government" as that term is defined in Chapter 2 and that meets one of the following is eligible to receive a loan:*

1. The qualifying small government currently operates a fire department organized under Section 505.37, 505.371, 737.21 or 505.375 of the Revised Code; or

~~1.~~2. ~~a~~ The qualifying small government ~~that~~ is a township or municipality that has adopted a resolution or ordinance authorizing the creation of a fire department, fire district, joint fire district or joint fire and ambulance district under one of ~~these~~ the sections listed above ~~is eligible to receive a loan~~.

122.3.2 Fire reporting. *In order for a fire department operated by a small government to receive a loan under this rule, the fire department must be reporting fires to the state fire marshal as required by Section 3737.24 of the Revised Code and this chapter.*

~~119.3~~122.4 Applications filing.

122..4.1 Forms. *Applications for a loan shall be made only on forms provided by the state fire marshal.*

122.4.2 Postmark. *Only applications that are ~~post marked~~postmarked on or before the application deadline established by the state fire marshal and have been delivered to the state fire marshal's office within seven days of that deadline will be considered by the state fire marshal.*

122.4.3 Electronic applications. For electronically submitted applications, only applications that are completed and filed by the deadline established by the state fire marshal will be considered by the state fire marshal.

~~119.4~~122.5 Applications-content. *In its applications the qualifying small government shall:*

1. *Explain how it qualifies for the loan.*

2. *Describe how the loan will be used including the total cost of the project and the amount of money the qualifying small government is proposing to contribute to the total cost of the project.*

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3. *Describe the benefits to its citizens the loan will provide that are not currently available to them.*

4. *Describe why the small government is not able to provide this service through the use of its own funds.*

5. *Provide information concerning the total income available from all sources to provide fire and/or fire and ambulance service.*

6. *Provide information concerning the assets and liabilities of the qualifying small government that are intended in whole or in part to provide fire or fire and ambulance service.*

7. *Provide such other information as may be called for in the application form provided by the state fire marshal.*

~~119.5~~122.6 Requirements for buildings constructed or equipment purchased.

122.6.1 All building constructions, additions and alterations completed with funds provided by a loan shall meet all minimum requirements of division-level 4101:1, 4101:2 and 4101:3 of the Administrative Code.

122.6.2 Any fire apparatus purchased with funds from a loan shall meet the requirements of Chapter 4121:1-21 of the Administrative Code.

122.6.3 The fee title to any real property purchased or on which a structure is constructed in any part with a loan under this rule shall list the "State of Ohio, Department of Commerce, Division of State Fire Marshal" as the mortgage holder until such time as the loan obligation is satisfied.

122.6.4 The title to any vehicle purchased in part with a loan under this rule shall list the "State of Ohio, Department of Commerce, Division of State Fire Marshal" as the lien holder until such time as the loan obligation is satisfied.

122.6.5 Any fire apparatus or vehicle purchased in part under this rule shall have a repayment period not to exceed ten years.

~~119.6~~122.7 Applications for qualifying small governments outside of application period. *At the discretion of the state fire marshal, a qualifying small government may apply for and be granted a loan at any time regardless of established application periods and deadlines if all of the following apply:*

1. *The qualifying small government had a local emergency or disaster or is included in an area where a disaster has been declared by the governor.*

2. *The events of the local emergency or disaster have damaged or destroyed vehicles, buildings or equipment necessary to provide fire or fire and ambulance services.*

3. *The qualifying small government has made application for any federal, state and private insurance reimbursement as may be available as a result of the disaster.*

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4. The loan fund has necessary moneys to provide the loan.

~~119.7~~122.8 **Award of loans.** The awarding of all loans shall be at the sole discretion of the state fire marshal.

122.8.1 Notification. Upon determining which small governments shall receive a loan, the state fire marshal shall notify the qualifying small government in writing of his intent to grant the loan and of the terms and conditions of the loan.

122.8.2 Resolution or ordinance required. Promptly after receiving notification that the state fire marshal intends to grant a loan to the qualifying small government, the qualifying small government must adopt a resolution or ordinance which shall:

1. Authorize the small government to accept the loan;

2. Agree to conditions of the loan as stipulated by the state fire marshal including the authority to execute any documents necessary to grant or secure the loan.

122.8.3 Within forty-five days of receipt of the notice of the state fire marshal~~'~~s intent to award the loan the qualifying small government shall forward a copy of the resolution or ordinance to the state fire marshal.

122.8.4 Upon receipt of the resolution or ordinance the state fire marshal shall establish a line of credit from the loan fund in the name of the qualifying small government.

122.8.5 Contract of purchase agreement required. Within one hundred twenty days of the date the notice of intent to award the loan was received, the qualifying small government shall provide to the state fire marshal a properly executed contract or purchase agreement for the construction, addition or alteration of the building or purchase of the vehicle or equipment described in the original loan application.

122.8.6 Release of funds. Upon determination that the contract or purchase agreement is for substantially the same project as described in the original loan application, the loan funds will be released to the qualifying small government according to the terms of the loan agreement.

~~119.8~~122.9 **Repayment.**

122.9.1 A repayment or amortization schedule shall be established as part of the loan agreement. In establishing the repayment schedule, the state fire marshal shall consider the ability of the small government to repay the loan and the need to maintain a sufficient balance in the loan fund to insure it~~'~~s continued operation.

122.9.2 The repayment or amortization schedule shall not extend beyond twenty years.

Section ~~120~~123 Fire department grants

~~120.1~~123.1 **Scope.** This section applies to "Fire Department Grant" funds specifically appropriated by the General Assembly to the state fire marshal for award and distribution to eligible recipients for the provision of firefighting or rescue equipment, gear or similar items to the recipient, as full or partial reimbursement for the documented costs of firefighter training for, or

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sponsored by, an eligible recipient or, in the discretion of the state fire marshal, for other fire department needs related to the provision of fire protection services within that eligible recipient's jurisdiction.

The state fire marshal may establish any additional policies and procedures as may be deemed necessary to carry out the intent of this chapter.

123.2 Definitions. *The following terms are defined in Chapter 2:*

Certified training program.

Fire department.

Joint fire district.

MARCS grant.

Small municipality or small township.

Volunteer fire department.

Volunteer firefighter.

~~(2) **120.2123.2 Scope.** This rule applies to "Fire Department Grant" funds specifically appropriated by the General Assembly to the state fire marshal for award and distribution to eligible recipients for the provision of firefighting or rescue equipment, gear or similar items to the recipient, as full or partial reimbursement for the documented costs of firefighter training for, or sponsored by, an eligible recipient or, in the discretion of the state fire marshal, for other fire department needs related to the provision of fire protection services within that eligible recipient's jurisdiction.~~

~~The state fire marshal may establish any additional policies and procedures as may be deemed necessary to carry out the intent of this chapter~~.

~~120.3~~123.3 Eligibility. *Eligible recipients for grants awarded under this rule are:*

1. *A volunteer fire department;*

2. *A fire department that serves one or more small municipalities or small townships;*

3. *A joint fire district comprised of departments that primarily serves small municipalities or small townships;*

4. *The local unit of government responsible for:*

   4.1 A fire department;

   4.2 A fire department that serves small municipalities or small townships; or

   4.3 A portion of a joint fire district comprised of volunteer departments that primarily serves small municipalities or small townships; and

5. *The local unit of government responsible for the provision of fire protection services for a small municipality or small township.*

6. *For the purpose of these grants, a private fire company, as that phrase is defined in ~~s~~Section 9.60 of the Revised Code, that is providing fire protection services under contract for a political subdivision of this state, is an additional recipient for a training grant.*

~~120.4~~123.4 General terms and conditions.

123.4.1 Expenditure of funds. *Funds provided by a grant under this rule shall only be used for purposes for which the eligible recipient may lawfully expend public funds and in accordance with the terms of the grant award and this code.*

123.4.2 *An eligible recipient may receive up to $15,000 in a fiscal year from this grant for firefighting or rescue equipment, gear or similar items or for other fire department needs related to the provision of fire protection services. If, during the preceding or current fiscal year of the grant award, the eligible recipient is in a jurisdiction that has had a natural disaster as declared by the Governor, the recipient may receive up to $25,000 in a fiscal year from this grant for firefighting or rescue equipment, gear or similar items or for other fire department needs related to the provision of fire protection services. In addition to any other funds awarded under this grant, an eligible recipient may receive up to $15,000 in a fiscal year from this grant as full or partial reimbursement for the documented costs of firefighter training.*

123.4.3 *For each fiscal year, the state fire marshal shall, as the state fire marshal determines is appropriate, apportion the available grant funds for expenditure for any of the particular purposes allowed under this paragraph. Each eligible recipient may receive only one grant for each state fiscal year for which funds are made available by the Ohio General Assembly, but such a grant may be awarded by the state fire marshal in multiple parts, including for the purposes described in Sections ~~120.6.1.1~~ 123.6.1.1 through ~~120.6.1.2~~ 123.6.1.2, to an eligible recipient during a state fiscal year.*

123.4.4 *The awarding of all grants shall be at the sole discretion of the state fire marshal.*

123.4.5 *All grants awarded are subject to the availability of funds.*

123.4.6 Repayment of non-used funds. *The state fire marshal may require repayment to the state of Ohio any or all of a grant should an eligible recipient fail, after a reasonable time, to expend all or any part of its grant.*

123.4.7 Repayment of funds used for purposes other than those approved. *Should the eligible recipient expend any portion of or the entire grant for any purpose other than that which was approved by the state fire marshal, the state fire marshal may require repayment of that amount to the state of Ohio.*

123.4.8 Audit. *The state fire marshal may audit any awarded grant and may also require an eligible recipient receiving a grant to provide evidence that the grant has been used for the intended purpose and maintain such inventory or other records concerning purchases made with the grant as the state fire marshal deems necessary.*

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~~123.4.9~~ To offset the cost of administering grants under this rule, the state fire marshal may retain in the state fire marshal's operating account an amount of money equal to not more than one and one half per cent of the total funds available under this rule.

~~123.4.10~~ The state fire marshal shall not award a grant under this paragraph unless the eligible recipient is in compliance with the provisions of this rule and other applicable laws, rules and regulations. This includes compliance with fire department fire incident reporting requirements and participation, when required, in the volunteer firefighters' dependents fund described in Chapter 146. of the Revised Code.

~~123.4.11 Joint applications.~~ Joint applications for grants by eligible recipients are authorized in accordance with the biannual uncodified legislation establishing these state fire marshal grant program policies.

~~120.5~~123.5 Application.

~~123.5.1 Form.~~ All applications for any grants awarded under this rule shall be made on a form prescribed by the state fire marshal and include all of the information and documents required by the state fire marshal. Any application that fails to provide the requested information shall be deemed incomplete and not considered by the state fire marshal for an award of a grant under this chapter.

~~123.5.2 Certification.~~ Applicants for a grant shall certify on the application form that the applicant is eligible to receive a grant under this rule. The form shall be signed by the chief of the fire department or chief executive official(s) of the local government entity applying for the grant.

***~~120.6~~123.6 Award of grant funds.** Grants awarded under this chapter are divided into two parts: equipment and training grants.*

~~120.6.1~~123.6.1 In determining which eligible recipients will receive awards, the state fire marshal shall consider:

1. *The population protected by the eligible recipient;*
2. *The size of the area for which the eligible recipient provides fire protection;*
3. *The operating budget of the eligible recipient from both public and private sources;*
4. *The intended use of the grant funds by the eligible recipient;*
5. *The number of fires occurring within the area protected by the eligible recipient as evidenced by reports filed with the state fire marshal under Section 3737.24 of the Revised Code;*
6. *The amount of money being requested by the eligible recipient; and*
7. *Additional factors which the state fire marshal determines necessary to assist in determining which eligible recipient should receive a grant.*

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~~120.6.1.1~~123.6.2 **Equipment grants.** *The state fire marshal may award equipment grants to eligible recipients under this chapter for any of the following purposes:*

1. *The acquisition of firefighting or rescue equipment, gear or similar items; or*

2. *For other fire department needs related to the provision of fire protection services.*

In awarding these grants, the state fire marshal may give a preference to grants relating to the acquisition of personal protective equipment for firefighters.

~~120.6.1.1.1~~123.6.2.1**.** *As periodically authorized by the General Assembly, MARCS grant awards may be up to $50,000 in each state fiscal year per eligible recipient. Each eligible recipient may only apply, as a separate entity or as a part of a joint application, for one MARCS grant per state fiscal year. The state fire marshal may give a preference in awarding MARCS grants to grants that will enhance the overall interoperability and effectiveness of emergency communication networks in the geographic region that includes and is adjacent to the applicant. Eligible recipients that are or were awarded fire department grants that are not MARCS grants may also apply for and receive MARCS grants in accordance with criteria for the awarding of grant funds established by the state fire marshal. Grants may be used for the payment of user access fees by the eligible recipient to access MARCS.*

~~120.6.1.2~~123.6.3 **Training grants.**

123.6.3.1 *The state fire marshal may award training grants to eligible recipients under this rule for any of the following purposes:*

1. *Reimbursement of the costs of certified firefighter training programs for individual firefighters, including instructional and administrative costs and the cost of training manuals, workbooks and other similar items.*

2. *Reimbursement of the cost of in service or advanced training courses provided by the Ohio fire academy, including, "Fire Officer 1," "Fire Officer 2," "Emergency Vehicle Operations," "Structural Fire Attack 101," "Training in Acquired Structures" and "Understanding Fire Behavior."*

123.6.3.2 *The state fire marshal shall, for each fiscal year, set forth the specific trainings and classes for which grants can be awarded under this section, the maximum grant amounts to be awarded for such classes and types of documentation to be submitted to verify eligibility for reimbursement.*

123.6.3.3 *Expenses for travel, food and lodging are not eligible for reimbursement under this section.*

Section ~~121~~124 Special provisions

~~121.1~~124.1 **Child day-care centers and Type A family day-care homes.**

~~121.1.1~~124.1.1 **Minimum standards for fire prevention and safety.** *Pursuant to Sections 3737.83(E) and 5104.05 of the Revised Code, this code shall constitute the minimum*

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standards for fire prevention and fire safety in child day-care centers and in Type A family day-care homes.

~~121.1.2~~124.1.2 ***Annual Inspection.*** *Pursuant to Section 5104.05 of the Revised Code, the state fire marshal or the fire chief or fire prevention officer of the municipal corporation or township in which the child day-care center or the type A family day-care home is located shall inspect the type A home prior to initial occupancy as a Type A day-care home and annually thereafter to determine if the type A home is in compliance with rules promulgated by the fire marshal pursuant to Section 3737.83 of the Revised Code regarding fire prevention and fire safety in a type A home.*

~~121.1.2.1~~124.1.2.1 ***Inspection authority.*** *Pursuant to Section 5104.051 of the Revised Code, the state fire marshal is responsible for the inspections required by divisions (A)(2) and (B)(1) of Section 5104.05 of the Revised Code. In municipal corporations and in townships outside municipal corporations where there is a fire prevention official, the inspections shall be made by the fire chief or the fire prevention official under the supervision of and according to the standards established by the state fire marshal. In townships outside municipal corporations where there is no fire prevention official, inspections shall be made by the employees of the state fire marshal.*

~~121.1.2.2~~124.1.2.2 ***Conflicting interpretations of fire safety statutes or rules.*** *Pursuant to Section 5104.051 of the Revised Code, the state fire marshal shall enforce all statutes and rules pertaining to fire safety and fire prevention in child day-care centers and type A family day-care homes. In the event of a dispute between the state fire marshal and any other responsible officer under Sections 5104.05 and 5104.051 of the Revised Code with respect to the interpretation or application of a specific fire safety statute or rule, the interpretation of the state fire marshal shall prevail.*

~~121.1.3~~124.1.3 ***Applicability of this code.*** *To the extent that a Type A family day-care home is exempt from classification in a specific occupancy classification in the building code, the structure housing the Type A family day-care home is exempt from compliance with the construction and design provisions of this code, except as described in this section, for such occupancy classifications unless such locations constitute a distinct hazard. All operational and maintenance provisions of this code shall apply to all Type A family day-care homes.*

~~121.1.3.1~~124.1.3.1 ***Compliance with this code.*** *Prior to and during the occupancy of a structure as a Type A family day-care home, such home shall comply with the Type A checklist listed in Appendix A of Chapter 1. All Ohio Fire Code sections listed or incorporated into that checklist shall apply to all Type A family day-care homes and such sections may be used as the basis for all fire code enforcement actions permitted under this code. It shall be a violation of this code to occupy or permit occupancy of a Type A daycare in violation of this section, the Type A checklist and its incorporated fire code provisions or the operational and maintenance provisions of this code.*

~~121.2~~124.2 Type B family daycares.

~~121.2.1~~124.2.1 ***Inspection.*** *The fire marshal, upon request of a provider of child care in a type B home that is not licensed by the director of the department of job and family services, as a precondition of approval by the state board of education under Section 3313.813 of the Revised Code for receipt of United States department of agriculture child and adult care food program funds established under the "National School Lunch Act," 60 Stat. 230 (1946), 42*

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U.S.C. 1751, as amended, shall inspect the type B home to determine compliance with rules adopted under section 5104.052 of the Revised Code regarding fire prevention and fire safety in licensed type B homes. Prior to and during the occupancy of a structure as a Type B home subject to this section, the home shall be inspected by the state fire marshal, and annually thereafter, to determine compliance with this code.

~~121.2.1.1~~124.2.1.1 Inspection authority. *In municipal corporations and in townships where there is a certified fire safety inspector, the inspections shall be made by that inspector under the supervision of the fire marshal, according to rules adopted under Section 5104.052 of the Revised Code. In townships outside municipal corporations where there is no certified fire safety inspector, inspections shall be made by the fire marshal.*

~~121.2.2~~124.2.2 Applicability of this code. *To the extent that a Type B family day-care home is exempt from classification in a specific occupancy classification in the building code, the structure housing the Type B family day-care home is exempt from compliance with the construction and design provisions of this code, except as described in this paragraph, for such occupancy classifications unless such locations constitute a distinct hazard. All operational and maintenance provisions of this code shall apply to all Type B family day-care homes.*

~~121.2.2.1~~124.2.2.1 Compliance with this code. *Prior to and during the occupancy of a structure as a Type B family day-care home, such home shall comply with the Type B checklist listed in Appendix B of Chapter 1. All Ohio Fire Code sections listed or incorporated into that checklist shall apply to all Type B family day-care homes and such sections may be used as the basis for all fire code enforcement actions permitted under this code. It shall be violation of this code to occupy or permit occupancy of a Type B daycare in violation of this section, the Type B checklist and its incorporated fire code provisions or the operational and maintenance provisions of this code.*

~~121.3~~124.3 Residential facilities.

~~121.3.1~~124.3.1 Minimum standards for fire prevention and safety. *Pursuant to Section 3737.83(F) of the Revised Code, the state fire marshal shall establish minimum standards for fire prevention and safety in a residential facility licensed under Section 5119.34 of the Revised Code that provides accommodations, supervision, and personal care services for three to sixteen unrelated adults. The fire marshal shall adopt such rules in consultation with the director of the department of mental health and addiction services and interested parties designated by the director of the department of mental health and addiction services.*

~~121.3.2~~124.3.2 Applicability. *This code shall apply to residential facilities.*

~~121.3.2.1~~124.3.2.1 Residential facility. *A residential facility is a facility that is licensed under Section 5119.34 of the Revised Code that provides accommodations, supervision, and personal care services for three to sixteen unrelated adults.*

~~121.4~~124.4 Homes, including nursing homes, residential care facilities, homes for the aging, and veterans' homes.

~~121.4.1~~124.4.1 Enforcement and resolution of conflict. *Pursuant to Section 3721.032 of the Revised Code, the state fire marshal shall enforce all statutes and rules pertaining to fire safety in homes and shall adopt rules pertaining to fire safety in homes as the marshal*

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determines necessary. The rules adopted by the marshal shall be in addition to those fire safety rules that the board of building standards and the director of health are empowered to adopt. In the event of a dispute between the marshal and another officer having responsibilities under Sections 3721.01 to 3721.09 of the Revised Code with respect to the interpretation or application of a specific fire safety statute or rule, the interpretation of the marshal shall prevail.

~~121.4.1.1~~124.4.1.1 ***Homes.*** *As used in Section 121.4, "Home" shall have the same meaning and application as described in Chapter 3721. of the Revised Code, including Section 3721.01 (A) of the Revised Code.*

~~121.4.2~~124.4.2 ***Inspection.*** *Pursuant to Section 3721.02 of the Revised Code, the state fire marshal or a township, municipal, or other legally constituted fire department approved by the marshal shall also inspect a home prior to issuance of a license, at least once every fifteen months thereafter, and at any other time requested by the director of health.*

~~121.4.2.1~~124.4.2.1 ***Residential care facilities.*** *Pursuant to Section 3721.07 of the Revised Code, every person desiring to operate a home and the superintendent or administrator of each county home or district home for which a license as a residential care facility is sought shall apply for a license to the director of health. In accordance with Section 3721.07 of the Revised Code the director of health may issue a license for the home, if after investigation of the applicant and, if required by Section 3721.02 of the Revised Code, inspection of the home, the buildings in which the home is housed have been approved by the state fire marshal or a township, municipal, or other legally constituted fire department approved by the marshal. In the approval of a home such agencies shall apply standards prescribed by the board of building standards, and by the state fire marshal, and by Section 3721.071 of the Revised Code.*

~~121.4.3~~124.4.3 ***Automatic fire extinguishing and fire alarm systems.*** *Pursuant to Section 3721.071 of the Revised Code, homes must be equipped with both automatic fire extinguishing and fire alarm systems. Such systems shall conform to standards set forth in the regulations of the board of building standards and the state fire marshal.*

~~121.4.3.1~~124.4.3.1 ***Time for compliance.*** *The time for compliance with the requirements imposed by this section shall be January 1, 1975, except that the date for compliance with the automatic fire extinguishing requirements is extended to January 1, 1976, provided the buildings of the home are otherwise in compliance with fire safety laws and regulations and:*

1. *The home within thirty days after August 4, 1975, files a written plan with the state fire marshal's office that:*

   1.1 *Outlines the interim safety procedures which shall be carried out to reduce the possibility of a fire;*

   1.2 *Provides evidence that the home has entered into an agreement for a fire safety inspection to be conducted not less than monthly by a qualified independent safety engineer consultant or a township, municipal, or other legally constituted fire department, or by a township or municipal fire prevention officer;*

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1.3 Provides verification that the home has entered into a valid contract for the installation of an automatic fire extinguishing system or fire alarm system, or both, as required to comply with this section;

1.4 Includes a statement regarding the expected date for the completion of the fire extinguishing system or fire alarm system, or both.

2. Inspections by a qualified independent safety engineer consultant or a township, municipal, or other legally constituted fire department, or by a township or municipal fire prevention officer are initiated no later than sixty days after August 4, 1975, and are conducted no less than monthly thereafter, and reports of the consultant, fire department, or fire prevention officer identifying existing hazards and recommended corrective actions are submitted to the state fire marshal, the division of industrial compliance in the department of commerce, and the department of health.

It is the express intent of the general assembly that the department of medicaid shall terminate the medicaid provider agreements of those homes that do not comply with the requirements of this section for the submission of a written fire safety plan and the deadline for entering into contracts for the installation of systems.

***~~121.4.4~~124.4.4 Applicability of this code.** This code shall apply to all homes.*

~~121.5~~124.5 Manufactured homes.

***~~121.5.1~~124.5.1 Applicability of this code.** Except as noted herein, this code does not apply to the construction, installation and siting of manufactured homes, to the extent required by 24 CFR Part 3280, "Manufactured Home Construction and Safety Standards," and any exclusivity established in the rules adopted by either the Ohio manufactured home commission or, after January 21, 2018, the department of commerce for such structures. The change of occupancy and all operational and maintenance provisions of this code shall apply to manufactured homes.*

***~~121.5.2~~124.5.2 ~~Serious~~ Distinct or serious hazard.** No manufactured home that constitutes a distinct or serious hazard to occupant safety shall be occupied.*

***~~121.6~~124.6 Fire Department Registry**. The state fire marshal shall develop and maintain a registry of all properly constituted fire departments in this state. For the purposes of this section, a fire department includes a fire department of a political subdivision or fire district of this state, a private volunteer fire company or other state or political subdivision firefighting agency as determined by the state fire marshal. This registry shall not be deemed to be a state fire marshal approval, authorization or assertion, in any manner, of control over such departments.*

Each fire department in this state shall provide the state fire marshal with and maintain the following fire department information: full name of the fire department, full name of the chief of the fire department, the postal address, telephone number, e-mail address and a general statement of jurisdictional boundaries for the fire department and any other information the state fire marshal determines must be included in the registry. Each fire department shall also provide a single, primary point of contact for the registry. All fire departments subject to this section shall notify the

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state fire marshal of and provide updated registry information to the state fire marshal within thirty days after the date of any changes to that fire department's registry information.

~~121.7~~124.7 Fire department heroism awards. *The fire marshal may, at any time, issue commendations that recognize and commemorate exemplary accomplishments and acts of heroism by firefighters and other persons at fire-related incidents or similar events occurring in the state.*

Section ~~122~~125 Hearings

~~122.1~~125.1 ~~Scope of applicability~~State fire marshal licensure and certification actions. *Licensure or certification actions of the state fire marshal that, pursuant to the Revised Code, afford a right to a hearing to an affected party shall be conducted in accordance with Chapter 119. of the Revised Code, the relevant sections of Chapters 3731., 3737., 3739. and 3743. of the Revised Code, and department of commerce and state fire marshal policy.*

~~122.1.1~~125.1.1 *~~Unless otherwise noted, Section 122~~ 125 does not apply to circumstances that include, but are not limited to, the following:*

1. *~~Acts of the state fire marshal that are ministerial in nature.~~*
2. *~~Actions of the state fire marshal that are subject to hearings under Sections 3737.41 to 3737.43 of the Revised Code.~~*
3. *~~Actions of the state fire marshal that are taken pursuant to Section 104.8.~~*
4. *~~Actions of the state fire marshal that are taken pursuant to section 3743.59 of the Revised Code.~~*

~~122.1.2~~125.1.2 *~~Except as provided in Section 122.1.1~~ 125.1.1, those actions by the state fire marshal that afford the right to a hearing pursuant to state fire marshal authority provided in Chapter 119. of the Revised Code include the proposal of the state fire marshal to do the following:*

1. *~~Refuse to issue a license, whether it is a renewal or a new license, unless a hearing was held before the refusal to issue such license.~~*
2. *~~Suspend or revoke a license.~~*
3. *~~Require a person to obtain a license when the person claims that the law does not impose such a requirement.~~*

~~122.1.3~~125.1.3 ~~Ministerial acts.~~ *~~Ministerial acts by the state fire marshal to suspend or terminate the processing of an initial or renewal application submitted in accordance with Chapter 3731., 3737. or 3743. of the Revised Code do not require the application of the Section 119.03 of the Revised Code based hearing process to such acts. Ministerial acts by the state fire marshal include not issuing a license where the agency has no discretion to take any other action on an application, including the failure of an applicant to submit the proper license fee with an application and other similar matters.~~*

~~122.2~~125.2 ~~Definitions.~~ *~~The following terms are defined in Chapter 2:~~*

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Affected party.

Appellant.

Department.

Director.

Division.

Hearing.

Last known address.

License.

Licensee.

Order.

Person.

State Fire Marshal.

122.3125.3 Chapter 119. hearings: notice.

122.3.1125.3.1 Written notice of intended action. *Whenever the state fire marshal proposes to take an action that the Ohio general assembly has expressly made subject to the administrative adjudication procedure outlined in Chapter 119. of the Revised Code, the state fire marshal shall give notice of the intended action to the affected party informing the affected party of the affected party's right to a hearing. Notice shall be given by registered mail, return receipt requested, and shall, at a minimum, include all of the following:*

1. *The specific action or actions the state fire marshal intends to take;*

2. *The charges or other reasons for the proposed action or actions;*

3. *The statute or rule directly involved;*

4. *A statement informing the affected party that the affected party is entitled to a hearing if the affected party requests it within thirty days of the time of mailing the notice;*

5. *A statement informing the affected party that at the hearing the affected party may appear in person or through an attorney;*

6. *A statement informing the affected party that the affected party or the affected party's attorney may present the affected party's position, arguments or contentions entirely in writing, and that at the hearing the affected party or the affected party's attorney may present evidence and examine witnesses appearing for and against the affected party; and*

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7. A statement informing the affected party that rules governing hearings in accordance with Chapter 119. of the Revised Code are found in rule 1301:7-7 of the Administrative Code.

122.3.2125.3.2 The state fire marshal shall also mail a copy of the notice to the affected party's attorney or other representative of record. To qualify as an attorney or representative of record, the affected party or the attorney or representative must notify the state fire marshal, in writing, that the attorney or representative is to be designated the attorney or representative of record.

The notification must include the address where the state fire marshal should mail the notice to the attorney or representative of record. The mailing of notice to the affected party's attorney or representative is not deemed to perfect service of the notice. Failure to mail a copy of the notice to the attorney or representative of record will not result in failure of otherwise perfected service upon the affected party.

In those instances where an affected party is a corporation doing business in Ohio or is incorporated in Ohio, the mailing of notice to the corporation's statutory agent pursuant to Sections 1701.07 and 1703.19 of the Revised Code will perfect service provided that all the requirements of Section 122.3.1 125.3.1 have been complied with.

122.4125.4 Chapter 119. hearings: request for a hearing.

122.4.1125.4.1 Any request for a hearing made as the result of notice issued pursuant to Section 122.3 125.3 must be made in writing and mailed or delivered to the state fire marshal in the manner indicated in the notice issued pursuant to Section 122.3 125.3 within thirty calendar days of the following, as applicable:

1. The time of mailing the notice if notice is given pursuant to Section 122.3.1 125.3.1;

2. The date that service is complete if notice is given pursuant to Section 122.3.3 125.3.3 or 122.3.5 125.3.5;

3. The date of the last publication if notice is given by publication pursuant to Section 122.3.4 125.3.4; or

4. The date of personal service.

122.4.2125.4.2 If a request for a hearing is properly mailed to the state fire marshal, the request is deemed to have been made as follows:

1. If the request is mailed by certified mail, as of the date stamped by the U.S. postal service on its receipt (PS form 3800 or any future equivalent postal service form).

2. If the request is mailed by regular U.S. mail, as of the date of the postmark appearing upon the envelope containing the request.

3. If the request is mailed by regular U.S. mail and the postmark is illegible or fails to appear on the envelope, as of the date of its receipt by the state fire marshal as evidenced by the state fire marshal's time stamp.

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~~122.4.3~~125.4.3 ~~If a request for a hearing is made by facsimile transmission or by electronic mail to the state fire marshal, the request is deemed to have been made as of the date of its receipt as evidenced by the receipt date generated by the facsimile transmission or the date of receipt shown in the source code of the electronic mail received by the state fire marshal.~~

~~122.4.4~~125.4.4 ~~If a request for a hearing is personally delivered to the state fire marshal, the request is deemed to have been made as of the date of its receipt as evidenced by the state fire marshal's time stamp.~~

~~122.4.5~~125.4. ~~All requests for hearings must clearly identify both the affected individual involved and the proposed action that is being contested.~~

~~122.5~~125.5 ~~**Computation of time deadlines.** Section 1.14 of the Revised Code controls the computing of time deadlines imposed by Chapter 119. of the Revised Code and rule 1301:7-7 of the Administrative Code. The time within which an act is required by law to be completed is computed by excluding the first day and including the last day. When the last day falls on a Saturday, Sunday, or legal holiday, the act may be completed on the next succeeding day that is not a Saturday, Sunday, or legal holiday. When the last day to perform an act that is required by law is to be performed in a public office and that public office is closed to the public for the entire day, the act may be performed on the next succeeding day that is not a Saturday, Sunday, or legal holiday.~~

~~122.6~~125.6 ~~**Chapter 119. hearings: appointment and powers of a hearing examiner and rules of practice.**~~

~~122.6.1~~125.6.1 ~~**Joinder of individual cases.** On its own motion, or on motion of the appellant, the state fire marshal or the hearing examiner may join any individual cases where there exist incidents of common ownership or interest and where joinder would be appropriate for efficient and economic fairness to the parties.~~

~~122.6.2~~125.6.2 ~~**Computation of time deadlines.** Section 1.14 of the Revised Code controls the computing of time deadlines imposed by Chapter 119. of the Revised Code and rule 1301:7-7 of the Administrative Code. The time within which an act is required by law to be completed by excluding the first day and including the last day. When the last day falls on a Saturday, Sunday, or legal holiday, the act may be completed on the next succeeding day that is not a Saturday, Sunday, or legal holiday. When the last day to perform an act that is required by law is to be performed in a public office, and that public office is closed to the public for the entire day or before its usual closing time for that day, then the act may be performed on the next succeeding day that is not a Saturday, Sunday, or legal holiday.~~

~~122.6.3~~125.6.3 ~~**Rules of practice in hearings conducted under this rule.** In all hearings conducted under rule 1301:7-7 of the Administrative Code where a stenographic record is taken and where the stenographic record may be the basis of an appeal to a court of law, any person not appearing pro se and any corporation, partnership, association, or other entity must be represented by an attorney admitted to the practice of law in this state. The state fire marshal or the hearing officer may permit persons authorized to practice law in any jurisdiction other than Ohio to represent an appellant before the state fire marshal upon the motion of an attorney licensed to practice before the courts of this state. When the appellant is represented by more than one attorney, one attorney must be designated by the appellant as "trial counsel" and that attorney is deemed the appellant's attorney of record and is primarily responsible for the appellant's case at the hearing. No attorney representing an appellant is permitted to~~

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~~withdraw from any hearing proceeding before the state fire marshal without prior notice being served upon the state fire marshal and prior approval by the hearing examiner.~~

~~**122.6.4125.6.4 Authority of hearing examiners appointed by the department.** The director may assign a hearing examiner to conduct any hearing held subject to Chapter 1301:7-7 of the Administrative Code. Any person assigned to be a hearing examiner must be admitted to the practice of law in the state of Ohio and have such other qualifications as the director deems necessary. The hearing examiner may be an employee of the department or under contract to the department. The hearing examiner has the same powers as granted to the department in conducting the hearing. These powers include, but are not limited to, the following:~~

~~1. The general authority to regulate the course of the hearing and to issue orders governing the conduct of the hearing.~~

~~2. The authority to administer oaths or affirmations, order the production of documents and the attendance of witnesses, call and examine witnesses in a reasonable and impartial manner, and to determine the order in which the participants to a hearing will present testimony and be examined in a manner consistent with essential fairness and justice.~~

~~3. The authority to pass upon the admissibility of evidence, and rule on objections, procedural motions, and other procedural matters.~~

~~4. The authority to issue orders intended to facilitate settlement of the case, including the scheduling of settlement conferences, directing the exchange of offers and demands, and any other actions that may facilitate the prompt resolution of disputed matters.~~

~~5. The authority to hold one or more pre-hearing conferences of the participants for the purpose of resolving issues that can be resolved by the participants including facilitation of a settlement, identifying the witnesses to be presented and the subject of their testimony, discussing possible admissions or stipulations regarding the authenticity of records, identifying and marking exhibits, and ruling on any procedural motions of the participants, resolving outstanding discovery claims, and clarifying the issues to be addressed at the hearing, and discussing any other matters deemed appropriate by the hearing examiner for the thorough and expeditious preparation and disposition of the case.~~

~~6. The authority to take such other actions as might be necessary to avoid unnecessary delay, prevent presentation of irrelevant or cumulative evidence, prevent argumentative, repetitious, or irrelevant examination or cross-examination, and to assure that the hearing proceeds in an orderly and expeditious manner.~~

~~7. Nothing in this rule, nor in any other state fire marshal rule, is to be construed as granting a hearing examiner the authority to dismiss any hearing. Nothing in this rule nor in any other state fire marshal rule limits the state fire marshal's authority to withdraw a proposal to enter an order of adjudication or limits the authority of the state fire marshal to define the scope of any hearing.~~

~~8. Upon the motion of the hearing examiner, the state fire marshal, or the appellant, the hearing examiner may require the submission of briefs and memoranda at any time~~

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~~during the proceeding. The hearing examiner may limit these filings to one or more specific issues and may prescribe procedures and time schedules for their submission. All briefs, memoranda, motions, or other pleadings are subject to the following requirements:~~

~~8.1 All briefs, memoranda, motions or other pleadings must be filed with the state fire marshal within three days after service. A certificate of service is to be attached attesting both to the service of a copy of the pleading on the opposing party and the provision of a copy to the hearing examiner. Service is governed by rule 5 (7/1/2007) of the Ohio rules of civil procedure except that any reference to "court" in rule 5 will be interpreted to refer to the state fire marshal.~~

~~8.2 Only those pleadings, order, and other papers filed with the state fire marshal will be a part of the official record.~~

~~8.3 All briefs, memoranda, motions, or other pleadings and papers must be on eight-and-one-half-inch by eleven-inch paper and double-spaced.~~

~~8.4 All orders, reports, recommendations, and rulings issued by the hearing examiner are to be signed, dated, and filed with the state fire marshal.~~

~~**Exception:** A hearing officer shall not have the power to consider any motion for a change in venue. Only the director or the state fire marshal or the state fire marshal's designee may consider and rule upon a motion for a change of venue.~~

~~**122.6.5**125.6.5 **Withdrawal of proposed adjudication orders.** The state fire marshal, upon its own motion, at any time before the issuance of an order of adjudication, may withdraw its proposal to implement such an order without prejudice to the rights of the parties.~~

~~122.7~~125.7 ~~Chapter 119. hearings: subpoena issuance and enforcement.~~

~~**122.7.1**125.7.1 The state fire marshal, upon its own motion or that of any appellant, will issue a subpoena requiring the attendance of witnesses and the production of books and records as are necessary for the purpose of conducting a hearing.~~

~~**122.7.2**125.7.2 Upon the request of the appellant, the state fire marshal will issue a subpoena for any witness of a subpoena duces tecum to compel the production of any books, records, or papers. The state fire marshal will issue such subpoena in blank to a party requesting it, who is solely responsible for completing the subpoena form, including the address where the person is to be served, and returning it to the state fire marshal along with a written request for service. The written request along with the completed subpoena must be received by the state fire marshal no later than twenty-one business days before the commencement of the hearing or deposition, unless otherwise ordered for good cause shown. Upon its own initiative and for its own use, the state fire marshal may issue a subpoena for any purpose set forth in this rule or otherwise authorized by law. At its discretion, the state fire marshal may make available electronically a subpoena in blank and may authorize electronic submission of a completed subpoena.~~

~~**122.7.3**125.7.3 All subpoenas issued under this rule are to be directed to the sheriff of the county where the person to be served resides or is found. The subpoena is to be served and returned in the same manner as a subpoena in a criminal case. Fees and mileage of the~~

~~sheriff will be the same as that allowed in the court of common pleas in criminal cases. Fees and mileage of the witness are governed by section 119.094 of the Revised Code. The state fire marshal will pay allowable fees and mileage.~~

~~122.7.4~~125.7.4 ~~In case of disobedience or neglect of any subpoena served upon any person, or the refusal of any witness to testify to any matter in which there may be lawful interrogation, the state fire marshal will apply to the court of common pleas where such disobedience, neglect, or refusal occurs for an order to compel obedience by attachment proceedings for contempt, as in the case of disobedience of the requirements of a subpoena issued from such court, or a refusal to testify therein.~~

~~(W) Section 123 Reserved for future use.~~

Section ~~124~~126 Incident reporting at a shale oil processing premise.

~~124.1~~126.1 **Scope and applicability.** *The reporting of a shale incident to the state of Ohio shall be in accordance with this rule. Nothing in this rule shall be construed to supplant a responsible person's obligations to call 9-1-1 in an emergency situation.*

~~124.2~~126.2 **Definitions.** *The following words and terms shall, for the purposes of this rule, have the meanings shown herein.*

Emergency responder. *Means any of the following:*

1. *A representative of a "firefighting agency," which means a township fire district, joint ambulance district, joint emergency medical services district, joint fire district and the office of the state fire marshal;*

2. *A representative of a "fire department" as defined in Section 3750.01 of the Revised Code; or*

3. *A person performing "emergency medical services" as defined in Section 4765.01 of the Revised Code.*

Explosion. *Has the same meaning as Section 5002.1.*

Fire incident at a shale oil processing premise. ~~*Means the following:*~~

A fire or explosion at a shale oil processing premise regulated under Chapter 3737. of the Revised Code that results in any of the following conditions:

1. *An emergency responder being contacted to respond or responding to such fire or explosion;*

2. *Death or serious physical harm to any person; or*

3. *Over $50,000 in damage to any structure, property, premise or vehicle.*

Routine flaring operations and other similar activities conducted in accordance with applicable laws and permits, and controlled fires preauthorized by an emergency responder with jurisdiction, are specifically excluded from the definition of a "fire incident at a shale oil

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processing premise," except to the extent that such actions result in an emergency response by an emergency responder initiated by the responsible party or a contractor performing services on behalf of a responsible person, death or serious physical harm to any person or over $50,000 in damage to any structure, property, premise or vehicle.

Hazardous material. *Has the same meaning as Section 5002.1.*

Hazardous material incident at a shale oil processing premise. *~~Means t~~The unauthorized release at a shale oil processing premise of a hazardous material in quantities reportable under state or federal regulations and which:*

1. *Involves a release of a hazardous material into a sewer, storm drain, ditch, drainage canal, creek, stream, river, lake or tidal waterway or on the ground, sidewalk, street, highway or into the atmosphere; and*

2. *The release cannot be remedied within a two-hour period.*

A release or emission of a hazardous material in compliance with federal, state or local governmental agency approvals, laws, regulations or permits is specifically excluded from the definition of a "hazardous material incident at a shale oil processing premise."

Natural gas processing facilities. *Has the same meaning as in division (A)(1) of Section 3737.832 of the Revised Code, which is as follows: "installations, including associated buildings, pipes, valves, tanks, and other equipment, used to separate various fluids, hydrocarbons, natural gas liquids, and impurities from the raw natural gas, manufacturing residue gas suitable for transmission and distribution to end users."*

Natural gas liquids fractionation facilities. *Has the same meaning as in division (A)(2) of Section 3737.832 of the Revised Code, which is as follows: "installations, including associated buildings, pipes, valves, tanks, and other equipment, used for the separation of mixtures of light hydrocarbons or natural gas liquids into individual, purity natural gas liquid products, which include ethane, propane, normal butane, iso-butane, and natural gasolines."*

Responsible person. *Has the same meaning as in division (F) of Section 3737.01 of the Revised Code.*

Shale incident. *~~Means a~~A "fire incident at a shale oil processing premise" or a "hazardous materials incident at a shale oil processing premise."*

Shale oil processing premise. *Has the same meaning as in division (A)(3) of Section 3737.832 of the Revised Code, which is as follows: "a single parcel or contiguous parcels of real estate, including any structures, facilities, appurtenances, equipment, devices, and activities thereon, where the processing of substances extracted from the Point Pleasant, Utica, and Marcellus formations occurs at a natural gas liquids fractionation or natural gas processing facility. "Shale oil processing premise" does not include a well pad or a production operation, as those terms are defined in Section 1509.01 of the Revised Code, that is regulated under Chapter 1509. of the Revised Code."*

~~124.2.1~~126.2.1. *For purposes of this rule, the terms "natural gas processing facilities," "natural gas liquids fractionation facilities," and "shale oil processing premise" do not include natural*

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gas compressor stations or other pipeline related natural gas gathering facilities or infrastructure.

~~124.3~~126.3 Shale incident reporting.

***~~124.3.1~~126.3.1** All shale incidents shall be reported by the responsible person to the state of Ohio by calling 1-844-OHCALL1 (1-844-642-2551) in accordance with this section.*

***~~124.3.2~~126.3.2 Fire incidents at a shale oil processing premise.** The reporting of a fire incident at a shale oil processing premise shall occur within thirty minutes after the responsible person or the responsible person's representative becomes aware of the fire incident at a shale oil processing premise.*

Exceptions:

1. *The immediate reporting of the fire incident at a shale oil processing premise would subject any person to a health hazard arising from the fire incident at a shale oil processing premise;*

2. *The immediate reporting of the fire incident at a shale oil processing premise would otherwise impede public safety personnel from satisfying their duties;*

3. *The immediate reporting of the fire incident at a shale oil processing premise would be otherwise impracticable under the circumstances.*

If one of the above exceptions occurs, the reporting of the fire incident at a shale oil processing premise shall be made by the responsible person as soon as it is practicable and can be done safely.

***~~124.3.2.1~~126.3.2.1** If a contractor performs services on behalf of a responsible person, the contractor shall notify the responsible person or its representative immediately, but not later than thirty minutes, after the contractor becomes aware of any fire incident at a shale oil processing premise while performing services at the responsible person's shale oil processing premise unless notification within that time is impracticable under the circumstances as described in the exceptions to this paragraph as listed in Section ~~124.3.2~~ 126.3.2.*

In that case, the contractor shall notify the responsible person or its representative as soon as it is practicable and can be done safely. If a contractor performs services on behalf of a responsible person and neither the responsible person nor its representative is present at the shale oil processing premise and the contractor attempts, but is unable, to contact the responsible person or its representative, the contractor shall notify the state of Ohio as specified in Section ~~124.3~~ 126.3.

***~~124.3.3~~126.3.3 Hazardous materials incidents at a shale oil processing premise.** The reporting of a hazardous materials incident at a shale oil processing premise shall occur within two hours after the responsible person becomes aware of the hazardous materials incident at a shale oil processing premise.*

Exceptions:

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1. *The reporting of the hazardous materials incident at a shale oil processing premise would subject any person to a health hazard arising from the hazardous materials incident at a shale oil processing premise;*

2. *The reporting of the hazardous materials incident at a shale oil processing premise would otherwise impede public safety personnel from satisfying their duties;*

3. *The reporting of the hazardous materials incident at a shale oil processing premise would be otherwise impracticable under the circumstances.*

If one of the above exceptions occurs, the reporting of the hazardous materials incident at a shale oil processing premise shall be made as soon as it is practicable and can be done safely.

~~124.3.3.1~~126.3.3.1 *If a contractor performs services on behalf of a responsible person, the contractor shall notify the responsible person or its representative immediately, but not later than thirty minutes, after the contractor becomes aware of any hazardous material incident at a shale oil processing premise while performing services at the responsible person's shale oil processing premise unless notification within that time is impracticable under the circumstances as described in the exceptions to Section ~~124.3.3~~ 126.3.3. In that case, the contractor shall notify the responsible person or its representative as soon as it is practicable and can be done safely.*

If a contractor performs services on behalf of a responsible person and neither the responsible person or its representative is present at the shale oil processing premise and the contractor attempts but is unable to contact the responsible person or its representative, the contractor shall notify the state of Ohio as specified in Section ~~124.3~~ 126.3.

~~124.3.4~~126.3.4 *A person required to notify the state of a shale incident specified in this rule shall provide, at the time of notification, all of the following information that is known or can be reasonably estimated:*

1. *The name and phone number of a person who can provide further information regarding the shale incident;*

2. *The location of the shale incident, including the address, county, township, section or lot number, directions from the nearest intersection, and global positioning system coordinates;*

3. *The type of shale incident;*

4. *The potential health effects and safety concerns associated with the shale incident;*

5. *The mitigation measures initiated or performed, including any evacuation;*

6. *Whether a local fire department, law enforcement agency or emergency medical services were contacted to respond to the shale incident;*

7. *The identity of other federal, state, or local agencies that were notified or responded;*

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8. *If the shale incident involves a release of any hazardous material:*

8.1 The source of the release;

8.2 The chemical name, description, or identity of all substances released and the location(s) of all "Material Safety Data Safety Sheet(s)";

8.3 An estimate of the quantity in United States gallons released outside of secondary containment if the substance is a liquid;

8.4 An estimate of the quantity in pounds released outside of a secondary containment if the substance is a solid;

8.5 An estimate of the quantity in cubic feet released if the substance is a gas;

8.6 The date, time, and duration of the release, if known;

8.7 An identification of the environmental medium or media into or onto which the substance was released; and

8.8 Other actions proposed for response to the release.

~~124.3.5~~126.3.5 The state fire marshal may require the responsible person to provide additional information as required by the state fire marshal after the shale incident which is necessary to obtain compliance with Section ~~124.3.4~~ 126.3.4.

~~124.3.6~~126.3.6 Compliance with this chapter does not eliminate the requirement that a responsible person or other person as referenced in this chapter comply with any other applicable state or federal laws or rules, including compliance with the hazardous materials release provisions specified in Section 5003.3, except that the notification provisions of Section 5003.3.1 shall be satisfied by calling the "One Call" hotline as set forth above.

Copyright Claim Information

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1301:7-7-02 Definitions.

Section 201 General

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the *building code*, International Fuel Gas Code, *mechanical code* or *plumbing code*, such terms shall have the meanings ascribed to them as in those codes.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies. Merriam Webster's Collegiate Dictionary, 11th Edition, shall be considered as providing ordinarily accepted meanings.

Section 202 General definitions

~~**[BG] 24-Hour basis.** The actual time that a person is an occupant within a facility for the purpose of receiving care. It shall not include a facility that is open for 24 hours and is capable of providing care to someone visiting the facility during any segment of the 24 hours.~~

3D printer. A machine used in the additive manufacturing process for fabricating objects through the deposition of a material using a print head, nozzle or other printer technology.

[M] Access (To). That which enables a device, appliance or equipment to be reached by ready access or by a means that first requires the removal or movement of a panel, or similar obstruction [see also "Ready access (to)"].

[BE] Accessible means of egress. A continuous and unobstructed way of egress travel from any accessible point in a building or facility to a public way.

[BE] Accessible route. A continuous, unobstructed path that complies with Chapter 11 of the *building code*.

~~**Aerosol.** A product that is dispensed from an aerosol container by a propellant.~~

~~Aerosol products shall be classified by means of the calculation of their chemical heats of combustion and shall be designated Level 1, Level 2 or Level 3.~~

~~**Level 1 aerosol products.** Those with a total chemical heat of combustion that is less than or equal to 8,600 British thermal units per pound (Btu/lb)(20 KJ/g).~~

~~**Level 2 aerosol products.** Those with a total chemical heat of combustion that is greater than 8,600 Btu/lb (20 kJ/g), but less than or equal to 13,000 Btu/lb (30 kJ/g).~~

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~~**Level 3 aerosol products.** Those with a total chemical heat of combustion that is greater than 13,000 Btu/lb (30 kJ/g).~~

Active RF-emitting device. Any type of circuit component that requires an AC or DC power source with the ability to electrically control electron flow and/or amplification of RF signal, including but not limited to signal boosters, repeaters, bidirectional amplifiers and fiber-distributed antenna systems.

Additive manufacturing. A process of joining materials to make objects from 3D model data, usually layer upon layer, sometimes referred to as 3D printing. This code recognizes two types of additive manufacturing.

Industrial additive manufacturing. 3D printing operations that typically utilize combustible powders or metals, an inert gas supply, a combustible dust collection system or that create a hazardous (classified) location area or zone outside the equipment.

Nonindustrial additive manufacturing. 3D printing operations that do create a hazardous (classified) location area outside the equipment and do not utilize an inert gas supply or a combustible dust collection system.

Aerosol container. A metal can, or ~~a glass or plastic bottle~~plastic container up to a maximum size of 33.8 fluid ounces (1000 ml) or a glass bottle up to a maximum size of 4 fluid ounces (118 ml) designed and intended to dispense an aerosol.

Aerosol cooking spray products. Aerosol cooking spray products are those aerosol products designed to deliver a vegetable oil or a solid or nonflammable liquid to reduce sticking on cooking and baking surfaces, or to be applied to food, or both. These products have a chemical heat of combustion that is greater than 8600 Btu/lb. (20 kJ/g) and contain no more than 18 percent by weight of flammable propellant.

Aerosol product. A combination of a container, a propellant and a material that is dispensed. Aerosol products shall be classified by means of the calculation of their chemical heats of combustion and shall be designated Level 1, Level 2 or Level 3.

Level 1 aerosol products. Those with a total chemical heat of combustion that is less than or equal to 8,600 British thermal units per pound (Btu/lb)(20 kJ/g).

Level 2 aerosol products. Those with a total chemical heat of combustion that is greater than 8,600 Btu/lb (20 kJ/g), but less than or equal to 13,000 Btu/lb (30 kJ/g).

Level 3 aerosol products. Those with a total chemical heat of combustion that is greater than 13,000 Btu/lb (30 kJ/g).

Aerosol product warehouse. A building used for warehousing aerosol products.

Affected party. *A person whose interests are subject to an adjudication by the state fire marshal, including licensees, registrants, certificate holders and applicants for licenses, registrations and certifications.*

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Agency. Any emergency responder department within the jurisdiction that utilizes radio frequencies for communication. This could include, but ~~is~~ not be limited to, various public safety agencies such as fire departments, emergency medical services and law enforcement.

Agent. A person who shall have charge, care or control of any structure as owner, or agent of the owner, or as executor, executrix, administrator, administratrix, trustee or guardian of the estate of the owner. Any such person representing the actual owner shall be bound to comply with the provisions of this code to the same extent as if that person was the owner.

[BG] Agricultural building. A structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products. This structure shall not be a place of human habitation or a place of employment where agricultural products are processed, treated or packaged, nor shall it be a place used by the public.

Agricultural purposes. *Includes agriculture, farming, dairying, pasturage, apiculture, algaculture meaning the farming of algae, horticulture, floriculture, viticulture, ornamental horticulture, olericulture, pomiculture and animal and poultry husbandry.*

Agro-industrial. A facility, or portion thereof, housing operations involving the transforming of raw agricultural products into intermediate or consumable products.

Agricultural labor camp. *Means camps as defined in Section 3733.41 of the Revised Code.*

~~**[BG] Air-inflated structure.** A structure that uses air-pressurized membrane beams, arches or other elements to enclose space. Occupants of such a structure do not occupy the pressurized areas used to support the structure.~~

~~**[BG] Air-supported structure.** A structure wherein the shape of the structure is attained by air pressure, and occupants of the structure are within the elevated pressure area. Air-supported structures are of two basic types:~~

~~**Double skin.** Similar to a single skin, but with an attached liner that is separated from the outer skin and provides an airspace which serves for insulation, acoustic, aesthetic or similar purposes.~~

~~**Single skin.** Where there is only the single outer skin and the air pressure is directly against that skin.~~

Aircraft motor-vehicle fuel-dispensing facility. That portion of property where flammable or combustible liquids or gases used as motor fuels are stored and dispensed from fixed automotive-type equipment into the fuel~~s~~ tanks of aircraft.

Aircraft operation area (AOA). Any area used or intended for use for the parking, taxiing, takeoff, landing or other ground-based aircraft activity.

[BG] Air-inflated structure. A structure that uses air-pressurized membrane beams, arches or other elements to enclose space. Occupants of such a structure do not occupy the pressurized areas used to support the structure.

Airport. An area of land or structural surface that is used, or intended for use, for the landing and taking off of aircraft with an overall length greater than 39 feet (11 887 mm) and an overall exterior

fuselage width greater than 6.6 feet (2012 mm), and any appurtenant areas that are used or intended for use for airport buildings and other airport facilities.

[BG] Air-supported structure. A structure wherein the shape of the structure is attained by air pressure, and occupants of the structure are within the elevated pressure area. Air supported structures are of two basic types:

Double skin. Similar to a single skin, but with an attached liner that is separated from the outer skin and provides an airspace which serves for insulation, acoustic, aesthetic or similar purposes.

Single skin. Where there is only the single outer skin and the air pressure is directly against that skin.

[BE] Aisle. An unenclosed exit access component that defines and provides a path of egress travel.

[BE] Aisle accessway. That portion of an exit access that leads to an aisle.

Alarm, nuisance. See “Nuisance alarm.”

Alarm device, multiple station. See “Multiple-station alarm device.”

Alarm notification appliance. A fire alarm system component such as a bell, horn, speaker, light or text display that provides audible, tactile or visible outputs, or any combination thereof. See also “Audible alarm notification appliance” or “Visible alarm notification appliance.”

Alarm signal. A signal indicating an emergency requiring immediate action, such as a signal indicative of fire.

Alarm verification feature. A feature of automatic fire detection and alarm systems to reduce unwanted alarms wherein smoke detectors report alarm conditions for a minimum period of time, or confirm alarm conditions within a given time period, after being automatically reset, in order to be accepted as a valid alarm-initiation signal.

Alcohol-based hand rub. An alcohol-containing preparation designed for application to the hands for reducing the number of viable microorganisms on the hands and containing ethanol or isopropanol in an amount not exceeding 95-per-cent by volume.

Alcohol-blended fuels. Flammable liquids consisting of greater than 10 percent ~~or greater~~, by volume, ethanol or other alcohols blended with gasoline.

[A] Alteration. Any construction or renovation to an existing structure other than a repair or addition.

[BE] Alternating tread device. A device that has a series of steps between 50 and 70 degrees (0.87 and 1.22 rad) from horizontal, usually attached to a center support rail in an alternating manner so that the user does not have both feet on the same level at the same time.

[BG] Ambulatory care facility. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care ~~for fewer than twenty four hours per day~~ on a less-than-24-

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hour basis to persons who are rendered incapable of self-preservation by the services provided or staff has accepted responsibility for care recipients already incapable.

Ammonium nitrate. A chemical compound represented by the formula NH_4NO_3.

Annunciator. A unit containing one or more indicator lamps, alphanumeric displays or other equivalent means in which each indication provides status information about a circuit, condition or location.

Apartment house. *Means occupancies subject to Chapter 5321. of the Revised Code.*

Appellant. *An affected party who has requested an adjudication hearing pursuant to Chapter 119. of the Revised Code.*

Approved. *Accepted by* the fire code official *as being in compliance with this code and as evidenced by documentation*.

[BG] Area, building. The area included within surrounding exterior walls (or exterior walls and fire walls) exclusive of vent shafts and courts. Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above.

[BE] Area of refuge. An area where persons unable to use stairways can remain temporarily to await instructions or assistance during emergency evacuation.

Array. The configuration of storage. Characteristics considered in defining an array include the type of packaging, flue spaces, height of storage and compactness of storage.

Array, closed. A storage configuration having a 6-inch (152 mm) or smaller width vertical flue space that restricts air movement through the stored commodity.

Assistant state fire marshal. *Has the same meaning as in Section 3737.01 of the Revised Code.*

[BG] Atrium. An opening connecting two or more stories other than enclosed stairways, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall. Stories, as used in this definition, do not include balconies within assembly groups or mezzanines that comply with Section 505 of the *building code*.

[BG] Attic. The space between the ceiling ~~beams~~ framing of the top story and the underside of the roof ~~rafters~~.

Audible alarm notification appliance. A notification appliance that alerts by the sense of hearing.

Authority having jurisdiction. *The organization, officer, or individual responsible for approving equipment, an installation, or a procedure.*

Automated rack storage. Automated rack storage is a stocking method whereby the movement of pallets, products, apparatus or systems are automatically controlled by mechanical or electronic devices.

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Automatic. As applied to fire protection devices, a device or system providing an emergency function without the necessity for human intervention and activated as a result of a predetermined temperature rise, rate of temperature rise or combustion products.

Automatic fire-extinguishing system. An approved system of devices and equipment which automatically detects a fire and discharges an approved fire-extinguishing agent onto or in the area of a fire.

Automatic smoke detection system. A fire alarm system that has initiation devices that utilize smoke detectors for protection of an area such as a room or space with detectors to provide early warning of fire.

Automatic sprinkler system. An automatic sprinkler system, for fire protection purposes, is an integrated system of underground and overhead piping designed in accordance with fire protection engineering standards. The system includes a suitable water supply. The portion of the system above the ground is a network of specially sized or hydraulically designed piping installed in a structure or area, generally overhead, and to which automatic sprinklers are connected in a systematic pattern. The system is usually activated by heat from a fire and discharges water over the fire area.

Automatic water mist system. A system consisting of a water supply, a pressure source and a distribution piping system with attached nozzles which, at or above a minimum operating pressure, defined by its listing, discharges water in fine droplets meeting the requirements of NFPA 750 for the purpose of the control, suppression or extinguishment of a fire. Such systems include wet-pipe, dry-pipe and pre-action types. The systems are designed as engineered, preengineered, local-application or total flooding systems.

Automotive motor fuel-dispensing facility. That portion of property where flammable or combustible liquids or gases used as motor fuels are stored and dispensed from fixed equipment into the fuel tanks of motor vehicles *or approved containers*.

Average ambient sound level. The root mean square, A-weighted sound pressure level measured over a 24-hour period, or the time any person is present, whichever time period is less.

[BG] Awning. An architectural projection that provides weather protection, identity or decoration and is partially or wholly supported by the building to which it is attached. An awning is comprised of a lightweight frame structure over which a covering is attached.

[BE] Balanced door. A door equipped with double-pivoted hardware so designed as to cause a semicounter balanced swing action when opening.

Baled cotton. See “Cotton.”

Baled cotton, densely packed. See “Cotton.”

~~***Bank of electric vehicle charging stations.*** *A series of electric vehicle charging stations that are located in close proximity to one another and that receive electrical current from the same source/electrical box.*~~

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Barricade. A structure that consists of a combination of walls, floor and roof, which is designed to withstand the rapid release of energy in an explosion and which is fully confined, partially vented or fully vented; or other effective method of shielding from explosive materials by a natural or artificial barrier.

Artificial barricade. An artificial mound or revetment with a minimum thickness of 3 feet (914 mm).

Natural barricade. Natural features of the ground, such as hills, or timber of sufficient density that the surrounding exposures that require protection cannot be seen from the magazine or building containing explosives when the trees are bare of leaves.

Barricaded. The effective screening of a building containing explosive materials from the magazine or other building, railway or highway by a natural or an artificial barrier. A straight line from the top of any sidewall of the building containing explosive materials to the eave line of any magazine or other building or to a point 12 feet (3658 mm) above the center of a railway or highway shall pass through such barrier.

[BG] Basement. A story that is not a story above grade plane.

Battery system, stationary ~~lead acid~~storage. ~~A system which consists of three interconnected subsystems:~~A rechargeable energy storage system consisting of electrochemical storage batteries, battery chargers, controls and associated electrical equipment designed to provide electrical power to a building. The system is typically used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities.

~~1. A lead-acid battery.~~

~~2. A battery charger.~~

~~3. A collection of rectifiers, inverters, converters and associated electrical equipment as required for a particular application.~~

Battery types. For the purposes of this code, certain types are defined as follows:

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

Lead-acid battery. A storage battery that is comprised of lead electrodes immersed in a solution of water and sulphuric acid electrolyte.

Lithium metal polymer battery. A storage battery that is ~~comprised of nonaqueous liquid or polymerized electrolytes, which provide ionic conductivity between lithiated positive active material electrically separated from metallic lithium or lithiated negative active material.~~similar to the lithium ion battery except that it has a lithium metal anode in the place of the traditional carbon or graphite anode.

Lithium-ion battery. A storage battery ~~that consists of~~with lithium ions ~~embedded in a carbon graphite or nickel metal-oxide substrate. The electrolyte is a carbonate mixture or a gelled polymer. The lithium ions are the charge carriers of the battery.~~serving as the charge carriers

Note: for copyright claim information, please see the notice on the last page of this rule.

of the battery. The electrolyte is a polymer mixture of carbonates with an inorganic salt and can be in a liquid or a gelled polymer form. Lithiated metal oxide is typically a cathode and forms of carbon or graphite typically form the anode.

Nickel cadmium (Ni-Cd) battery. An alkaline storage battery in which the positive active material is nickel oxide, the negative electrode contains cadmium and the electrolyte is a solution of water and potassium hydroxide.

~~**Nonrecombinant battery.** A storage battery in which, under conditions of normal use, hydrogen and oxygen gases created by electrolysis are vented into the air outside of the battery.~~

~~**Recombinant battery.** A storage battery in which, under conditions of normal use, hydrogen and oxygen gases created by electrolysis are converted back into water inside the battery instead of venting into the air outside of the battery.~~

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

Stationary storage battery. A group of electrochemical cells interconnected to supply a nominal voltage of DC power to a suitably connected electrical load, designed for service in a permanent location. ~~The number of cells connected in a series determines the nominal voltage rating of the battery. The size of the cells determines the discharge capacity of the entire battery. After discharge, it may be restored to a fully charged condition by an electric current flowing in a direction opposite to the flow of current when the battery is discharged.~~

~~**Valve-regulated lead-acid (VRLA) battery.** A lead-acid battery consisting of sealed cells furnished with a valve that opens to vent the battery whenever the internal pressure of the battery exceeds the ambient pressure by a set amount. In VRLA batteries, the liquid electrolyte in the cells is immobilized in an absorptive glass mat (AGM cells or batteries) or by the addition of a gelling agent (gel cells or gelled batteries).~~

~~**Vented (flooded) lead-acid battery.** A lead-acid battery consisting of cells that have electrodes immersed in liquid electrolyte. Flooded lead-acid batteries have a provision for the user to add water to the cell and are equipped with a flame-arresting vent which permits the escape of hydrogen and oxygen gas from the cell in a diffused manner such that a spark, or other ignition source, outside the cell will not ignite the gases inside the cell.~~

Beer and intoxicating liquor. *Have the same meanings as in Section 4301.01 of the Revised Code.*

Bin box. A five-sided container with the open side facing an aisle. Bin boxes are self-supporting or supported by a structure designed so that little or no horizontal or vertical space exists around the boxes.

Biomass. Plant- or animal-based material of biological origin excluding material embedded in geologic formations or transformed into fossils.

Black match. *A fuse made from thread impregnated with black powder and used for igniting pyrotechnic devices.*

Note: for copyright claim information, please see the notice on the last page of this rule.

Blast area. The area including the blast site and the immediate adjacent area within the influence of flying rock, missiles and concussion.

Blast site. The area in which explosive materials are being or have been loaded and which includes all holes loaded or to be loaded for the same blast and a distance of 50 feet (15 240 mm) in all directions.

Blaster. A person qualified in accordance with Section 5601.4 to be in charge of and responsible for the loading and firing of a blast.

Blasting agent. A material or mixture consisting of fuel and oxidizer, intended for blasting provided that the finished product, as mixed for use or shipment, cannot be detonated by means of a No. 8 test detonator when unconfined. Blasting agents are labeled and placarded as Class 1.5 material by US DOTn.

[BE] Bleachers. Tiered seating supported on a dedicated structural system and two or more rows high and is not a building element (see "Grandstand").

Boarding*, lodging, rooming house.* A building arranged or used *(*for *stays) where rooms are offered* for compensation, with or without meals, and not occupied as a single-family unit.

Boiling point. The temperature at which the vapor pressure of a liquid equals the atmospheric pressure of 14.7 pounds per square inch absolute (psia) (101 kPa) or 760 mm of mercury. Where an accurate boiling point is unavailable for the material in question, or for mixtures which do not have a constant boiling point, for the purposes of this classification, the 20-percent evaporated point of a distillation performed in accordance with ASTM D86 shall be used as the boiling point of the liquid.

Bonfire. An outdoor fire utilized for ceremonial purposes.

Booby trap. *A small tube that has a string protruding from both ends, that has a friction-sensitive composition and that is ignited by pulling the ends of the string.*

Break. *An individual effect from an aerial shell; generally either color (stars) or noise (salutes). Aerial shells can be single-break (having only one effect) or multiple-break (having two or more effects).*

[BE] Breakout. For revolving doors, a process whereby wings or door panels can be pushed open manually for means of egress travel.

British thermal unit (BTU). The heat necessary to raise the temperature of 1 pound (0.454 kg) of water by 1°F (0.5565°C).

[A] Building. Any structure ~~used~~ utilized or intended for supporting or sheltering any occupancy.

~~[B]~~ **Building area.** See "Area, building."

~~[B]~~ **Building height.** See "Height, building."

Building official. *Has the same meaning as defined in the building code.*

Note: for copyright claim information, please see the notice on the last page of this rule.

Bulk oxygen system. An assembly of equipment, such as oxygen storage containers, pressure regulators, safety devices, vaporizers, manifolds and interconnecting piping, that has a storage capacity of more than 20,000 cubic feet (566 m^3) of oxygen at normal temperature and pressure (NTP) including unconnected reserves on hand at the site. The bulk oxygen system terminates at the point where oxygen at service pressure first enters the supply line. The oxygen containers can be stationary or movable, and the oxygen can be stored as a gas or liquid.

Bulk plant or terminal. That portion of a property where flammable or combustible liquids are received by tank vessel, pipelines, tank car or tank vehicle and are stored or blended in bulk for the purpose of distributing such liquids by tank vessel, pipeline, tank car, tank vehicle, portable tank or container.

Bulk transfer. The loading or unloading of flammable or combustible liquids from or between tank vehicles, tank cars or storage tanks.

Bullet resistant. Constructed so as to resist penetration of a bullet of 150-grain M2 ball ammunition having a nominal muzzle velocity of 2,700 feet per second (fps) (824 mps) when fired from a 30-caliber rifle at a distance of 100 feet (30 480 mm), measured perpendicular to the target.

Canopy. A structure or architectural projection of rigid construction over which a covering is attached that provides weather protection, identity or decoration, and may be structurally independent or supported by attachment to a building on one end and by not less than one stanchion on the outer end.

Capacitor energy storage system. A stationary, rechargeable energy storage system consisting of capacitors, chargers, controls and associated electrical equipment designed to provide electrical power to a building or facility. The system is typically used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities.

Carbon dioxide enrichment system. A system where carbon dioxide gas is intentionally introduced into an indoor environment, typically for the purpose of stimulating plant growth.

Carbon dioxide extinguishing system. A system supplying carbon dioxide (CO_2) from a pressurized vessel through fixed pipes and nozzles. The system includes a manual- or automatic-actuating mechanism.

Carbon monoxide alarm. A single- or multiple-station alarm intended to detect carbon monoxide gas and alert occupants by a distinct audible signal. It incorporates a sensor, control components and an alarm notification appliance in a single unit.

Carbon monoxide detector. A device with an integral sensor to detect carbon monoxide gas and transmit an alarm signal to a connected alarm control unit.

[BG] Care suite. In Group I-2 occupancies, a group of treatment rooms, care recipient sleeping rooms and the support rooms or spaces and circulation space within the suite where staff are in attendance for supervision of all care recipients within the suite, and the suite is in compliance with the requirements of Section 407.4.4 *of the building code*.

Carton. A cardboard or fiberboard box enclosing a product.

Note: for copyright claim information, please see the notice on the last page of this rule.

Ceiling limit. The maximum concentration of an airborne contaminant to which one may be exposed. The ceiling limits utilized are those published in DOL 29 CFR Part 1910.1000. The ceiling Recommended Exposure Limit (REL-C) concentrations published by the US National Institute for Occupational Safety and Health (NIOSH), Threshold Limit Value-Ceiling (TLV-C) concentrations published by the American Conference of Governmental Industrial Hygienists (ACGIH), Ceiling Workplace Environmental Exposure Level (WEEL-Ceiling) Guides published by the American Industrial Hygiene Association (AIHA), and other approved, consistent measures are allowed as surrogates for hazardous substances not listed in DOL 29 CFR Part 1910.1000.

Certified training program. *A firefighter training program conducted under the rules of the Department of Public Safety that results in the certification of an individual student as a volunteer firefighter, firefighter I transition, firefighter I, firefighter II, fire safety inspector or firefighting instructor.*

[A] Change of occupancy. ~~A change in the use of a building or portion of a building~~ Either of the following shall be considered as a change of occupancy where this code requires a greater degree of safety, accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than is existing in the current building or structure.

1. ~~A change of occupancy shall include any~~ Any change ~~of~~in the occupancy classification of a building or structure.

2. ~~any change from one group to another group within an occupancy classification.~~

~~any change in use within a group for a specific occupancy classification~~ Any change in the purpose of, or a change in the level of activity within a building or structure *or any change that causes an increase in risk*.

Chemical. An element, chemical compound or mixture of elements or compounds or both.

Chemical fume hood. A ventilated enclosure designed to contain and exhaust fumes, gases, vapors, mists and particulate matter generated within the hood.

Chemical name. The scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry, the Chemical Abstracts Service rules of nomenclature, or a name which will clearly identify a chemical for the purpose of conducting an evaluation.

[M] Chimney. A ~~primary~~ primarily vertical structure containing one or more flues for the purpose of carrying gaseous products of combustion and air from a fuel-burning appliance to the outdoor atmosphere.

Factory-built chimney. A listed and labeled chimney composed of factory-made components, assembled in the field in accordance with manufacturer's instructions and the conditions of the listing.

Masonry chimney. A field-constructed chimney composed of solid masonry units, bricks, stones, or concrete.

Metal chimney. A field-constructed chimney of metal.

Note: for copyright claim information, please see the notice on the last page of this rule.

Cigarette load. *A small wooden peg that is coated with a small quantity of explosive composition and that is ignited in a cigarette.*

Clean agent. Electrically nonconducting, volatile or gaseous fire extinguishant that does not leave a residue upon evaporation.

[BG] Clinic, outpatient. Buildings or portions thereof used to provide medical care *for fewer than twenty-four hours per day* to persons who are not rendered incapable of self-preservation by the services provided.

Closed container. A container sealed by means of a lid or other device such that liquid, vapor or dusts will not escape from it under ordinary conditions of use or handling.

Closed system. The use of a solid or liquid hazardous material involving a closed vessel or system that remains closed during normal operations where vapors emitted by the product are not liberated outside of the vessel or system and the product is not exposed to the atmosphere during normal operations; and all uses of compressed gases. Examples of closed systems for solids and liquids include product conveyed through a piping system into a closed vessel, system or piece of equipment.

Cold deck. A pile of unfinished cut logs.

Combustible dust. Finely divided solid material which is 420 microns or less in diameter and which, when dispersed in air in the proper proportions, could be ignited by a flame, spark or other source of ignition. Combustible dust will pass through a US No. 40 standard sieve.

Combustible fibers. Readily ignitable and free-burning materials in a fibrous or shredded form, such as cocoa fiber, cloth, cotton, excelsior, hay, hemp, henequen, istle, jute, kapok, oakum, rags, sisal, Spanish moss, straw, tow, wastepaper, certain synthetic fibers or other like materials. This definition does not include densely packed baled cotton.

Combustible gas detector. An instrument that samples the local atmosphere and indicates the presence of ignitable vapors or gases within the flammable or explosive range expressed as a volume per-cent in air.

Combustible liquid. A liquid having a closed cup flash point at or above 100°F (38°C). Combustible liquids shall be subdivided as follows:

The category of combustible liquids does not include compressed gases or cryogenic fluids or liquids that do not have a fire point when tested in accordance with ASTM D92.

Class II. Liquids having a closed cup flash point at or above 100°F (38°C) and below 140°F (60°C).

Class IIIA. Liquids having a closed cup flash point at or above 140°F (60°C) and below 200°F (93°C).

Class IIIB. Liquids having closed cup flash points at or above 200°F (93°C).

~~The category of combustible liquids does not include compressed gases or cryogenic fluids.~~

Note: for copyright claim information, please see the notice on the last page of this rule.

[M] Commercial cooking appliances. Appliances used in a commercial food service establishment for heating or cooking food and which produce grease vapors, steam, fumes, smoke or odors that are required to be removed through a local exhaust ventilation system. Such appliances include deep fat fryers, upright broilers, griddles, broilers, steam-jacketed kettles, hot-top ranges, under-fired broilers (charbroilers), ovens, barbecues, rotisseries, and similar appliances. For the purpose of this definition, a food service establishment shall include any building or a portion thereof used for the preparation and serving of food.

Commercial motor vehicle. A motor vehicle used to transport passengers or property where the motor vehicle:

1. Has a gross vehicle weight rating of 10,000 pounds (454 kg) or more; or

2. Is designed to transport 16 or more passengers, including the driver.

Commodity. A combination of products, packing materials and containers.

[BE] Common path of egress travel. That portion of the exit access travel distance measured from the most remote point ~~within a story~~of each room, area or space to that point where the occupants have separate and distinct access to two exits or exit access doorways.

[BE] Common use. Interior or exterior circulation paths, rooms, spaces or elements that are not for public use and are made available for the shared use of two or more people.

Compressed gas. A material, or mixture of materials that:

1. Is a gas at 68°F (20°C) or less at 14.7 psia (101 kPa) of pressure; and

2. Has a boiling point of 68°F (20°C) or less at 14.7 psia (101 kPa) which is either liquefied, nonliquefied or in solution, except those gases which have no other health- or physical-hazard properties are not considered to be compressed until the pressure in the packaging exceeds 41 psia (282 kPa) at 68°F (20°C).

The states of a compressed gas are categorized as follows:

1. Nonliquefied compressed gases are gases, other than those in solution, which are in a packaging under the charged pressure and are entirely gaseous at a temperature of 68°F (20°C).

2. Liquefied compressed gases are gases that, in a packaging under the charged pressure, are partially liquid at a temperature of 68°F (20°C).

3. Compressed gases in solution are nonliquefied gases that are dissolved in a solvent.

4. Compressed gas mixtures consist of a mixture of two or more compressed gases contained in a packaging, the hazard properties of which are represented by the properties of the mixture as a whole.

Note: for copyright claim information, please see the notice on the last page of this rule.

Compressed gas container. A pressure vessel designed to hold compressed gases at pressures greater than one atmosphere at 68°F (20°C) and includes cylinders, containers and tanks.

Compressed gas system. An assembly of equipment designed to contain, distribute or transport compressed gases. It can consist of a compressed gas container or containers, reactors and appurtenances, including pumps, compressors and connecting piping and tubing.

[BG] Congregate living facilities. A building or part thereof that contains sleeping units where residents share bathroom and/or kitchen facilities.

Constantly attended location. ~~*As used in Section 118, a location within a licensed hotel/SRO facility that is manned/occupied by hotel/SRO facility staff on a 24-hour basis. An example of such a location would be the registration desk.*~~ A designated location at a facility staffed by trained personnel on a continuous basis where alarm or supervisory signals are monitored and facilities are provided for notification of the fire department or other emergency services. *As used in Section ~~118~~121, a location within a licensed hotel/SRO facility that is manned/occupied by hotel/SRO facility staff on a 24-hour basis. An example of such a location would be the registration desk.*

[A] Construction documents. The written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of the project necessary for obtaining a permit. *This term shall include development plans, building plans and similar submission documents previously created for or provided at any time to any authority having jurisdiction over and regarding the associated project that contain any information relating to matters within the scope of this code.*

Container. A vessel of 60 gallons (227 L) or less in capacity used for transporting or storing hazardous materials. Pipes, piping systems, engines and engine fuel tanks are not considered to be containers.

Containment system. A gastight recovery system comprised of equipment or devices which can be placed over a leak in a compressed gas container, thereby stopping or controlling the escape of gas from the leaking container.

Containment vessel. A gastight recovery vessel designed so that a leaking compressed gas container can be placed within its confines thereby encapsulating the leaking container.

~~**Continuous gas detection system.** A gas detection system where the analytical instrument is maintained in continuous operation and sampling is performed without interruption. Analysis is allowed to be performed on a cyclical basis at intervals not to exceed 30 minutes.~~

Control area. Spaces within a building where quantities of hazardous materials not exceeding the maximum allowable quantities per control area are stored, dispensed, used or handled. See also the definition of “Outdoor control area.”

Controlled substance. *Has the same meaning as in Section 3719.01 of the Revised Code.*

Cooking devices. *Any cooking appliance other than those listed as safe for residential use as defined below.*

Note: for copyright claim information, please see the notice on the last page of this rule.

Cooking device listed as safe for residential use. *Microwave oven or coffee pot or similar item as established by the state fire marshal.*

[BE] Corridor. An enclosed exit access component that defines and provides a path of egress travel.

Corridor, open-ended. See “Open-ended corridor.”

Corrosive. A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the point of contact. A chemical shall be considered corrosive if, when tested on the intact skin of albino rabbits by the method described in DOTn 49 CFR 173.137, such chemical destroys or changes irreversibly the structure of the tissue at the point of contact following an exposure period of 4 hours. This term does not refer to action on inanimate surfaces.

Cotton.

Baled cotton. A natural seed fiber wrapped in and secured with industry-accepted materials, usually consisting of burlap, woven polypropylene, polyethylene or cotton or sheet polyethylene, and secured with steel, synthetic or wire bands, or wire; also includes linters (lint removed from the cottonseed) and motes (residual materials from the ginning process).

Baled cotton, densely packed. Cotton, made into banded bales, with a packing density of ~~at least~~not less than 22 pounds per cubic foot (360 kg/m^3), and dimensions complying with the following: a length of 55 inches (1397 mm), a width of 21 inches (533.4 mm) and a height of 27.6 to 35.4 inches (701 to 899 mm).

Seed cotton. Perishable raw agricultural commodity consisting of cotton fiber (lint) attached to the seed of the cotton plant, which requires ginning to become a commercial product.

[BG] Court. An open, uncovered space, unobstructed to the sky, bounded on three or more sides by exterior building walls or other enclosing devices.

[BG] Covered mall building. A single building enclosing a number of tenants and occupants such as retail stores, drinking and dining establishments, entertainment and amusement facilities, passenger transportation terminals, offices, and other similar uses wherein two or more tenants have a main entrance into one or more malls. Anchor buildings shall not be considered as a part of the covered mall building. The term “covered mall building” shall include open mall buildings as defined below.

Mall. A roofed or covered common pedestrian area within a covered mall building that serves as access for two or more tenants and not to exceed three levels that are open to each other. The term “mall” shall include open malls as defined below.

Open mall. An unroofed common pedestrian way serving a number of tenants not exceeding three levels. Circulation at levels above grade shall be permitted to include open exterior balconies leading to exits discharging at grade.

Open mall building. Several structures housing a number of tenants such as retail stores, drinking and dining establishments, entertainment and amusement facilities, offices, and other similar uses wherein two or more tenants have a main entrance into one or more open malls. Anchor buildings are not considered as a part of the open mall building.

Note: for copyright claim information, please see the notice on the last page of this rule.

CPSC. *The United States Consumer Product Safety Commission.*

Critical areas. Areas that are designated for the highest level of emergency responder radio coverage including but not limited to areas such as exit stairs, exit passageways, elevator lobbies, fire protection equipment room and control valve locations, and fire command centers.

Critical circuit. A circuit that requires continuous operation to ensure safety of the structure and occupants.

Cryogenic container. A cryogenic vessel of any size used for the transportation, handling or storage of cryogenic fluids.

Cryogenic fluid. A fluid having a boiling point lower than -130°F (-89.9°C) at 14.7 pounds per square inch atmosphere (psia) (an absolute pressure of 101.3 kPa).

Cryogenic vessel. A pressure vessel, low-pressure tank or atmospheric tank designed to contain a cryogenic fluid on which venting, insulation, refrigeration or a combination of these is used in order to maintain the operating pressure within the design pressure and the contents in a liquid phase.

Current tap. An electrical device that, where connected to a permanently installed receptacle outlet, provides multiple receptacle outlet configurations.

[BG] Custodial care. Assistance with day-to-day living tasks; such as assistance with cooking, taking medication, bathing, using toilet facilities and other tasks of daily living. Custodial care includes persons receiving care who have the ability to respond to emergency situations and evacuate at a slower rate and/or who have mental and psychiatric complications. *Persons who receive custodial care may or may not require assistance with evacuation depending on the occupancy and/or the "condition" of the occupancy.*

Cylinder. A pressure vessel designed for pressures higher than 40 psia (275.6 kPa) and having a circular cross section. It does not include a portable tank, multiunit tank car tank, cargo tank or tank car.

Damper. See "Fire damper" and "Smoke damper."

Day box. A portable magazine designed to hold explosive materials and constructed in accordance with the requirements for a Type 3 magazine as defined and classified in Chapter 56.

Decorative materials. All materials applied over the building interior finish for decorative, acoustical or other effect including, but not limited to, curtains, draperies, fabrics, streamers and all other materials utilized for decorative effect including, but not limited to, bulletin boards, artwork, posters, photographs, paintings, batting, cloth, cotton, hay, stalks, straw, vines, leaves, trees, moss and similar items, foam plastics and materials containing foam plastics. Decorative materials do not include wall coverings, ceiling coverings, floor coverings, ordinary window shades, interior finish and materials 0.025 inch (0.64 mm) or less in thickness applied directly to and adhering tightly to a substrate.

Note: for copyright claim information, please see the notice on the last page of this rule.

Deflagration. An exothermic reaction, such as the extremely rapid oxidation of a flammable dust or vapor in air, in which the reaction progresses through the unburned material at a rate less than the velocity of sound. A deflagration can have an explosive effect.

Delivered audio quality (DAQ). A measure of audio quality over a transmission medium. This metric is often used to quantify the quality of audio heard over a radio system. DAQ levels are defined by the following scale:

DAQ 1 = unusable. Speech is present but not understandable.

DAQ 2 = speech is understandable with considerable effort. Requires frequent repetition due to noise or distortion.

DAQ 3 = speech understandable with slight effort. Requires occasional repetition due to noise or distortion.

DAQ 3.4 = speech understandable without repetition. Some noise or distortion present.

DAQ 4 = speech easily understandable. Little noise or distortion.

DAQ 5 = perfect. No distortion or noise discernible.

Deluge system. A sprinkler system employing open sprinklers attached to a piping system connected to a water supply through a valve that is opened by the operation of a detection system installed in the same area as the sprinklers. When this valve opens, water flows into the piping system and discharges from all sprinklers attached thereto.

Department. *Means the Ohio department of commerce.*

Design pressure. The maximum gauge pressure that a pressure vessel, device, component or system is designed to withstand safely under the temperature and conditions of use expected.

Desolventizing. The act of removing a solvent from a material.

Detached building. A separate single-story building, without a basement or crawl space, used for the storage or use of hazardous materials and located an approved distance from all structures.

Detearing. A process for rapidly removing excess wet coating materials from a dipped or coated object or material by passing it through an electrostatic field.

Detector, heat. A fire detector that senses heat, either abnormally high temperature or rate of rise, or both.

Detonating cord. A flexible cord containing a center ~~cord~~ core of high explosive used to initiate other explosives.

Detonation. An exothermic reaction characterized by the presence of a shock wave in the material which establishes and maintains the reaction. The reaction zone progresses through the material at a rate greater than the velocity of sound. The principal heating mechanism is one of shock compression. Detonations have an explosive effect.

Note: for copyright claim information, please see the notice on the last page of this rule.

Detonator. A device containing any initiating or primary explosive that is used for initiating detonation. A detonator shall not contain more than 154.32 grains (10 grams) of total explosives by weight, excluding ignition or delay charges. The term includes, but is not limited to, electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating cord delay connectors, and noninstantaneous and delay blasting caps which use detonating cord, shock tube or any other replacement for electric leg wires. All types of detonators in strengths through No. 8 cap should be rated at 1½ pounds (0.68 kg) of explosives per 1,000 caps. For strengths higher than No. 8 cap, consult the manufacturer.

[BG] Detoxification facilities. Facilities that provide treatment for substance abuse serving care recipients who are incapable of self-preservation or who are harmful to themselves or others.

Dip tank. A tank, vat or container of flammable or combustible liquid in which articles or materials are immersed for the purpose of coating, finishing, treating and similar processes.

Director. *Means the director of the Ohio department of commerce or the director's designee.*

Discharge site. ~~*An area immediately surrounding the mortars used to fire aerial shells.*~~*The area immediately surrounding the location where fireworks and other devices are ignited for display.*

Dispensing. The pouring or transferring of any material from a container, tank or similar vessel, whereby vapors, dusts, fumes, mists or gases are liberated to the atmosphere.

Dispensing device, overhead type. A dispensing device that consists of one or more individual units intended for installation in conjunction with each other, mounted above a dispensing area typically within the motor fuel-dispensing facility canopy structure, and characterized by the use of an overhead hose reel.

Display site. The immediate area where a fireworks *exhibition* is conducted. The *exhibition* area includes the discharge site, the fallout area and the required separation distance from the mortars to spectator viewing areas. ~~or vehicle parking areas.~~The ~~display~~*exhibition* area does not include spectator viewing areas or vehicle parking areas.

Division. *Means the Ohio department of commerce, division of state fire marshal.*

Door, balanced. See "Balanced door."

Door, dutch. See "Dutch door."

Door, low energy power-operated. See "Low energy power-operated door."

Door, power-assisted. See "Power-assisted door."

Door, power-operated. See "Power-operated door."

Doorway, exit access. See "Exit access doorway."

Dormitory *(hospital/college)*. A space in a building where group sleeping accommodations are provided in one room, or in a series of closely associated rooms, for persons not members of the

Note: for copyright claim information, please see the notice on the last page of this rule.

same family group, under joint occupancy and single management, as in college dormitories or fraternity houses.

DOTn. *The United States Department of Transportation.*

Draft curtain. A structure arranged to limit the spread of smoke and heat along the underside of the ceiling or roof.

[BF] Draftstop. A material, device or construction installed to restrict the movement of air within open spaces of concealed areas of building components such as crawl spaces, floor/ceiling assemblies, roof/ceiling assemblies and attics.

~~**Dry chemical extinguishing agent.** A powder composed of small particles, usually of sodium bicarbonate, potassium bicarbonate, urea-potassium-based bicarbonate, potassium chloride or monoammonium phosphate, with added particulate material supplemented by special treatment to provide resistance to packing, resistance to moisture absorption (caking) and the proper flow capabilities.~~

Dry cleaning. The process of removing dirt, grease, paints and other stains from such items as wearing apparel, textiles, fabrics and rugs by use of nonaqueous liquids (solvents).

Dry cleaning plant. A facility in which dry cleaning and associated operations are conducted, including the office, receiving area and storage rooms.

Dry cleaning room. An occupiable space within a building used for performing dry cleaning operations, the installation of solvent-handling equipment or the storage of dry cleaning solvents.

Dry cleaning system. Machinery or equipment in which textiles are immersed or agitated in solvent or in which dry cleaning solvent is extracted from textiles.

Dry-chemical extinguishing agent. A powder composed of small particles, usually of sodium bicarbonate, potassium bicarbonate, urea-potassium-based bicarbonate, potassium chloride or monoammonium phosphate, with added particulate material supplemented by special treatment to provide resistance to packing, resistance to moisture absorption (caking) and the proper flow capabilities.

Dust collection system. A combination of equipment designed to contain, capture and collect airborne combustible dusts.

Dutch door. A door divided horizontally so that the top can be operated independently from the bottom.

[~~BG~~A] Dwelling. A building that *exclusively* contains one*,* two*, or three* dwelling units*, each of which may be occupied by a family and no more than five lodgers or boarders,* used, intended or designed to be ~~used, rented, leased, let or hired out to be~~ *occupied or that is* occupied for living purposes*, physically separated from adjacent structures, and with an independent exit from each dwelling unit*.

[A] Dwelling unit. A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation. *The*

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dwelling unit may include any accessory space intended for the exclusive use of the occupants of an individual dwelling unit such as a private garage, greenhouse, etc.

Dwelling unit features. *Provisions for living, sleeping, eating, cooking and sanitation.*

Early suppression fast-response (ESFR) sprinkler. A sprinkler listed for early suppression fast-response performance.

Efficiency unit. *A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.*

[BE] Egress court. A court or yard which provides access to a public way for one or more exits.

~~***Electric vehicle charging station.*** *A public or commercial parking space that is served by battery charging station equipment for the purpose of transfering electrical energy (by conductive or inductive means) to a battery or other energy storage device within an electric vehicle. This term does not include electric vehicle charging equipment installed at or in a private garage unit serving a one-, two-, or three-family dwelling.~~

Electrostatic fluidized bed. A container holding powder coating material that is aerated from below so as to form an air-supported expanded cloud of such material that is electrically charged with a charge opposite to that of the object to be coated. Such object is transported through the container immediately above the charged and aerated materials in order to be coated.

Elevator group. A grouping of elevators in a building located adjacent or directly across from one another that respond to a common hall call button(s).

Emergency alarm system. A system to provide indication and warning of emergency situations involving hazardous materials.

Emergency control station. An approved location on the premises where signals from emergency equipment are received and which is staffed by trained personnel.

Emergency egress routes/escape routes. *As used in Section 118, a floor plan with arrows indicating the primary and secondary path to an exit.*

[BE] Emergency escape and rescue opening. An operable exterior window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.

Emergency evacuation drill. An exercise performed to train staff and occupants and to evaluate their efficiency and effectiveness in carrying out emergency evacuation procedures. *Emergency evacuation drills include, but are not limited to, fire drills and drills or rapid dismissals as referenced in Section 3737.73 of the Revised Code.*

Emergency power system. A source of automatic electric power of a required capacity and duration to operate required life safety, fire alarm, detection and ventilation systems in the event of a failure of the primary power. Emergency power systems are required for electrical loads where interruption of the primary power could result in loss of human life or serious injuries.

Emergency shutoff valve. A valve designed to shut off the flow of gases or liquids.

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Emergency shutoff valve, automatic. A fail-safe automatic-closing valve designed to shut off the flow of gases or liquids initiated by a control system that is activated by automatic means.

Emergency shutoff valve, manual. A manually operated valve designed to shut off the flow of gases or liquids.

Emergency voice/alarm communications. Dedicated manual or automatic facilities for originating and distributing voice instructions, as well as alert and evacuation signals pertaining to a fire emergency, to the occupants of a building.

[~~BG~~BE] Employee work area. All or any portion of a space used only by employees and only for work. Corridors, toilet rooms, kitchenettes and break rooms are not employee work areas.

Energy storage management system. An electronic system that protects energy storage systems from operating outside their safe operating parameters and disconnects electrical power to the ESS or places it in a safe condition if potentially hazardous temperatures or other conditions are detected.

Energy storage system (ESS). One or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time.

Energy storage system, electrochemical. An energy storage system that stores energy and produces electricity using chemical reactions. It includes, among others, battery ESS and capacitor ESS.

Energy storage system, mobile. An energy storage system capable of being moved and utilized for temporary energy storage applications, and not installed as fixed or stationary electrical equipment. The system can include integral wheels for transportation or be loaded on a trailer and unloaded for charging, storage and deployment.

Energy storage system, stationary. An energy storage system installed as fixed or stationary electrical equipment in a permanent location.

Energy storage system, walk-in unit. A prefabricated building that contains energy storage systems. It includes doors that provide walk-in access for personnel to maintain, test and service the equipment, and is typically used in outdoor and mobile ESS applications.

Energy storage system cabinet. A cabinet containing components of the energy storage system that is included in the UL 9540 listing for the system. Personnel are not able to enter the enclosure other than reaching in, to access components for maintenance purposes.

Energy storage system commissioning. A systematic process that provides documented confirmation that an energy storage system functions according to the intended design criteria and complies with applicable code requirements.

Energy storage system decommissioning. A systematic process that provides documentation and procedures that allow an energy storage system to be safely de-energized, disassembled, readied for shipment or storage, and removed from the premises in accordance with applicable code requirements.

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[BG] Equipment platform. An unoccupied, elevated platform used exclusively for mechanical systems or industrial process equipment, including the associated elevated walkways, stairways, alternating tread devices and ladders necessary to access the platform (see Section 505.3 of the *building code*).

Excess flow control. A fail-safe system or other approved means designed to shut off flow caused by a rupture in pressurized piping systems.

Excess flow valve. A valve inserted into a compressed gas cylinder, portable tank or stationary tank that is designed to positively shut off the flow of gas in the event that its predetermined flow is exceeded.

Exhausted enclosure. An appliance or piece of equipment which consists of a top, a back and two sides providing a means of local exhaust for capturing gases, fumes, vapors and mists. Such enclosures include laboratory hoods, exhaust fume hoods and similar appliances and equipment used to retain and exhaust locally the gases, fumes, vapors and mists that could be released. Rooms or areas provided with general ventilation, in themselves, are not exhausted enclosures.

Existing. Buildings, facilities or conditions that are already in existence, constructed or officially authorized prior to the adoption of this code.

[BE] Exit. That portion of a means of egress system between the exit access and the exit discharge or public way. Exit components include exterior exit doors at the level of exit discharge, interior exit stairways and ramps, exit passageways, exterior exit stairways and ramps and horizontal exits.

[BE] Exit access. That portion of a means of egress system that leads from any occupied portion of a building or structure to an exit.

[BE] Exit access doorway. A door or access point along the path of egress travel from an occupied room, area or space where the path of egress enters an intervening room, corridor, exit access stairway or ramp.

[BE] Exit access ramp. A ramp within the exit access portion of the means of egress system.

[BE] Exit access stairway. A stairway within the exit access portion of the means of egress system.

[BE] Exit discharge. That portion of a means of egress system between the termination of an exit and a public way.

[BE] Exit discharge, level of. The story at the point at which an exit terminates and an exit discharge begins.

[BE] Exit passageway. An exit component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives and provides for a protected path of egress travel in a horizontal direction to the exit discharge.

Expanded plastic. A foam or cellular plastic material having a reduced density based on the presence of numerous small cavities or cells dispersed throughout the material.

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Explosion. An effect produced by the sudden violent expansion of gases, which may be accompanied by a shock wave or disruption, or both, of enclosing materials or structures. An explosion could result from any of the following:

1. Chemical changes such as rapid oxidation, deflagration or detonation, decomposition of molecules and runaway polymerization (usually detonations).

2. Physical changes such as pressure tank ruptures.

3. Atomic changes (nuclear fission or fusion).

Explosive. A chemical compound, mixture or device, the primary or common purpose of which is to function by explosion. The term includes, but is not limited to, dynamite, black powder, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, igniters *and display fireworks, 1.3G*.

The term "explosive" includes any material determined to be within the scope of USC Title 18: Chapter 40 and also includes any material classified as an explosive *other than consumer fireworks, 1.4G* by the hazardous materials regulations of DOTn 49 CFR Parts 100-185.

High explosive. Explosive material, such as dynamite, which can be caused to detonate by means of a No. 8 test blasting cap where unconfined.

Low explosive. Explosive material that will burn or deflagrate when ignited. It is characterized by a rate of reaction that is less than the speed of sound. Examples of low explosives include, but are not limited to, black powder, safety fuse, igniters, igniter cord, fuse lighters, fireworks, *1.3G* and propellants, 1.3C.

Mass-detonating explosives. Division 1.1, 1.2 and 1.5 explosives alone or in combination, or loaded into various types of ammunition or containers, most of which can be expected to explode virtually instantaneously when a small portion is subjected to fire, severe concussion, impact, the impulse of an initiating agent or the effect of a considerable discharge of energy from without. Materials that react in this manner represent a mass explosion hazard. Such an explosive will normally cause severe structural damage to adjacent objects. Explosive propagation could occur immediately to other items of ammunition and explosives stored sufficiently close to and not adequately protected from the initially exploding pile with a time interval short enough so that two or more quantities must be considered as one for quantity-distance purposes.

UN/DOTn Class 1 explosives. The former classification system used by DOTn included the terms "high" and "low" explosives as defined herein. The following terms further define explosives under the current system applied by DOTn for all explosive materials defined as hazard Class 1 materials. Compatibility group letters are used in concert with the division to specify further limitations on each division noted (for example, the letter G identifies the material as a pyrotechnic substance or article containing a pyrotechnic substance and similar materials).

Division 1.1. Explosives that have a mass explosion hazard. A mass explosion is one which affects almost the entire load instantaneously.

Division 1.2. Explosives that have a projection hazard but not a mass explosion hazard.

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Division 1.3. Explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.

Division 1.4. Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package.

Division 1.5. Very insensitive explosives. This division is comprised of substances that have a mass explosion hazard but which are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport.

Division 1.6. Extremely insensitive articles which do not have a mass explosion hazard. This division is comprised of articles that contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation.

Explosive material. The term "explosive" material" means Eexplosives, blasting agents and detonators.

Extended stay hotel. *Any structure consisting of one or more buildings, with more than five sleeping rooms, that is specifically constructed, kept, used, maintained, advertised, and held out to the public to be a place where temporary residence is offered for pay to persons, including, but not limited to, an extended stay hotel or extended stay motel that is specifically constructed, and approved by the building official having jurisdiction over it, through a valid certificate of occupancy, and by the state fire marshal, for extended stay temporary residence by persons, and that contains six or more dwelling units with provision for living, eating, cooking, sanitation, and sleeping. The licensure category shall also include a hotel that contains both transient and extended stay rooms where the use of all such rooms is identified and approved in accordance with Chapter 1.*

[BE] Exterior exit ramp. An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and is open to yards, courts or public ways.

[BE] Exterior exit stairway. An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and is open to yards, courts or public ways.

[BF] Exterior wall. A wall, bearing or nonbearing, that is used as an enclosing wall for a building, other than a fire wall, and that has a slope of 60 degrees (1.05 rad) or greater with the horizontal plane.

Extra-high-rack combustible storage. Storage on racks of Class I, II, III or IV commodities that exceed 40 feet (12 192 mm) in height and storage on racks of high-hazard commodities that exceed 30 feet (9144 mm) in height.

Fabrication area. An area within a semiconductor fabrication facility and related research and development areas in which there are processes using hazardous production materials. Such

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areas are allowed to include ancillary rooms or areas such as dressing rooms and offices that are directly related to the fabrication area processes.

[A] Facility. A building or use in a fixed location including exterior storage areas for flammable and combustible substances and hazardous materials, piers, wharves, tank farms and similar uses. This term includes recreational vehicles, mobile home and manufactured housing parks, sales and storage lots.

Fail-safe. A design condition incorporating a feature for automatically counteracting the effect of an anticipated possible source of failure; also, a design condition eliminating or mitigating a hazardous condition by compensating automatically for a failure or malfunction.

Fallout area. The area over which aerial shells are fired. The shells burst over the area, and unsafe debris and malfunctioning aerial shells fall into this area. The fallout area is the location where a typical aerial shell dud falls to the ground depending on the wind and the angle of mortar placement.

False alarm. The willful and knowing initiation or transmission of a signal, message or other notification of an event of fire when no such danger exists.

Fines. Small pieces or splinters of wood byproducts that will pass through a 0.25-inch (6.4 mm) screen.

Fire alarm. The giving, signaling or transmission to any public fire station, or company or to any officer or employee thereof, whether by telephone, spoken word or otherwise, of information to the effect that there is a fire at or near the place indicated by the person giving, signaling, or transmitting such information.

Fire alarm box, manual. See “Manual fire alarm box.”

Fire alarm control unit. A system component that receives inputs from automatic and manual fire alarm devices and may be capable of supplying power to detection devices and transponder(s) or off-premises transmitter(s). The control unit may be capable of providing a transfer of power to the notification appliances and transfer of condition to relays or devices.

Fire alarm signal. A signal initiated by a fire alarm-initiating device such as a manual fire alarm box, automatic fire detector, waterflow switch or other device whose activation is indicative of the presence of a fire or fire signature.

Fire alarm system. A system or portion of a combination system consisting of components and circuits arranged to monitor and annunciate the status of fire alarm or supervisory signal-initiating devices and to initiate the appropriate response to those signals.

Fire apparatus access road. *Same as “Fire lane.”*

[BF] Fire area. The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor next above.

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[BF] Fire barrier. A fire-resistance-rated wall assembly of materials designed to restrict the spread of fire in which continuity is maintained.

Fire chief. The chief officer of the fire department serving the jurisdiction, or a duly authorized representative.

Fire code official. The *state fire marshal, assistant state fire marshal*, fire chief *of a fire department* or other designated authority charged with the administration and enforcement of the code*, including a certified fire safety inspector acting within that inspector's jurisdiction* or a duly authorized representative.

Fire command center. The principal attended or unattended location where the status of detection, alarm communications and control systems is displayed, and from which the system(s) can be manually controlled.

[BF] Fire damper. A listed device installed in ducts and air transfer openings designed to close automatically upon detection of heat and resist the passage of flame. Fire dampers are classified for use in either static systems that will automatically shut down in the event of a fire, or in dynamic systems that continue to operate during a fire. A dynamic fire damper is tested and rated for closure under elevated temperature airflow.

Fire department. *A fire department organized under Section 505.37, 505.371, 505.375 or 737.21 of the Revised Code or a joint fire district organized under Section 505.371 or 505.375 of the Revised Code.*

Fire department master key. A limited issue key of special or controlled design to be carried by fire department officials in command which will open key boxes on specified properties.

Fire detector, automatic. A device designed to detect the presence of a fire signature and to initiate action.

Fire district. *Means a fire district organized under Section 505.37 of the Revised Code.*

[BF] Fire door. The door component of a fire door assembly.

[BF] Fire door assembly. Any combination of a fire door, frame, hardware and other accessories that together provide a specific degree of fire protection to the opening.

[BF] Fire exit hardware. Panic hardware that is listed for use on fire door assemblies.

Fire hazard. *In the opinion of the fire code official, any act, condition or thing that causes or creates a recognizable risk of an unfriendly fire or unwanted fire or harm to persons or property from such fires. A fire hazard includes, in the opinion of the fire code official, any act, condition or thing that violates or creates a substantial risk of violating any fire or life safety provision of this code.*

Fire lane. A road or other passageway developed to allow the passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than fire apparatus.

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A fire lane shall not be interpreted to mean a residential and/or public street and fire lane width dimensions are not applicable to public highways, roadways, streets, or other similar public thoroughfares.

Exceptions:

1. *Fire lane width or other fire lane dimensions related requirements may be applicable to public highways, roadways, streets, or other similar public thoroughfares ~~if specified in local law~~ within a political subdivision if such subdivision specifies such requirements in its laws, resolutions or ordinances, which may include the adoption of Appendix D into local law.*

2. *Fire lane width dimensions may be applicable to public highways, roadways, streets, or other similar public thoroughfares if there is no other means of adequate emergency responder access that will accommodate existing fire apparatus capabilities of the responding jurisdiction at the time of installation of the residential and/or public street.*

A fire code official may accept any public roadway and/or public street, regardless of its construction dimensions and/or features, as being adequate for emergency response purposes.

[BF] Fire partition. A vertical assembly of materials designed to restrict the spread of fire in which openings are protected.

Fire point. The lowest temperature at which a liquid will ignite and achieve sustained burning when exposed to a test flame in accordance with ASTM D92.

Fire protection equipment. *See "Fire protection system" definition.*

[BF] Fire protection rating. The period of time that an opening protective assembly will maintain the ability to confine a fire as determined by tests prescribed in Section 716 of the *building code*. Ratings are stated in hours or minutes.

Fire protection system. Approved devices, equipment and systems or combinations of systems used to detect a fire, activate an alarm, extinguish or control a fire, control or manage smoke and products of a fire or any combination thereof.

[BF] Fire resistance. That property of materials or their assemblies that prevents or retards the passage of excessive heat, hot gases or flames under conditions of use.

Fire safety functions. Building and fire control functions that are intended to increase the level of life safety for occupants or to control the spread of the harmful effects of fire.

[BF] Fire separation distance. The distance measured from the building face to one of the following:

1. The closest interior lot line.

2. To the centerline of a street, an alley or public way.

3. To an imaginary line between two buildings on the lot.

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The distance shall be measured at right angles from the face of the wall.

[BF] Fire wall. A fire-resistance-rated wall having protected openings, which restricts the spread of fire and extends continuously from the foundation to or through the roof, with sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall.

Fire watch. A temporary measure intended to ensure continuous and systematic surveillance of a building or portion thereof by one or more qualified individuals for the purposes of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising an alarm of fire and notifying the fire department.

[BF] Fireblocking. Building materials, or materials approved for use as fireblocking, installed to resist the free passage of flame to other areas of the building through concealed spaces.

[BF] Fire-resistance rating. The period of time a building element, component or assembly maintains the ability to confine a fire, continues to perform a given structural function, or both, as determined by the tests, or the methods based on tests, prescribed in Section 703 of the *building code*.

[BF] Fire-resistant joint system. An assemblage of specific materials or products that are designed, tested and fire-resistance rated in accordance with either ASTM E1966 or UL 2079 to resist for a prescribed period of time the passage of fire through joints made in or between fire-resistance-rated assemblies.

Fireworks. *Any composition or device prepared for the purpose of producing a visible or an audible effect of combustion, deflagration, or detonation, except ordinary matches and except as provided in Section 3743.80 of the Revised Code.*

1.1G Fireworks. *Display fireworks consistent with regulations of the United States Department of Transportation as expressed using the designation Division 1.1G (UN0333) in Title 49, Code of Federal Regulations.*

1.2G Fireworks. *Display fireworks consistent with regulations of the United States Department of Transportation as expressed using the designation Division 1.2G (UN0334) in Title 49, Code of Federal Regulations.*

1.3G Fireworks. *Display fireworks consistent with regulations of the United States Department of Transportation as expressed using the designation Division 1.3G (UN0335) in Title 49, Code of Federal Regulations.*

1.4G *Fireworks.* *Consumer fireworks consistent with regulations of the United States Department of Transportation as expressed using the designation Division 1.4G (UN0336) in Title 49, Code of Federal Regulations that are consistent with regulations of the US Consumer Product Safety Commission as expressed in Title 16 of the Code of Federal Regulations, or special effects fireworks as expressed using the designation Division 1.4G (UN0431) in Title 49, Code of Federal Regulations.*

1.4G Special effects fireworks. *Special effects fireworks intended for indoor use consistent with regulations of the United State Department of Transportation as expressed using the*

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designation Division 1.4G (UN0431) in Title 49, Code of Federal Regulations that are consistent with regulations of the U.S. Consumer Product Safety Commission as expressed in Title 16 of the Code of Federal Regulations.

***1.4S* Fireworks.** *Pyrotechnic devices for professional use in the performing arts in conjunction with theatrical, musical or other productions which are similar to "consumer fireworks" in chemical composition and construction but not intended for consumer use. Such fireworks shall be classified as Division 1.4S (UN0337) by DOTn and marked and labeled in conformance with Title 49, Code of Federal Regulations or special effects fireworks as expressed using the designation Division 1.4S (UN0432) in Title 49, Code of Federal Regulations.*

1.4S Special effects fireworks. *Special effects fireworks intended for indoor use as expressed using the designation Division 1.4S (UN0432) in Title 49, Code of Federal Regulations.*

FIREWORKS DISPLAY. A presentation of fireworks for a public or private gathering.

Fireworks exhibition. *Any presentation or discharge of fireworks. A fireworks exhibition includes but is not limited to, those displays conducted in accordance with the provisions of Chapter 3743. of the Revised Code, or any variance issued thereunder, this chapter, and NFPA 1123 and NFPA 1126.*

Fireworks incident. *Any action or omission that occurs at a fireworks exhibition, that results in injury or death, or a substantial risk of injury or death, to any person, and that involves either of the following:*

1. *The handling or other use, or the results of the handling or other use, of fireworks or associated equipment or other materials.*
2. *The failure of any person to comply with any applicable requirement imposed by Chapter 56 or any applicable rule adopted under Chapter 56.*

Fireworks incident site. *A discharge site or other location at a fireworks exhibition where a fireworks incident occurs, a location where an injury or death associated with a fireworks incident occurs, or a location where evidence of a fireworks incident or an injury or death associated with a fireworks incident is found.*

Fireworks plant. *All buildings and other structures in which the manufacturing of fireworks, or the storage or sale of manufactured fireworks by a manufacturer, takes place.*

[BG] Fixed base operator (FBO). A commercial business granted the right by the airport sponsor to operate on an airport and provide aeronautical services such as fueling, hangaring, tie-down and parking, aircraft rental, aircraft maintenance and flight instruction.

[BE] Fixed seating. Furniture or fixtures designed and installed for the use of sitting and secured in place including bench-type seats and seats with or without back or arm rests.

Flame effect. *The combustion of solids, liquids, or gases to produce thermal, physical, visual, or audible phenomena before an audience. Flame effect includes, but is not limited to, ~~cold spark~~*

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~~devices~~*manually controlled and/or operated flame effects such as flaming batons, fire pots, fire spinners and similar items.*

***Flame effects exhibition**. The presentation, operation, or use of a flame effect in a manner subject to this code and NFPA 160. For the purposes of this code a flame effects exhibition includes but is not limited to the use of flaming batons, fire pots, fire spinners or similar items by fire performers or similar individuals.*

[BF] Flame spread. The propagation of flame over a surface.

[BF] Flame spread index. A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame versus time for a material tested in accordance with ASTM E84 or UL 723.

Flammable cryogenic fluid. A cryogenic fluid that is flammable in its vapor state.

Flammable finishes. Coatings to articles or materials in which the material being applied is a flammable liquid, combustible liquid, combustible powder, fiberglass resin or flammable or combustible gel coating.

Flammable gas. A material which is a gas at 68°F (20°C) or less at 14.7 pounds per square inch atmosphere (psia) (101 kPa) of pressure [a material that has a boiling point of 68°F (20°C) or less at 14.7 psia (101 kPa)] which:

1. Is ignitable at 14.7 psia (~~100~~ 101 kPa) when in a mixture of 13 percent or less by volume with air; or

2. Has a flammable range at 14.7 psia (101 kPa) with air of not less than 12 percent, regardless of the lower limit.

The limits specified shall be determined at 14.7 psi (101 kPa) of pressure and a temperature of 68°F (20°C) in accordance with ASTM E681.

Flammable liquefied gas. A liquefied compressed gas which, under a charged pressure, is partially liquid at a temperature of 68°F (20°C) and which is flammable.

Flammable liquid. A liquid having a closed cup flash point below 100°F (38°C). Flammable liquids are further categorized into a group known as Class I liquids. The Class I category is subdivided as follows:

Class IA. Liquids having a flash point below 73°F (23°C) and having a boiling point below 100°F (38°C).

Class IB. Liquids having a flash point below 73°F (23°C) and having a boiling point at or above 100°F (38°C).

Class IC. Liquids having a flash point at or above 73°F (23°C) and below 100°F (38°C).

The category of flammable liquids does not include compressed gases or cryogenic fluids or liquids that do not have a fire point when tested in accordance with ASTM D92.

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Flammable material. A material capable of being readily ignited from common sources of heat or at a temperature of 600°F (316°C) or less.

Flammable solid. A solid, other than a blasting agent or explosive, that is capable of causing fire through friction, absorption of moisture, spontaneous chemical change or retained heat from manufacturing or processing, or which has an ignition temperature below 212°F (100°C) or which burns so vigorously and persistently when ignited as to create a serious hazard. A chemical shall be considered a flammable solid as determined in accordance with the test method of CPSC 16 CFR Part 1500.44, if it ignites and burns with a self-sustained flame at a rate greater than 0.0866 inch (2.2 mm) per second along its major axis.

Flammable vapor area. An area in which the concentration of flammable constituents (vapor, gas, fume, mist or dust) in air exceeds 25 percent of their lower flammable limit (LFL) because of the flammable finish processes operation. It shall include:

1. The interior of spray booths.

2. The interior of ducts exhausting from spraying processes.

3. Any area in the direct path of spray or any area containing dangerous quantities of air-suspended powder, combustible residue, dust, deposits, vapor or mists as a result of spraying operations.

4. The area in the vicinity of dip tanks, drain boards or associated drying, conveying or other equipment during operation or shutdown periods.

The fire code official is authorized to determine the extent of the flammable vapor area, taking into consideration the material characteristics of the flammable materials, the degree of sustained ventilation and the nature of the operations.

Flammable vapors or fumes. The concentration of flammable constituents in air that exceeds 25 percent of their lower flammable limit (LFL).

Flash point. The minimum temperature in degrees Fahrenheit at which a liquid will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container but will not sustain combustion. The flash point of a liquid shall be determined by appropriate test procedure and apparatus as specified in ASTM D56, ASTM D93 or ASTM D3278.

Fleet vehicle motor fuel-dispensing facility. That portion of a commercial, industrial, governmental or manufacturing property where *flammable or combustible* liquids *or gases* used as fuels are stored and dispensed into the fuel tanks of motor vehicles *or approved containers* that are used in connection with such businesses, by persons within the employ of such businesses.

[BE] Flight. A continuous run of rectangular treads, winders or combination thereof from one landing to another.

Float. A floating structure normally used as a point of transfer for passengers and goods, or both, for mooring purposes.

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[BE] Floor area, gross. The floor area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and courts, without deduction for corridors, stairways, ramps, closets, the thickness of interior walls, columns or other features. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include shafts with no openings or interior courts.

[BE] Floor area, net. The actual occupied area not including unoccupied accessory areas such as corridors, stairways, ramps, toilet rooms, mechanical rooms and closets.

Flue spaces.

Longitudinal flue space. The flue space between rows of storage perpendicular to the direction of loading.

Transverse flue space. The space between rows of storage parallel to the direction of loading.

Fluidized bed. A container holding powder coating material that is aerated from below so as to form an air-supported expanded cloud of such material through which the preheated object to be coated is immersed and transported.

Foam-extinguishing system. A special system discharging a foam made from concentrates, either mechanically or chemically, over the area to be protected.

[BE] Folding and telescopic seating. Tiered seating having an overall shape and size that is capable of being reduced for purposes of moving or storing and is not a building element.

[BG] Foster care facilities. Facilities that provide care to more than five children, 2½ years of age or less.

Fuel cell power system, stationary. A stationary energy generation system that converts the chemical energy of a fuel and oxidant to electric energy (DC or AC electricity) by an electrochemical process.

Field-fabricated fuel cell power system. A stationary fuel cell power system that is assembled at the job site and is not a preengineered or prepackaged factory-assembled fuel cell power system.

Preengineered fuel cell power system. A stationary fuel cell power system consisting of components and modules that are produced in a factory, and shipped to the job site for assembly.

Prepackaged fuel cell power system. A stationary fuel cell power system that is factory assembled as a single, complete unit and shipped as a complete unit for installation at the job site.

Fuel limit switch. A mechanism, located on a tank vehicle, that limits the quantity of product dispensed at one time.

Note: for copyright claim information, please see the notice on the last page of this rule.

Fumigant. A substance which by itself or in combination with any other substance emits or liberates a gas, fume or vapor utilized for the destruction or control of insects, fungi, vermin, germs, rats or other pests, and shall be distinguished from insecticides and disinfectants which are essentially effective in the solid or liquid phases. Examples are methyl bromide, ethylene dibromide, hydrogen cyanide, carbon disulfide and sulfuryl fluoride.

Fumigation. The utilization within an enclosed space of a fumigant in concentrations that are hazardous or acutely toxic to humans.

Furnace Class A. An oven or furnace that has heat utilization equipment operating at approximately atmospheric pressure wherein there is a potential explosion or fire hazard that could be occasioned by the presence of flammable volatiles or combustible materials processed or heated in the furnace.

Note: Such flammable volatiles or combustible materials can, for instance, originate from the following:

1. Paints, powders, inks, and adhesives from finishing processes, such as dipped, coated, sprayed and impregnated materials.
2. The substrate material.
3. Wood, paper and plastic pallets, spacers or packaging materials.
4. Polymerization or other molecular rearrangements.

Potentially flammable materials, such as quench oil, waterborne finishes, cooling oil or cooking oils, that present a hazard are ventilated according to Class A standards.

Furnace Class B. An oven or furnace that has heat utilization equipment operating at approximately atmospheric pressure wherein there are no flammable volatiles or combustible materials being heated.

Furnace Class C. An oven or furnace that has a potential hazard due to a flammable or other special atmosphere being used for treatment of material in process. This type of furnace can use any type of heating system and includes a special atmosphere supply system. Also included in the Class C classification are integral quench furnaces and molten salt bath furnaces.

Furnace Class D. An oven or furnace that operates at temperatures from above ambient to over 5,000°F (2760°C) and at pressures normally below atmospheric using any type of heating system. These furnaces can include the use of special processing atmospheres.

Gas cabinet. A fully enclosed, ventilated, noncombustible enclosure used to provide an isolated environment for compressed gas cylinders in storage or use. Doors and access ports for exchanging cylinders and accessing pressure-regulating controls are allowed to be included.

Gas detection system. A system or portion of a combination system that utilizes one or more stationary sensors to detect the presence of a specified gas at a specified concentration and initiate one or more responses required by this code, such as notifying a responsible person, activating an alarm signal, or activating or deactivating equipment. A self-contained gas detection and alarm device is not classified as a gas detection system.

Note: for copyright claim information, please see the notice on the last page of this rule.

~~**Gas detection system, continuous.** See "Continuous gas detection system."~~

Gas room. A separately ventilated, fully enclosed room in which only compressed gases and associated equipment and supplies are stored or used.

Gas room, hydrogen fuel. See "Hydrogen fuel gas room."

Gaseous hydrogen system. An assembly of piping, devices and apparatus designed to generate, store, contain, distribute or transport a nontoxic, gaseous hydrogen-containing mixture having not less than 95-percent hydrogen gas by volume and not more than 1-percent oxygen by volume. Gaseous hydrogen systems consist of items such as compressed gas containers, reactors and appurtenances, including pressure regulators, pressure relief devices, manifolds, pumps, compressors and interconnecting piping and tubing and controls.

Glove box. A sealed enclosure in which items inside the box are handled exclusively using long gloves sealed to ports in the enclosure.

[~~BG~~BE] Grade floor emergency escape and rescue opening. ~~A window or other~~ An emergency escape and rescue opening located such that the ~~sill height~~ bottom of the clear opening is not more than 44 inches (1118 mm) above or below the finished ground level adjacent to the opening.

[BG] Grade plane. A reference plane representing the average of finished ground level adjoining the building at exterior walls. Where the finished ground level slopes away from the exterior walls, the reference plane shall be established by the lowest points within the area between the building and the lot line or, where the lot line is more than 6 feet (1829 mm) from the building, between the building and a point 6 feet (1829 mm) from the building.

[BE] Grandstand. Tiered seating supported on a dedicated structural system and two or more rows high and is not a building element (see "Bleachers").

[BG] Group home. A facility for social rehabilitation, substance abuse or mental health problems that contains a group housing arrangement that provides custodial care but does not provide medical care.

[BE] Guard. A building component or a system of building components located at or near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to a lower level.

Guestroom. *A room offered to the public for a fee that contains, at a minimum, provisions for sleeping.*

[BS] Gypsum board. Gypsum wallboard, gypsum sheathing, gypsum base for gypsum veneer plaster, exterior gypsum soffit board, predecorated gypsum board or water-resistant gypsum backing board complying with the standards listed in Tables 2506.2 and 2507.2 and Chapter 35 of the *building code*.

[BG] Habitable space. A space in a building for living, sleeping, eating or cooking. Bathrooms, toilet rooms, closets, halls, storage or utility spaces and similar areas are not considered habitable spaces.

Note: for copyright claim information, please see the notice on the last page of this rule.

Halogenated extinguishing system. A fire-extinguishing system using one or more atoms of an element from the halogen chemical series: fluorine, chlorine, bromine and iodine.

Handling. The deliberate transport by any means to a point of storage or use.

[BE] Handrail. A horizontal or sloping rail intended for grasping by the hand for guidance or support.

Hazardous materials. Those chemicals or substances which are physical hazards or health hazards as defined and classified in this chapter, whether the materials are in usable or waste condition.

Hazardous production material (HPM). A solid, liquid or gas associated with semiconductor manufacturing that has a degree-of-hazard rating in health, flammability or instability of Class 3 or 4 as ranked by NFPA 704 and which is used directly in research, laboratory or production processes which have, as their end product, materials that are not hazardous.

Health hazard. A classification of a chemical for which there is statistically significant evidence that acute or chronic health effects are capable of occurring in exposed persons. The term "health hazard" includes chemicals that are toxic, highly toxic and corrosive.

Hearing. *A hearing held by the division in compliance with Sections 119.06 to 119.13 of the Revised Code.*

Heat detector. See "Detector, heat."

[BG] Height, building. The vertical distance from grade plane to the average height of the highest roof surface.

Heliport. An area of land or water or a structural surface that is used, or intended for use, for the landing and taking off of helicopters, and any appurtenant areas which are used, or intended for use, for heliport buildings and other heliport facilities.

Helistop. The same as "Heliport," except that fueling, defueling, maintenance, repairs or storage of helicopters is not permitted.

Hi-boy. A cart used to transport hot roofing materials on a roof.

Higher education laboratory. Laboratories in Group B occupancies used for educational purposes above the 12th grade. Storage, use and handling of chemicals in such laboratories shall be limited to purposes related to testing, analysis, teaching, research or developmental activities on a nonproduction basis.

High-piled combustible storage. Storage of combustible materials in closely packed piles or combustible materials on pallets, in racks or on shelves where the top of storage is greater than 12 feet (3658 mm) in height. Where required by the fire code official, high-piled combustible storage also includes certain high-hazard commodities, such as rubber tires, Group A plastics, flammable liquids, idle pallets and similar commodities, where the top of storage is greater than 6 feet (1829 mm) in height.

Note: for copyright claim information, please see the notice on the last page of this rule.

High-piled storage area. An area within a building which is designated, intended, proposed or actually used for high-piled combustible storage, including operating aisles.

[BG] High-rise building. A building with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

High-voltage transmission line. An electrical power transmission line operating at or above 66 kilovolts.

Highly toxic. A material which produces a lethal dose or lethal concentration which falls within any of the following categories:

1. A chemical that has a median lethal dose (LD_{50}) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.

2. A chemical that has a median lethal dose (LD_{50}) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between 2 and 3 kilograms each.

3. A chemical that has a median lethal concentration (LC_{50}) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume or dust, when administered by continuous inhalation for one hour (or less if death occurs within 1 hour) to albino rats weighing between 200 and 300 grams each.

Mixtures of these materials with ordinary materials, such as water, might not warrant classification as highly toxic. While this system is basically simple in application, any hazard evaluation that is required for the precise categorization of this type of material shall be performed by experienced, technically competent persons.

Highly volatile liquid. A liquefied compressed gas with a boiling point of less than 68°F (20°C).

Highway. *Any public street, road, alley, way, lane or other public thoroughfare.*

[A] Historic buildings. ~~Buildings that are listed in or eligible for listing in the National Register of Historic Places, or designated as historic under an appropriate state or local law.~~Any building or structure that is one or more of the following:

1. Listed or certified as eligible for listing by the state historic preservation officer or the Keeper of the National Register of Historic Places, in the National Register of Historic Places.

2. Designated as historic under an applicable state or local law.

3. Certified as a contributing resource within a national register, state designated or locally designated historic district.

Hogged materials. Wood waste materials produced from the lumber production process.

Note: for copyright claim information, please see the notice on the last page of this rule.

[M] Hood. An air-intake device used to capture by entrapment, impingement, adhesion or similar means, grease and similar contaminants before they enter a duct system.

Type I. A kitchen hood for collecting and removing grease vapors and smoke.

Type II. A general kitchen hood for collecting and removing steam vapor, heat, odors and products of combustion.

[BF] Horizontal assembly. A fire-resistance-rated floor or roof assembly of materials designed to restrict the spread of fire in which continuity is maintained.

[BE] Horizontal exit. An exit component consisting of fire-resistance-rated construction and opening protectives intended to compartmentalize portions of a building thereby creating refuge areas that afford safety from fire and smoke from the area of fire origin.

[BG] Hospitals and psychiatric hospitals. Facilities that provide care or treatment for the medical, psychiatric, obstetrical, or surgical treatment of inpatient care recipients that are incapable of self-preservation.

Hotel. *A "hotel" means a transient, extended stay hotel, or residential hotel. "Hotel" includes any structure consisting of one or more buildings containing any combination of more than five guestrooms that are each approved by the building code official having jurisdiction and the state fire marshal as meeting the requirements for transient sleeping rooms or extended stay temporary residence dwelling units, or as having features of such sleeping rooms and dwelling units within the same room, and such structure is specifically constructed, kept, used, maintained, advertised, and held out to the public to be a place where transient sleeping accommodations or temporary residence is offered for pay to persons, but such structure does not otherwise meet the definition of a transient hotel or an extended stay hotel as defined in this paragraph. "Hotel" includes a hotel, motel, motor hotel, lodge, motor lodge, bed and breakfast, or inn. "Hotel" does not include agricultural labor camps, apartments houses, apartments or other similar places of permanent personal residence, lodging houses, rooming houses, or hospital or college dormitories.*

Hot work. Operations including cutting, welding, Thermit welding, brazing, soldering, grinding, thermal spraying, thawing pipe, installation of torch-applied roof systems or any other similar activity.

Hot work area. The area exposed to sparks, hot slag, radiant heat, or convective heat as a result of the hot work.

Hot work equipment. Electric or gas welding or cutting equipment used for hot work.

Hot work permits. Permits issued by the responsible person at the facility under the hot work permit program permitting welding or other hot work to be done in locations referred to in Section 3503.3 and prepermitted by the fire code official.

Hot work program. A permitted program, carried out by approved facilities-designated personnel, allowing them to oversee and issue permits for hot work conducted by their personnel or at their facility. The intent is to have trained, on-site, responsible personnel ensure that required hot work safety measures are taken to prevent fires and fire spread.

HPM. See "Hazardous Production Material."

Note: for copyright claim information, please see the notice on the last page of this rule.

HPM Facility. See “Semiconductor fabrication facility.”

HPM room. A room used in conjunction with or serving a Group H-5 occupancy, where HPM is stored or used and which is classified as a Group H-2, H-3 or H-4 occupancy.

Hydrogen fuel gas room. A room or space that is intended exclusively to house a gaseous hydrogen system.

Immediately dangerous to life and health (IDLH). The concentration of airborne contaminants that poses a threat of death, immediate or delayed permanent adverse health effects, or effects that could prevent escape from such an environment. This contaminant concentration level is established by the National Institute of Occupational Safety and Health (NIOSH) based on both toxicity and flammability. It generally is expressed in parts per million by volume (ppm v/v) or milligrams per cubic meter (mg/m^3). Where adequate data do not exist for precise establishment of IDLH concentrations, an independent certified industrial hygienist, industrial toxicologist, appropriate regulatory ~~agent~~ agency or other source approved by the fire code official shall make such determination.

Impairment coordinator. The person responsible for the maintenance of a particular fire protection system.

[BG] Incapable of self-preservation. Persons who, because of age, physical limitations, mental limitations, chemical dependency or medical treatment, cannot respond as an individual to an emergency situation.

Incompatible materials. Materials that, when mixed, have the potential to react in a manner which generates heat, fumes, gases or byproducts which are hazardous to life or property.

Industrialized unit. *As defined in Section 3781.06 of the Revised Code, a building unit or assembly of closed construction fabricated in an off-site facility, that is substantially self-sufficient as a unit or as part of a greater structure, and that requires transportation to the site of intended use. “Industrialized unit” includes units installed on the site as independent units, as part of a group of units, or incorporated with standard construction methods to form a completed structural entity. “Industrialized unit” does not include a manufactured home as defined by division* (C)(4) *of Section 3781.06 of the Revised Code or a mobile home as defined by division* (O) *of Section 4501.01 of the Revised Code.*

Inert gas. A gas that is capable of reacting with other materials only under abnormal conditions such as high temperatures, pressures and similar extrinsic physical forces. Within the context of the code, inert gases do not exhibit either physical or health hazard properties as defined (other than acting as a simple asphyxiant) or hazard properties other than those of a compressed gas. Some of the more common inert gases include argon, helium, krypton, neon, nitrogen and xenon.

Inhabited building. A building regularly occupied in whole or in part as a habitation for people, or any place of religious worship, schoolhouse, railroad station, store or other structure where people are accustomed to assemble, except any building or structure occupied in connection with the manufacture, transportation, storage or use of explosive materials.

Initiating device. A system component that originates transmission of a change-of-state condition, such as in a smoke detector, manual fire alarm box, or supervisory switch.

Note: for copyright claim information, please see the notice on the last page of this rule.

Insecticidal fogging. The utilization of insecticidal liquids passed through fog-generating units where, by means of pressure and turbulence, with or without the application of heat, such liquids are transformed and discharged in the form of fog or mist blown into an area to be treated.

Integrated testing (fire protection and life safety system). A testing procedure to establish the operational status, interaction and coordination of two or more fire protection and safety systems.

[BE] Interior exit ramp. An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance and provides for a protected path of egress travel to the exit discharge or public way.

[BE] Interior exit stairway. An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance and provides for a protected path of egress travel to the exit discharge or public way.

[BG] Interior finish. Interior finish includes interior wall and ceiling finish and interior floor finish.

[BG] Interior floor-wall base. Interior floor finish trim used to provide a functional or decorative border at the intersection of walls and floors.

[BG] Interior wall and ceiling finish. The exposed interior surfaces of buildings, including but not limited to: fixed or movable walls and partitions; toilet room privacy partitions; columns; ceilings; and interior wainscoting, paneling or other finish applied structurally or for decoration, acoustical correction, surface insulation, structural fire resistance or similar purposes, but not including trim.

Interlinked fire detection. *An automatic fire detection system installed in accordance with the building code, interconnected with the smoke control system.*

Irritant. A chemical which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact. A chemical is a skin irritant if, when tested on the intact skin of albino rabbits by the methods of CPSC 16 CFR Part 1500.41 for an exposure of four or more hours or by other appropriate techniques, it results in an empirical score of 5 or more. A chemical is classified as an eye irritant if so determined under the procedure listed in CPSC 16 CFR Part 1500.42 or other approved techniques.

Joint fire district. *A joint fire district organized under Section 505.371 or 505.375 of the Revised Code.*

Joint fire and ambulance district. *Means a joint fire and ambulance district organized under Section 505.375 of the Revised Code.*

[A] Jurisdiction. The governmental unit that has ~~adopted this code. under due legislative authority.~~*the ability to enforce this code, a referenced standard incorporated by reference into this code, or other laws referenced in this code.*

Key box. A secure device with a lock operable only by a fire department master key and containing building entry keys and other keys that may be required for access in an emergency.

Note: for copyright claim information, please see the notice on the last page of this rule.

[A] Labeled. Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, approved agency or other organization concerned with product evaluation that maintains periodic inspection of the production of ~~the~~ such labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

Laboratory suite. A fire-rated enclosed laboratory area that will provide one or more laboratory spaces, within a Group B educational occupancy, that are permitted to include ancillary uses such as offices, bathrooms and corridors that are contiguous with the laboratory area, and are constructed in accordance with Chapter 38.

Last known address. *The most recent mailing address reported to the division by the person in compliance with requirements to provide the person's address.*

Level of exit discharge. See "Exit discharge, level of."

Life safety systems. Systems, devices and equipment that enhance or facilitate evacuation, smoke control, compartmentation and/or isolation.

License. *Any license, permit, certificate, commission, or charter issued by the division.*

Licensed building. *A building on the licensed premises of a licensed manufacturer or wholesaler of fireworks that is approved for occupancy by the building official having jurisdiction.*

Licensed exhibitor of fireworks or licensed exhibitor. *A person licensed pursuant to Sections 3743.50 to 3743.55 of the Revised Code. This includes a licensed exhibitor of indoor fireworks (Type II exhibitor license) or a licensed exhibitor of outdoor/indoor fireworks (Type I exhibitor license).*

Licensed exhibitor of flame effects*. A person licensed pursuant to Chapter 56 to conduct flame effect exhibitions and related activities in accordance with this code and NFPA 160. This is also known as a Type III exhibitor's license.*

Licensed exhibitor of indoor fireworks. *A person licensed pursuant to Chapter 56 to conduct indoor exhibitions in accordance with NFPA 1126 of 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) and 1.4S special effects fireworks (UN0432). This is also known as a Type II exhibitor's license.*

Licensed exhibitor of outdoor/indoor fireworks. *A person licensed pursuant to Chapter 56 to conduct outdoor or indoor fireworks exhibitions in accordance with NFPA 1123 of 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0432), 1.4S fireworks (UN0337) and 1.4S special effects fireworks (UN0432). This is also known as a Type I exhibitor's license.*

Licensed manufacturer of fireworks or licensed manufacturer. *A person licensed pursuant to Sections 3743.02 to 3743.08 of the Revised Code.*

Licensed premises. *The approved real estate upon which a licensed manufacturer or wholesaler of fireworks conducts business. Licensed premises include but is not limited to: all property within*

Note: for copyright claim information, please see the notice on the last page of this rule.

identified boundaries, approved storage locations, and all buildings, structures, or other temporary or permanent fixtures located thereon.

Licensed wholesaler of fireworks or licensed wholesaler. *A person licensed pursuant to Sections 3743.15 to 3743.21 of the Revised Code.*

Licensee. *Any person, institution, or entity, governmental or non-governmental, that holds a license, certificate or registration issued by the division pursuant to statute.*

Light hazard occupancy. *Occupancies or portions of other occupancies where the quantity and/or combustibility of contents is low and fires with relatively low rates of heat release are expected as determined by the fire code official.*

Limited spraying space. An area in which operations for touch-up or spot painting of a surface area of 9 square feet (0.84 m^2) or less are conducted.

Liquefied natural gas (LNG). A fluid in the liquid state composed predominantly of methane and which may contain minor quantities of ethane, propane, nitrogen or other components normally found in natural gas.

Liquefied petroleum gas (LP-gas). A material which is composed predominantly of the following hydrocarbons or mixtures of them: propane, propylene, butane (normal butane or isobutene) and butylenes *having a vapor pressure not exceeding that of commercial propane*.

Liquid. A material having a melting point that is equal to or less than 68°F (20°C) and a boiling point which is greater than 68°F (20°C) at 14.7 pounds per square inch absolute (psia) (101 kPa). Where not otherwise identified, the term “liquid” includes both flammable and combustible liquids.

Liquid oxygen ambulatory container. A container used for liquid oxygen not exceeding 0.396 gallons (1.5 liters) specifically designed for use as a medical device as defined by 21 USC Chapter 9 that is intended for portable therapeutic use and to be filled from its companion base unit, a liquid oxygen home care container.

Liquid oxygen home care container. A container used for liquid oxygen not exceeding 15.8 gallons (60 liters) specifically designed for use as a medical device as defined by 21 USC Chapter 9 that is intended to deliver gaseous oxygen for therapeutic use in a home environment.

Liquid storage room. A room classified as a Group H-3 occupancy used for the storage of flammable or combustible liquids in a closed condition.

Liquid storage warehouse. A building classified as a Group H-2 or H-3 occupancy used for the storage of flammable or combustible liquids in a closed condition.

[A] Listed. Equipment, materials, products or services included in a list published by an organization acceptable to the fire code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

Note: for copyright claim information, please see the notice on the last page of this rule.

List of licensed exhibitors. *The list required by division (C) of Section 3743.51 of the Revised Code.*

List of licensed manufacturers. *The list required by division (C) of Section 3743.03 of the Revised Code.*

List of licensed wholesalers. *The list required by division (C) of Section 3743.16 of the Revised Code.*

Loan. *Means a loan granted under the small government fire department services revolving loan program established by Section 3737.17 of the Revised Code.*

Lockdown. An emergency situation, in other than a Group I-3 occupancy, requiring that the occupants be sheltered and secured in place within a building when normal evacuation would put occupants at risk.

[BG] Lodging house. A one-family dwelling where one or more occupants are primarily permanent in nature and rent is paid for guestrooms.

Longitudinal flue space. See "Flue spaces-longitudinal."

[A] Lot. A portion or parcel of land considered as a unit.

[A] Lot line. A line dividing one lot from another, or from a street or any public place.

[BE] Low energy power-operated door. Swinging, sliding or folding door which opens automatically upon an action by a pedestrian such as pressing a push plate or waving a hand in front of a sensor. The door closes automatically~~,~~ and operates with decreased forces and decreased speeds. See also "Power-assisted door" and "Power-operated door."

~~**Low-pressure tank.** A storage tank designed to withstand an internal pressure greater than 0.5 pounds per square inch gauge (psig) (3.4 kPa) but not greater than 15 psig (103.4 kPa).~~

Lower explosive limit (LEL). See "Lower flammable limit."

Lower flammable limit (LFL). The minimum concentration of vapor in air at which propagation of flame will occur in the presence of an ignition source. The LFL is sometimes referred to as LEL or lower explosive limit.

Low-pressure tank. A storage tank designed to withstand an internal pressure greater than 0.5 pounds per square inch gauge (psig) (3.4 kPa) but not greater than 15 psig (103.4 kPa).

LP-gas container. Any vessel, including cylinders, tanks, portable tanks and cargo tanks, used for transporting or storing LP-gases.

Magazine. A building, structure or container, other than an operating building, approved for storage of explosive materials.

Indoor. A portable structure, such as a box, bin or other container, constructed as required for Type 2, 4 or 5 magazines in accordance with NFPA 495, NFPA 1124 or DOTy 27 CFR Part ~~55~~ 555 so as to be fire resistant and theft resistant.

Note: for copyright claim information, please see the notice on the last page of this rule.

Type 1. A permanent structure, such as a building or igloo, that is bullet resistant, fire resistant, theft resistant, weather resistant and ventilated in accordance with the requirements of NFPA 495, NFPA 1124 or DOTy 27 CFR Part ~~55~~ 555.

Type 2. A portable or mobile structure, such as a box, skid-magazine, trailer or semitrailer, constructed in accordance with the requirements of NFPA 495, NFPA 1124 or DOTy 27 CFR Part ~~55~~ 555 that is fire resistant, theft resistant, weather resistant and ventilated. If used outdoors, a Type 2 magazine is also bullet resistant.

Type 3. A fire resistant, theft resistant and weather resistant "day box" or portable structure constructed in accordance with NFPA 495, NFPA 1124 or DOTy 27 CFR Part ~~55~~ 555 used for the temporary storage of explosive materials.

Type 4. A permanent, portable or mobile structure such as a building, igloo, box, semitrailer or other mobile container that is fire resistant, theft resistant and weather resistant and constructed in accordance with NFPA 495, NFPA 1124 or DOTy 27 CFR Part ~~55~~ 555.

Type 5. A permanent, portable or mobile structure such as a building, igloo, box, bin, tank, semitrailer, bulk trailer, tank trailer, bulk truck, tank truck or other mobile container that is theft resistant, which is constructed in accordance with NFPA 495, NFPA 1124 or DOTy 27 CFR Part ~~55~~ 555.

Magnesium. The pure metal and alloys, of which the major part is magnesium.

Mall. See "Covered mall building."

Manual fire alarm box. A manually operated device used to initiate an alarm signal.

Manual stocking methods. Stocking methods utilizing ladders or other nonmechanical equipment to move stock.

Manufactured home. *Has the same meaning as in division (C)(4) of Section 3781.06 of the Revised Code.*

Manufacturing of fireworks. *The making of fireworks from raw materials, none of which in and of themselves constitute fireworks, or the processing of fireworks.*

MARCS grant. *An equipment grant authorized by the General Assembly that is used for systems, equipment, or services that are a part of, integrated into, or otherwise interoperable with the "Multi-Agency Radio Communication System (MARCS)" operated by the state.*

Marina. Any portion of the ocean or inland water, either naturally or artificially protected, for the mooring, servicing or safety of vessels and shall include artificially protected works, the public or private lands ashore, and structures or facilities provided within the enclosed body of water and ashore for the mooring or servicing of vessels or the servicing of their crews or passengers.

Marine motor fuel-dispensing facility. That portion of property where flammable or combustible liquids or gases used as *motor* fuel for watercraft are stored and dispensed from fixed equipment on shore, piers, wharves, floats or barges into the fuel tanks of watercraft *or approved containers* and shall include all other facilities used in connection therewith.

Note: for copyright claim information, please see the notice on the last page of this rule.

~~**"Material safety data sheet (MSDS)."** Information concerning a hazardous material which is prepared in accordance with the provisions of DOL 29 CFR Part 1910.1200 *as listed in rule 1301:7-7-80 of the Administrative Code* or in accordance with the provisions of a federally approved state OSHA plan.~~

Maximum allowable quantity per control area. The maximum amount of a hazardous material allowed to be stored or used within a control area inside a building or an outdoor control area. The maximum allowable quantity per control area is based on the material state (solid, liquid or gas) and the material storage or use conditions.

[BE] Means of egress. A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way. A means of egress consists of three separate and distinct parts: the exit access, the exit and the exit discharge.

Mechanical stocking methods. Stocking methods utilizing motorized vehicles or hydraulic jacks to move stock.

[BG] Medical care. Care involving medical or surgical procedures, nursing or for psychiatric purposes.

Membrane structure. An air-inflated, air-supported, cable or frame-covered structure as defined by the *building code* and not otherwise defined as a tent. See Chapter 31 of the *building code*.

[B] Membrane-penetration firestop system. An assemblage consisting of a fire-resistance-rated floor-ceiling, roof-ceiling or wall assembly, one or more penetrating items installed into or passing through the breach in one side of the assembly and the materials or devices, or both, installed to resist the spread of fire into the assembly for a prescribed period of time.

[BE] Merchandise pad. A merchandise pad is an area for display of merchandise surrounded by aisles, permanent fixtures or walls. Merchandise pads contain elements such as nonfixed and moveable fixtures, cases, racks, counters and partitions as indicated in Section 105.2 of the *building code* from which customers browse or shop.

Metal hydride. A generic name for compounds composed of metallic element(s) and hydrogen.

Metal hydride storage system. A closed system consisting of a group of components assembled as a package to contain metal-hydrogen compounds for which there exists an equilibrium condition where the hydrogen-absorbing metal alloy(s), hydrogen gas and the metal-hydrogen compound(s) coexist and where only hydrogen gas is released from the system in normal use.

[BG] Mezzanine. An intermediate level or levels between the floor and ceiling of any story and in accordance with Section 505 of the *building code*.

Miscella. A mixture, in any proportion, of the extracted oil or fat and the extracting solvent.

Mobile food preparation vehicles. Vehicles*, including but not limited to any motorized vehicles, trailers and hand propelled carts, that are used to cook, prepare or serve food or* that contain cooking equipment that produce smoke or grease-laden vapors for the purpose of preparing and serving food to the public. Vehicles intended for private recreation shall not be considered mobile food preparation vehicles.

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~~***Mobile food unit.*** *Any apparatus or equipment that is used to cook, prepare or serve food, and that routinely changes or can change location and is operated from a moveable vehicle or apparatus, including but not limited to motorized vehicles, trailers, and hand propelled carts.*~~

Mobile fueling. The operation of dispensing liquid fuels from tank vehicles into the fuel tanks of motor vehicles. Mobile fueling may also be known by the terms “Mobile fleet ~~fuel~~fueling,” “Wet fueling” and “Wet hosing.”

Mortar. A tube from which fireworks shells are fired into the air.

Motor fuel dispensing facility. *That portion of a property where flammable or combustible liquids or gases used as a fuel are stored and dispensed from fixed equipment into the fuel tanks of motor vehicles or marine craft or into approved containers, including all equipment used in connection therewith.*

Multiple-station alarm device. Two or more single-station alarm devices that can be interconnected such that actuation of one causes all integral or separate audible alarms to operate. A multiple-station alarm device can consist of one single-station alarm device having connections to other detectors or to a manual fire alarm box.

Multiple-station smoke alarm. Two or more single-station alarm devices that are capable of interconnection such that actuation of one causes the appropriate alarm signal to operate in all interconnected alarms.

Navigable waters. *Any body of water susceptible of being used in its ordinary condition as a highway of commerce over which trade and travel is or may be conducted in the customary modes, but does not include a body of water that is not capable of navigation by barges, tugboats, and other large vessels.*

Nesting. A method of securing flat-bottomed compressed gas cylinders upright in a tight mass using a contiguous three-point contact system whereby all cylinders within a group have not less than three points of contact with other cylinders, walls or bracing.

Net explosive weight (net weight). The weight of explosive material expressed in pounds. The net explosive weight is the aggregate amount of explosive material contained within buildings, magazines, structures or portions thereof, used to establish quantity-distance relationships.

Normal temperature and pressure (NTP). A temperature of 70°F (21°C) and a pressure of 1 atmosphere [14.7 psia (101 kPa)].

[BE] Nosing. The leading edge of treads of stairs and of landings at the top of stairway flights.

Notification zone. See “Zone, notification.”

Novelties and trick noisemakers. *Include the following items:*

1. *Devices that produce a small report intended to surprise the user, including, but not limited to, booby traps, cigarette loads, party poppers and snappers.*

2. *Snakes or glow worms.*

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3. Smoke devices containing not more than 5 grams of pyrotechnic composition.

4. Trick matches.

Nuisance alarm. An alarm caused by mechanical failure, malfunction, improper installation or lack of proper maintenance, or an alarm activated by a cause that cannot be determined.

[BG] Nursing homes. Facilities that provide care, including both intermediate care facilities and skilled nursing facilities, where any of the persons are incapable of self-preservation.

Occupancy classification. For the purposes of this code, certain occupancies are defined as follows:

[BG] Group A **Assembly** ~~Group A~~**.** Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption; or awaiting transportation.

~~**[BG] Small buildings and tenant spaces.** A building or tenant space used for assembly purposes with an occupant load of less than 50 persons shall be classified as a Group B occupancy.~~

~~**[BG] Small assembly spaces.** The following rooms and spaces shall not be classified as assembly occupancies:~~

~~A room or space used for assembly purposes with an occupant load of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.~~

~~A room or space used for assembly purposes that is less than 750 square feet (70 m^2) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.~~

~~**[BG] Associated with Group E occupancies.** A room or space used for assembly purposes that is associated with a Group E occupancy is not considered a separate occupancy.~~

[BG] Accessory with places of religious worship. Accessory religious educational rooms and religious auditoriums with occupant loads of less than 100 per room or space are not considered separate occupancies.

[BG] Assembly Group A-1. Group A occupancy includes assembly uses, usually with fixed seating, intended for the production and viewing of performing arts or motion pictures including, but not limited to:

Motion picture theaters
Symphony and concert halls
Television and radio studios admitting an audience
Theaters

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[BG] Assembly Group A-2. Group A-2 occupancy includes assembly uses intended for food and/or drink consumption including, but not limited to:

Banquet halls
Casinos (gaming areas)
Night clubs
Restaurants, cafeterias and similar dining facilities (including associated commercial ~~kitchens~~*food service establishments*)
Taverns and bars

[BG] Assembly Group A-3. Group A-3 occupancy includes assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A, including, but not limited to:

Amusement arcades
Art galleries
Bowling alleys
Community halls
Courtrooms
Dance halls (not including food or drink consumption)
Exhibition halls
Funeral parlors
Greenhouses with public access for the conservation and exhibition of plants*
Gymnasiums (without spectator seating)
Indoor swimming pools (without spectator seating)
Indoor tennis courts (without spectator seating)
Lecture halls
Libraries
Museums
Places of religious worship
Pool and billiard parlors
Waiting areas in transportation terminals
* Not used for agricultural purposes as defined in Section 3781.06 of the Revised Code.

[BG] Assembly Group A-4. Group A-4 occupancy includes assembly uses intended for viewing of indoor sporting events and activities with spectator seating including, but not limited to:

Arenas
Skating rinks
Swimming pools
Tennis courts

[BG] Assembly Group A-5. Group A-5 occupancy includes assembly uses intended for participation in or viewing outdoor activities including, but not limited to:

Amusement park structures
Bleachers
Grandstands
Stadiums

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[BG] Associated with Group E occupancies. A room or space used for assembly purposes that is associated with a Group E occupancy is not considered a separate occupancy.

[BG] Small assembly spaces. The following rooms and spaces shall not be classified as assembly occupancies:

1. A room or space used for assembly purposes with an occupant load of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.

2. A room or space used for assembly purposes that is less than 750 square feet (70 m^2) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.

[BG] Small buildings and tenant spaces. A building or tenant space used for assembly purposes with an occupant load of less than 50 persons shall be classified as a Group B occupancy.

[BG] Special amusement areas. Special amusement areas shall comply with Section 411 of the *building code*.

[BG] Group B, Business ~~Group B~~. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

Airport traffic control towers
Ambulatory care facilities
Animal hospitals, kennels and pounds
Banks
Barber and beauty shops
Car wash
Civic administration
Clinic-outpatient
Dry cleaning and laundries: pick-up and delivery stations and self-service
Educational occupancies for students above the 12th grade, including higher education laboratories
Electronic data processing
Food processing establishments and commercial ~~kitchens~~ *food service establishments* not associated with restaurants, cafeterias and similar dining facilities not more than 2,500 square feet (232 m^2) in area.
Laboratories: testing and research
Motor vehicle showrooms
Post offices
Print shops
Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
Radio and television stations
Telephone exchanges

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Training and skill development not in a school or academic program (This shall include, but not be limited to, tutoring centers, martial arts studios, gymnastics and similar uses regardless of the ages served, and where not classified as a Group A occupancy).

[BG] Airport traffic control towers. Airport traffic control towers shall comply with Section 412.2 of the *building code*.

[BG] Ambulatory care facilities. Ambulatory care facilities shall comply with Section 422 of the *building code*.

[BG] Higher education laboratories. Higher education laboratories shall comply with Section 428 of the *building code*.

[BG] Group E, Educational ~~Group E~~. Educational Group E occupancy includes, among others, the use of a building or structure, or a portion thereof, by six or more persons at any one time for educational purposes through the 12th grade.

[BG] Accessory to places of religious worship. Religious educational rooms and religious auditoriums, which are accessory to places of religious worship in accordance with Section ~~508.3.1~~ 303.1.4 of the *building code* and have occupant loads of less than 100 per room or space shall be classified as Group A-3 occupancies.

[BG] Group E, day care facilities – *more than 2½ years of age.* *Except for Type A or Type B Family Daycare facilities, this* group includes buildings and structures or portions thereof occupied by more than five children older than 2½ years of age who receive educational, supervision or personal care services for less than 24 hours per day.

~~**[BG] Within places of *religious* worship.** Rooms and spaces within places of *religious* worship providing such care during religious functions shall be classified as part of the primary occupancy.~~

[BG] Five or fewer children. *Except for Type A or Type B Family Daycare facilities, a* facility having five or fewer children receiving such day care shall be classified as part of the primary occupancy.

[BG] Five or fewer children in a dwelling unit. *Except for Type A or Type B Family Daycare facilities, a* facility such as the above within a dwelling unit and having five or fewer children receiving such care shall be classified as a Group R-3 ~~occupancy and~~ or ~~shall comply with the~~ *~~residential code~~*. *The facility may comply with the construction requirements of the residential code.*

~~*The use of a building or structure, or portion thereof, for educational, supervision or personal care services for more than five but not more than one hundred children are cared for are located on the level of exit discharge and each of these child care rooms has an exit door directly to the exterior, shall be classified as a Group E occupancy.*~~

~~*A child day care center, other than a Type A family day care home, for six or more children with not more than five children two and one-half years of age or less, shall be classified as a Group E occupancy.*~~

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[BG] Within places of *religious* worship. Rooms and spaces within places of *religious* worship providing such *day* care during religious functions shall be classified as part of the primary occupancy.

Group E, day care facilities - 2 ½ years or less of age. *A day care facility that provides care for more than five but no more than 100 children 2 ½ years or less of age and the day care facilities are at the level of exit discharge, and where every room where care is provided has no fewer than one exterior exit door for which the exit access and exit discharge do not require the traversing of stairs.*

[BG] Storm shelters in Group E occupancies. Storm shelters shall be provided for Group E occupancies *in accordance with Section 305.4 of the building code*.

[BG] Group F, Factory Industrial ~~Group F~~. Factory Industrial Group F occupancy includes, among others, the use of a building or structure, or a portion thereof, for assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair or processing operations that are not classified as a Group H high-hazard or Group S storage occupancy.

[BG] Factory Industrial F-1 Moderate-hazard occupancy. Factory industrial uses that are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

Aircraft (manufacturing, not to include repair)
Appliances
Athletic equipment
Automobiles and other motor vehicles
Bakeries
Beverages; over 16-percent alcohol content
Bicycles
Boats
Brooms or brushes
Business machines
Cameras and photo equipment
Canvas ~~and~~ or similar fabric
Carpets and rugs (includes cleaning)
Clothing
Construction and agricultural machinery
Disinfectants
Dry cleaning and dyeing
Electric generation plants
Electronics
Energy storage systems (ESS) in dedicated use buildings
Engines (including rebuilding)
Food processing and commercial ~~kitchens~~ *food service establishments* not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m^2) in area.
Furniture
Hemp products
Jute products
Laundries

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Leather products
Machinery
Metals
Millwork (sash and door)
Motion pictures and television filming (without spectators)
Musical instruments
Optical goods
Paper mills or products
Photographic film
Plastic products
Printing or publishing
Recreational vehicles
Refuse incineration
Shoes
Soaps and detergents
Textiles
Tobacco
Trailers
Upholstering
Water/sewer treatment facilities
Wood; distillation
Woodworking (cabinet)

[BG] Aircraft manufacturing facilities. Aircraft manufacturing facilities shall comply with Section 412.6 of the *building code*.

[BG] Factory Industrial F-2 Low-hazard occupancy. Factory industrial uses involving the fabrication or manufacturing of noncombustible materials that, during finishing, packaging or processing do not involve a significant fire hazard, shall be classified as Group F-2 occupancies and shall include, but not be limited to, the following:

Beverages; up to and including 16-percent alcohol content
Brick and masonry
Ceramic products
Foundries
Glass products
Gypsum
Ice
Metal products (fabrication and assembly)

Group H, High-hazard ~~Group H~~. High-hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in control areas complying with Section 5003.8.3, based on the maximum allowable quantity limits for control areas set forth in Tables 5003.1.1(1) and 5003.1.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this code and the requirements of Section 415 of the *building code*. Hazardous materials stored or used on top of roofs or canopies shall be classified as outdoor storage or use and shall comply with this code.

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Uses other than Group H. The storage, use or handling of hazardous materials as described in one or more of the following items shall not cause the occupancy to be classified as Group H, but it shall be classified as the occupancy that it most nearly resembles:

1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of *rule 1301:7-7-24 of the Administrative Code* and Section 416 of the *building code as listed in rule 1301:7-7-80 of the Administrative Code*.

2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to *rule 1301:7-7-57 of the Administrative Code*.

3. Closed piping system containing flammable or combustible liquids or gases utilized for the operation of machinery, *building service equipment*, or *process* equipment.

4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment listed by an approved testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour fire barriers in accordance with Section 707 of the *building code as listed in rule 1301:7-7-80 of the Administrative Code* or 1-hour horizontal assemblies in accordance with Section 711 of the *building code as listed in rule 1301:7-7-80 of the Administrative Code*, or both.

5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).

6. Liquor stores and distributors without bulk storage.

7. Refrigeration systems.

8. The storage or utilization of materials for agricultural purposes on the premises.

9. Stationary batteries utilized for facility emergency power, uninterruptible power supply or telecommunication facilities, provided that the batteries are equipped with safety venting caps and ventilation is provided in accordance with the *mechanical code as listed in rule 1301:7-7-80 of the Administrative Code*. torage battery systems installed in accordance with *paragraph* (F)(2)(1206.2) *of rule 1301:7-7-12 of the Administrative Code*.

10. Corrosive personal or household products in their original packaging used in retail display.

11. Commonly used corrosive building materials.

12. Buildings and structures occupied for aerosol product storage shall be classified as Group S-1, provided that such buildings conform to the requirements of *rule 1301:7-7-51 of the Administrative Code*.

13. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per

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~~control area in Group M or S occupancies complying with *paragraph* (C)(8)(c)(v)(5003.8.3.5) *of rule 1301:7-7-50 of the Administrative Code*.~~

~~The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements of this code.~~

~~15. Stationary fuel cell power systems installed in accordance with this code.~~

~~16. Capacitor energy storage systems in accordance with this code.~~

~~17. Group B higher education laboratory occupancies complying with Section 428 of the *building code as listed in rule 1301:7-7-80 of the Administrative Code* and *rule 1301:7-7-38 of the Administrative Code*.~~

High-hazard Group H-1. Buildings and structures containing materials that pose a detonation hazard shall be classified as Group H-1. Such materials shall include, but not be limited to, the following:

Detonable pyrophoric materials
Explosives:
Division 1.1
Division 1.2
Division 1.3
Division 1.4
Division 1.5
Division 1.6
Organic peroxides, unclassified detonable
Oxidizers, Class 4
Unstable (reactive) materials, Class 3 detonable, and Class 4

~~**Occupancies containing explosives not classified as H-1.** The following occupancies containing explosive materials shall be classified as follows:~~

~~1. Division 1.3 explosive materials that are used and maintained in a form where either confinement or configuration will not elevate the hazard from a mass fire hazard to mass explosion hazard shall be allowed in Group H-2 occupancies.~~

~~2.1. Articles, including articles packaged for shipment, that are not regulated as a Division 1.4 explosive under Bureau of Alcohol, Tobacco, Firearms and Explosives regulations, or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles shall be allowed in H-3 occupancies.~~

High-hazard Group H-2. Buildings and structures containing materials that pose a deflagration hazard or a hazard from accelerated burning shall be classified as Group H-2. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA flammable or combustible liquids that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 pounds per square inch gauge (103.4 kPa)

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Combustible dusts where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3 of the *building code*.
Cryogenic fluids, flammable
Flammable gases
Organic peroxides, Class I
Oxidizers, Class 3, that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 pounds per square inch gauge (103.4 kPa)
Pyrophoric liquids, solids and gases, nondetonable
Unstable (reactive) materials, Class 3, nondetonable
Water-reactive materials, Class 3

High-hazard Group H-3. Buildings and structures containing materials that readily support combustion or that pose a physical hazard shall be classified as Group H-3. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA flammable or combustible liquids that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103.4 kPa) or less
Combustible fibers, other than densely packed baled cotton, where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3 of the *building code*
Consumer fireworks, 1.4G (Class C, Common)
Cryogenic fluids, oxidizing
Flammable solids
Organic peroxides, Class II and ~~Class~~ III
Oxidizers, Class 2
Oxidizers, Class 3, that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103 kPa) or less
Oxidizing gases
Unstable (reactive) materials, Class 2
Water-reactive materials, Class 2

High-hazard Group H-4. Buildings and structures containing materials that are health hazards shall be classified as Group H-4. Such materials shall include, but not be limited to, the following:

Corrosives
Highly toxic materials
Toxic materials

High-hazard Group H-5. Semiconductor fabrication facilities and comparable research and development areas in which hazardous production materials (HPM) are used and the aggregate quantity of materials is in excess of those listed in Tables 5003.1.1(1) and 5003.1.1(2) shall be classified as Group H-5. Such facilities and areas shall be designed and constructed in accordance with Section 415.11 of the *building code*.

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Multiple hazards. Buildings and structures containing a material or materials representing hazards that are classified in one or more of Groups H-1, H-2, H-3 and H-4 shall conform to the code requirements for each of the occupancies so classified.

Occupancies containing explosives not classified as H-1. The following occupancies containing explosive materials shall be classified as follows:

1. Division 1.3 explosive materials that are used and maintained in a form where either confinement or configuration will not elevate the hazard from a mass fire hazard to mass explosion hazard shall be allowed in Group H-2 occupancies.

2. Articles, including articles packaged for shipment, that are not regulated as a Division 1.4 explosive under Bureau of Alcohol, Tobacco, Firearms and Explosives regulations, or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles shall be allowed in H-3 occupancies.

Uses other than Group H. The storage, use or handling of hazardous materials as described in one or more of the following items shall not cause the occupancy to be classified as Group H, but it shall be classified as the occupancy that it most nearly resembles:

1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Chapter 24 of this code and Section 416 of the *building code*.

2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to Chapter 57.

3. Closed piping system containing flammable or combustible liquids or gases utilized for the operation of machinery, *building service equipment, or process equipment*.

4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment listed by an approved testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour fire barriers in accordance with Section 707 of the *building code* or 1-hour horizontal assemblies in accordance with Section 711 of the *building code*, or both.

5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).

6. Liquor stores and distributors without bulk storage.

7. Refrigeration systems.

8. The storage or utilization of materials for agricultural purposes on the premises.

9. Stationary storage battery systems installed in accordance with Section 1207.

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10. Corrosive personal or household products in their original packaging used in retail display.

11. Commonly used corrosive building materials.

12. Buildings and structures occupied for aerosol product storage, aerosol cooking spray products or plastic aerosol 3 products shall be classified as Group S-1, provided that such buildings conform to the requirements of Chapter 51.

13. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per control area in Group M or S occupancies complying with Section 5003.8.3.5.1.

14. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided that such storage conforms to the quantity limits and requirements of this code.

15. Stationary fuel cell power systems installed in accordance with this code.

16. Capacitor energy storage systems in accordance with this code.

17. Group B higher education laboratory occupancies complying with Section 428 of the *building code* and Chapter 38 of this code.

18. Distilling or brewing of beverages conforming to the requirements of this code.

19. The storage of beer, distilled spirits and wines in barrels and casks conforming to the requirements of this code.

[BG] Group I, Institutional ~~Group I~~. Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which care *(personal, custodial, or medical)* or supervision is provided to persons who are or are not capable of self-preservation without physical assistance or in which persons are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-3 or I-4.

Exception: *Ambulatory care facilities and outpatient clinics are classified as Group B.*

[BG] Institutional Group I-1. *Except as provided in this code and Sections 308.3.2 and 308.3.3 of the building code,* Institutional Group I-1 occupancy shall include buildings, structures or portions thereof for more than 16 persons, excluding staff, who reside in a supervised environment and receive care *and are capable of self-preservation*. Buildings of Group I-1 shall be classified as one of the occupancy conditions indicated below and shall comply with Section 420 of the *building code*. This group shall include, but not be limited to, the following:

Alcohol and drug centers
Assisted living facilities
Congregate care facilities

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Group homes
Halfway houses
Residential board and care facilities
Residential board and custodial care facilities
Social rehabilitation facilities

[BG] Condition 1. This occupancy condition shall include buildings in which all persons receiving ~~custodial~~ care who, without any assistance, are capable of responding to an emergency situation to complete building evacuation.

[BG] Condition 2. This occupancy condition shall include buildings in which there are any persons receiving ~~custodial~~ care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation.

~~**[BG] Six to 16 persons receiving custodial care.** A facility housing not fewer than six and not more than 16 persons receiving custodial care shall be classified as Group R-4.~~

[BG] Five or fewer persons receiving ~~custodial~~ care. A *care* facility with five or fewer persons receiving ~~custodial~~ care shall be classified as Group ~~R-3 or shall comply with the *residential code* provided that an automatic sprinkler system is installed *throughout the fire area* in accordance with *Sections 903.3.1.1, 903.3.1.2,* 903.3.1.3 or with Section 2904 of the *residential code*~~ *R as provided in Section 310 of the building code*.

[BG] Six to 16 persons receiving care. A *care* facility housing not fewer than six and not more than 16 persons receiving care shall be classified as Group R-4.

[BG] Institutional Group I-2. *Except as provided in this code and Section 308.4.2 of the building code,* Institutional Group I-2 occupancy shall include buildings and structures used for ~~medical care on a 24-hour basis~~*care* for more than five persons who are not capable of self-preservation *for more than 24 hours*. This group shall include, but not be limited to, the following:

Foster care facilities
Detoxification facilities
Hospitals
Nursing homes *including those defined in Section 3721.01 of the Revised Code*
Psychiatric hospitals

[BG] Occupancy Conditions. Buildings of Group I-2 shall be classified as one of the following occupancy conditions and shall comply with Section 407 of the *building code*:

[BG] Condition 1. This occupancy condition shall include facilities that provide nursing and medical care but do not provide emergency care, surgery, obstetrics, or in-patient stabilization units for psychiatric or detoxification, including, but not limited to, nursing homes and foster care facilities.

[BG] Condition 2. This occupancy condition shall include facilities that provide nursing and medical care and could provide emergency care, surgery, obstetrics,

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or inpatient stabilization units for psychiatric or detoxification, including but not limited to, hospitals.

[BG] Five or fewer persons receiving medical care. A *care* facility with five or fewer persons *not capable of self-preservation* receiving ~~medical~~ care shall be classified as Group ~~R-3 or shall comply with the *residential code* provided that an automatic sprinkler system is installed *throughout the fire area* in accordance with *Sections 903.3.1.1, 903.3.1.2,* 903.3.1.3 or with Section 2904 of the *residential code*~~R *as provided in Section 310 of the building code*.

[BG] Institutional Group I-3. *Except as provided in this code and Section 308.5.2 of the building code,* Institutional Group I-3 occupancy shall include buildings and structures which are inhabited by more than five persons who are under restraint or security. A Group I-3 facility is occupied by persons who are generally incapable of self-preservation due to security measures not under the occupants' control. This group shall include, but not be limited to, the following:

Correctional centers
Detention centers
Jails
Prerelease centers
Prisons
Reformatories

Buildings of Group I-3 shall be classified as one of the following occupancy conditions and shall comply with Section 408 of the *building code*:

[BG] Condition 1. This occupancy condition shall include buildings in which free movement is allowed from sleeping areas and other spaces where access or occupancy is permitted to the exterior via means of egress without restraint. A Condition 1 facility is permitted to be constructed as Group R.

[BG] Condition 2. This occupancy condition shall include buildings in which free movement is allowed from sleeping areas and any other occupied smoke compartment to one or more other smoke compartments. Egress to the exterior is impeded by locked exits.

[BG] Condition 3. This occupancy condition shall include buildings in which free movement is allowed within individual smoke compartments, such as within a residential unit comprised of individual sleeping units and group activity spaces, where egress is impeded by remote-controlled release of means of egress from such smoke compartment to another smoke compartment.

[BG] Condition 4. This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Remote-controlled release is provided to permit movement from sleeping units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

[BG] Condition 5. This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Staff-controlled manual release is

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provided to permit movement from sleeping units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

Five or fewer persons secured or restrained. *Buildings containing five or fewer persons who are being secured or restrained are included in the primary occupancy classification.*

[BG] Institutional Group I-4, day care facilities. *Except for Type A or Type B Family Daycare facilities and except as provided in this code and Sections 308.5.1 through 308.5.4 of the building code,* Institutional Group I-4 shall include buildings and structures occupied by more than five persons of any age *who are capable of self-preservation with limited physical assistance of incapable of self-preservation* who receive ~~*personal or*~~ custodial care for ***fewer*** than 24 hours ***per day*** by persons other than parents or guardians, relatives by blood, marriage, or adoption, and in a place other than the home of the person cared for. This group shall include, but not be limited to, the following:

Adult day care
Child day care

[BG] Classification as Group E. A ~~day~~ care facility that provides care for more than five but not more than 100 children 2½ years or less of age, ~~*and the day care facilities are at the* level of exit discharge *and where every room where care is provided has no fewer than one exterior exit door for which the exit access and exit discharge do not require the traversing of stairs*~~*and the day care facilities are at the level of exit discharge and where every room where care is provided has no fewer than one exterior exit door for which the exit access and exit discharge do not require the traversing o stairs*, shall be classified as Group E.

~~**[BG] Within a place of religious worship.** Rooms and spaces within places of religious worship providing such care during religious functions shall be classified as part of the primary occupancy.~~

~~**[BG] Five or fewer occupants receiving care.** A facility having five or fewer persons receiving custodial care shall be classified as part of the primary occupancy.~~

[BG] Five or fewer ~~occupants~~ *persons* receiving care in a dwelling unit. ~~A facility such as the above~~*Except for a Type B Family Daycare facility, a care facility* within a dwelling unit and having five or fewer persons receiving ~~*personal or*~~ ~~custodial~~ care shall be classified as a Group ~~R-3 occupancy or shall comply with the *residential code*~~*R as provided in Section 310 of the building code*.

[BG] Five or fewer *persons* receiving care. ~~A~~*Except as provided in this code and Section 308.5.4 of the building code, a care* facility having five or fewer persons receiving ~~custodial~~ care shall be classified as part of the primary occupancy.

[BG] Within a place of religious worship. Rooms and spaces within places of religious worship providing such care during religious functions shall be classified as part of the primary occupancy.

[BG] **Group M,** **Mercantile** ~~**Group M**~~**.** Mercantile Group M occupancy includes, among others, the use of a building or structure or a portion thereof, for the display and sale of merchandise,

and involves stocks of goods, wares or merchandise incidental to such purposes and ~~accessible to the public~~*where the public has access*. Mercantile occupancies shall include, but not be limited to, the following:

Department stores
Drug stores
Greenhouses with public access that maintain plants for display and sale*
Markets
Motor fuel-dispensing facilities
Retail or wholesale stores
Sales rooms
* Not used for agricultural purposes as defined in Section 3781.06 of the Revised Code.

[BG] Motor fuel-dispensing facilities. Motor fuel-dispensing facilities shall comply with Section 406.7 of the *building code*.

[BG] Quantity of hazardous materials. The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid hazardous materials stored or displayed in a single control area of a Group M occupancy shall not exceed the quantities in Table 5704.3.4.1.

[BG] Group R. Residential ~~Group R~~. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not ~~regulated by the *residential code* in accordance with Section 101.2 of the *building code*. Group R occupancies not constructed in accordance with the *residential code* as permitted by Sections 310.4.1 and 310.4.2 of the *building code* shall comply with Section 420 of the *building code*~~*within the scope of the residential code*.

Detached one-, two-, or three-family dwellings. *The residential code shall apply to structures comprised exclusively of one-, two-, or three-family dwellings (having independent exits) and their accessory structures. ~~in jurisdictions where a residential department is certified as further described in Section 102.5.~~If no residential department is certified in a jurisdiction, construction documents for structures comprised exclusively of one-, two-, or three-family dwellings are not required to be submitted for approval.*

Five or fewer persons receiving care in a single-family dwelling. *A single-family dwelling with five or fewer persons, excluding staff, who reside in a supervised environment, receive care, and are capable of self-preservation with or without limited verbal or physical assistance is not classified as Group R and is within the scope of the residential code.*

Group R with both shared exits and independent exits. *A building with both shared exits and independent exits is classified as Group R-2, unless the shared exit is not a required exit, in which case, the building is classified as Group R-3.*

[BG] Residential Group R-1. *Except as provided in this code and Section 310.3.3 of the building code,* Residential Group R-1 occupancies ~~containing~~ *include buildings with* sleeping units where the occupants are primarily transient in nature, including:

Boarding houses (transient) with more than 10 occupants
Congregate living facilities (transient) with more than 10 occupants

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Hotels (transient)
Motels (transient)
SRO facilities operating prior to October 16, 1996, when approved by the building code official as an R-1 occupancy as of October 16, 1996, as specified in division (B) of section 3731.02 of the Revised Code
~~*Vacation rentals as listed and in compliance with Section 310.3.2 of the building code*~~
Transient lodging structures

~~*R-1 occupancies typically will include sleeping units but may also include dwelling units when those units are not used primarily as permanent residences.*~~

***Units not used primarily as permanent residences**. R-1 occupancies typically will include sleeping units but may also include dwelling units when those units are not used primarily as permanent residences.*

***Transient lodging structures.** Except as provided in this code and Sections 310.3.2.1 or 310.3.2.2 of the building code, a Group R-1 structure composed exclusively of a single dwelling unit with no more than twenty transient occupants may comply with the construction requirements of the residential Code in lieu of the requirements of this code and the building code as set forth in and in accordance with Section 310.2.2 of the building code.*

***Semi-primitive transient lodging structures no greater than 400 sq. ft. in area.** A Group R-1 structure that provides permanent provisions for sleeping only or sleeping with either sanitation or kitchen facilities, but not both, may comply with the applicable construction requirements of the residential code in lieu of the requirements of this code and the building code as set forth in and in accordance with Section 310.2.2.1 of the building code.*

***Primitive or semi-primitive transient lodging structures greater than 400 sq. ft. in area.** A Group R-1 structure, for not more than twenty transient occupants, that is greater than 400 sq. ft. in area, provides permanent provisions for sleeping only or sleeping with either sanitation or kitchen facilities, but not both, may comply with the applicable construction requirements of the residential code in lieu of the requirements of this code and the building code as set forth in and in accordance with Section 310.2.2.2 of the building code.*

***Ten or fewer persons in a boarding house or congregate living.** A boarding house or congregate living building intended for transient occupancy for ten or fewer persons, is classified as Group R-2 or Group R-3 occupancies depending on exiting arrangements.*

[BG] Residential Group R-2. *Except as provided in this code and Sections 310.3.1 through 310.3.4 of the building code,* Residential Group R-2 occupancies containing sleeping units or more than *three* dwelling units where the occupants are primarily permanent in nature *and where the units share an exit*, including:

Apartment houses
Congregate living facilities (nontransient) with more than 16 occupants *where occupants share an exit*
Boarding houses (nontransient) ~~with more than 16 occupants~~

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Convents
Dormitories
Fraternities and sororities
Monasteries
Hotels (nontransient)
Live/work units
Motels (nontransient)
~~SRO facilities operating prior to October 16, 1996, when approved by the building code official as an R-2 occupancy as of October 16, 1996~~
~~SRO facilities previously approved as an R-2 SRO facility and operating as such prior to October 16, 1996~~SRO (Single room occupancy) facility
Vacation timeshare properties

~~Residential occupancies in buildings or structures of mixed use containing one or more dwelling units where the occupants are primarily permanent in nature in structures with shared exits.~~

Five or fewer persons receiving care. *A care facility with shared exit for five or fewer persons receiving care is classified as Group R-2.*

Dwelling units in mixed occupancy buildings. *This group includes residential occupancies in buildings or structures of mixed use containing one or more dwelling units where the occupants are primarily permanent in nature in structures with shared exits.*

Dwelling units with a shared exit. *This group includes buildings or structures containing two or three dwelling units where the occupants are primarily permanent in nature and when the dwelling units share an exit.*

Sixteen or fewer persons in a boarding house or congregate living. *A boarding house or congregate living in a dwelling unit with an independent exit for sixteen or fewer persons is classified as Group R-3.*

[BG] Residential Group R-3. *Except are provided in this code and Section 310.4 of the building code,* Residential Group R-3 occupancies ~~having more than three dwelling units~~ where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, *and where each dwelling unit has an independent exit* including:

~~Building that do not contain more than two dwelling units~~
Care facilities that provide accommodations for five or fewer persons receiving care
Congregate living facilities (nontransient) with 16 or fewer occupants *per dwelling unit*
Boarding houses (nontransient) ~~with 16 or fewer occupants~~
Convents
Dormitories
Fraternities and sororities
Monasteries
Congregate living facilities (transient) with 10 or fewer occupants
Boarding houses (transient) ~~with 10 or fewer occupants~~
Lodging houses (transient) with five or fewer guest rooms and 10 or fewer occupants
Vacation timeshare properties

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~~**[BG] Care facilities within a dwelling.** Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the *residential code* provided an automatic sprinkler system is installed in accordance with Sections *903.3.1.1, 903.3.1.2,* 903.3.1.3 or Section 2904 of the *residential code*.~~

***Five or fewer persons receiving care not in a dwelling**. A care facility with an independent exit for five or fewer persons receiving care is classified as Group R-3.*

***Five or fewer persons receiving care within a dwelling**. A Group R-3 two- or three-family dwelling used exclusively as care facilities for an aggregate of five or fewer persons receiving care but are capable of self-preservation is permitted to comply with the construction requirements of the residential code.*

A Group R-3 one-, two- or three-family dwelling used exclusively as care facilities for an aggregate of five or fewer persons receiving care and are incapable of self-preservation is permitted to comply with the construction requirements of the residential code provided an automatic sprinkler system is installed in all of the dwelling units in accordance with Sections 903.3.1.1, 903.3.1.2, 903.3.1.3 or Section 2904 of the residential code.

***Dwelling units in mixed occupancy buildings.** This group includes residential occupancies in buildings or structures of mixed use~~, three stories or less,~~ containing one or more dwelling units where the occupants are primarily permanent in nature and where each dwelling unit has an independent exit.*

[BG] Lodging houses. ~~Owner~~*A Group R-3 owner*-occupied lodging house~~s~~ with five or fewer guestrooms and 10 or fewer total occupants ~~shall be permitted to be constructed in accordance with the *residential code* provided that an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section 2904 of the *residential code*~~*may comply with the construction requirements of the residential code*.

***Group R-3 Alternative compliance options**. The following are alternative compliance options for Group R-3 buildings within the scope of this code and the building code:*

~~***Compliance with the residential code as listed in rule 1301:7-7-80 of the Administrative Code.***~~ ***Multi-family alternative A.** A Group R-3 building may use Chapters 2 to ~~10~~11 ~~and 44~~ of the residential code ~~are permitted to be used~~ in place of the requirements of this code and the building code ~~for R-3 occupancies under the following conditions:~~as set forth in and in accordance with Section 310.4.5.1 of the building code.*

~~*1. The building is comprised exclusively of dwelling units; and*~~

~~*2. The building is not used as a care facility; and*~~

~~*3. The building is three stories or less in height; and*~~

~~*4. Each dwelling unit in the building has an independent exit; and*~~

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~~*5. No more than one dwelling unit is allowed to be located above another dwelling unit; and*~~

~~*6. Fire separation between units within a grouping of two units, including a unit located partially or totally above another unit, shall be in accordance with Section 302.2 of the residential code. Fire separation between any grouping of two units and other adjacent units shall be in accordance with Sections 302.2 to 302.6 of the residential code; and*~~

~~*7. Chapter 1 of the* **building code** *shall be applicable for code administration purposes; and*~~

~~*8. The edition of NFPA 70 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*~~

~~*11. Chapter 13 of the building code shall apply for energy conservation; and*~~

~~*12. Except for items 7 to 11 above, the edition of standards listed in Chapter 80 shall be used when the standard is referenced in Chapter 44 of the residential code.*~~

***Multi-family alternative B**. A Group R-3 building may use the residential code in place of the requirements of this code and the building as set forth in and in accordance with Section 310.4.5.2 of the building code.*

***More than sixteen occupants in a Boarding House or Congregate Living**. A boarding house or congregate living building for more than sixteen persons is classified as Group R-2.*

[BG] Residential Group R-4. Residential Group R-4 ~~occupancies~~ shall include buildings, structures or portions thereof for more than five but not more than 16 persons, excluding staff, who reside ~~on a 24 hour basis~~ in a supervised residential environment and receive ~~custodial~~ care. ~~Buildings of Group R-4 shall be classified as one of the occupancy conditions indicated below. *The persons receiving care are capable of self-preservation.*~~ This group ~~shall~~ include~~s~~, but ~~is~~ not ~~be~~ limited to, the following:

Alcohol and drug centers
Assisted living facilities
Congregate care facilities
Group homes
Halfway houses
Residential board and care facilities
Social rehabilitation facilities

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~~Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in the *building code*.~~*Where group R-4 design criteria are not provided in this code or the building code the construction requirements for Group R-3 apply.*

Buildings of Group R-4 are classified as one of the following occupancy conditions:

[BG] Condition 1. This occupancy condition shall include buildings in which all persons receiving custodial care, without any assistance, are capable of responding to an emergency situation to complete building evacuation.

[BG] Condition 2. This occupancy condition shall include buildings in which there are any persons receiving custodial care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation.

[BG] Group S, Storage ~~Group S~~. Storage Group S occupancy includes, among others, the use of a building or structure, or a portion thereof, for storage that is not classified as a hazardous occupancy.

~~**[BG] Accessory storage spaces.** A room or space used for storage purposes that is less than 100 square feet (9.3 m^2) in area and accessory to another occupancy shall be classified as part of that occupancy. The aggregate area of such rooms or spaces shall not exceed the allowable area limits of Section 508.2 of the *building code as listed in rule 1301:7-7-80 of the Administrative Code*.~~

[BG] Group S-1 moderate-hazard storage. Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

Aerosols, Levels 2 and 3
Aircraft hangar (storage and repair)
Bags: cloth, burlap and paper
Bamboos and rattan
Baskets
Belting: canvas and leather
Beverages over 16-percent alcohol content
Books and paper in rolls or packs
Boots and shoes
Buttons, including cloth covered, pearl or bone
Cardboard and cardboard boxes
Clothing, woolen wearing apparel
Cordage
Dry boat storage (indoor)
Furniture
Furs
Glues, mucilage, pastes and size
Grains
Horns and combs, other than celluloid
Leather
Linoleum

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Lumber
Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 5003.1.1(1) (see Section 406.8 of the *building code*).
Photo engravings
Resilient flooring
Self-service storage facility (mini-storage)
Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

[BG] Aircraft hangars. Aircraft hangars used for storage or repair shall comply with Section 412.3 of the *building code*.

[BG] Motor vehicle repair garages. Motor vehicle repair garages shall comply with Section 406.8 of the *building code*.

[BG] Group S-2 low-hazard storage~~, Group S-2~~. Storage Group S-2 occupancies include, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Storage uses shall include, but not be limited to, storage of the following:

Asbestos
Beverages up to and including 16-percent alcohol ~~in metal, glass or ceramic containers~~
Cement in bags
Chalk and crayons
Dairy products in nonwaxed coated paper containers
Dry cell batteries
Electrical coils
Electrical motors
Empty cans
Food products
Foods in noncombustible containers
Fresh fruits and vegetables in nonplastic trays or containers
Frozen foods
Glass
Glass bottles, empty or filled with noncombustible liquids
Gypsum board
Inert pigments
Ivory
Meats
Metal cabinets
Metal desks with plastic tops and trim
Metal parts
Metals

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Mirrors
Oil-filled and other types of distribution transformers
~~Parking garages, open or enclosed~~
Porcelain and pottery
Public ~~P~~parking garages, open or enclosed
Stoves
Talc and soapstones
Washers and dryers

[BG] Public parking garages. Public parking garages shall comply with Section 406.4 of the *building code* and the additional requirements of Section 406.5 of the *building code* for open parking garages or Section 406.6 of the *building code* for enclosed parking garages.

[BG] Combustible storage. High-piled stock or rack storage, or attic, under-floor and concealed spaces used for storage of combustible materials, shall be in accordance with Section 413 of the *building code*.

[BG] Accessory storage spaces. A room or space used for storage purposes that is accessory to another occupancy shall be classified as part of that occupancy.

[BG] Group U, Miscellaneous ~~Group U~~. Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy *and not used for agricultural purposes as defined in Section 3781.06 of the Revised Code*, shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings*
~~Aircraft hangar, accessory to a one- or two-family residence (see Section 412.5 412.4 of the *building code*)~~
Barns
Carports
Communication equipment structures with a gross floor area of less than 1,500 square feet (139 m^3)
Fences more than ~~6~~ 7 feet (~~1829~~ 2134 mm) in height
Grain silos, accessory to a residential occupancy
~~Greenhouses~~
Livestock shelters
Private garages
Retaining walls *(see exceptions in Section 101.2 of the building code)*
Sheds
Stables
Tanks
Towers *(see exceptions in Section 101.2 of the building code)*
* Not used for agricultural purposes as defined in Section 3781.06 of the Revised Code.

[BG] Private garages and carports. Private garages and carports shall comply with Section 406.3 of the *building code*.

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[BG] Residential aircraft hangars. Aircraft hangars accessory to a one- or two-family residence shall comply with Section 412.4 of the *building code*.

[BG] Greenhouses. Greenhouses not classified as another occupancy *and not used for agricultural purposes as defined in Section 3781.06 of the Revised Code* shall be classified as Use Group U.

[BG] Occupant load. The number of persons for which the means of egress of a building or portion thereof is designed.

Open burning. The burning of materials wherein products of combustion are emitted directly into the ambient air without passing through a stack or chimney from an enclosed chamber. Open burning does not include road flares, smudgepots and similar devices associated with safety or occupational uses typically considered open flames, recreational fires or use of portable outdoor fireplaces. For the purpose of this definition, a chamber shall be regarded as enclosed when, during the time combustion occurs, only apertures, ducts, stacks, flues or chimneys necessary to provide combustion air and permit the escape of exhaust gas are open.

~~**[BE] Open-ended corridor.** An interior corridor that is open on each end and connects to an exterior stairway or ramp at each end with no intervening doors or separation from the corridor.~~

Open mall. See "Covered mall building."

Open mall building. See "Covered mall building."

[BG] Open parking garage. A structure or portion of a structure with the openings as described in Section 406.5.2 of the *building code* on two or more sides that is used for the parking or storage of private motor vehicles as described in Section 406.5 of the *building code*.

Open system. The use of a solid or liquid hazardous material involving a vessel or system that is continuously open to the atmosphere during normal operations and where vapors are liberated, or the product is exposed to the atmosphere during normal operations. Examples of open systems for solids and liquids include dispensing from or into open beakers or containers, dip tank and plating tank operations.

Open-air assembly seating. Seating served by means of egress that is not subject to smoke accumulation within or under a structure and is open to the atmosphere.

[BE] Open-ended corridor. An interior corridor that is open on each end and connects to an exterior stairway or ramp at each end with no intervening doors or separation from the corridor.

[BF] Opening protective. A fire door assembly, fire shutter assembly, fire window assembly or glass-block assembly in a fire-resistance-rated wall or partition.

Operating building. A building occupied in conjunction with the manufacture, transportation or use of explosive materials. Operating buildings are separated from one another with the use of intraplant or intraline distances.

Operating line. A group of buildings, facilities or workstations so arranged as to permit performance of the steps in the manufacture of an explosive or in the loading, assembly, modification and maintenance of ammunition or devices containing explosive materials.

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Operating pressure. The pressure at which a system operates.

Order. *For purposes of Section 122, 'order' means any final adjudication of facts, issues, or amounts in controversy in any hearing conducted under the authority of Chapter 1 before the division and any final disposition or directive of the state fire marshal regarding the rights, duties, privileges, benefits, legal relationships, jurisdictional status, or standing of any affected party or appellant.*

Organic coating. A liquid mixture of binders such as alkyd, nitrocellulose, acrylic or oil, and flammable and combustible solvents such as hydrocarbon, ester, ketone or alcohol, which, when spread in a thin film, convert to a durable protective and decorative finish.

Organic peroxide. An organic compound that contains the bivalent –O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms have been replaced by an organic radical. Organic peroxides can present an explosion hazard (detonation or deflagration) or they can be shock sensitive. They can also decompose into various unstable compounds over an extended period of time.

Class I. Describes those formulations that are capable of deflagration but not detonation.

Class II. Describes those formulations that burn very rapidly and that pose a moderate reactivity hazard.

Class III. Describes those formulations that burn rapidly and that pose a moderate reactivity hazard.

Class IV. Describes those formulations that burn in the same manner as ordinary combustibles and that pose a minimal reactivity hazard.

Class V. Describes those formulations that burn with less intensity than ordinary combustibles or do not sustain combustion and that pose no reactivity hazard.

Unclassified detonable. Organic peroxides that are capable of detonation. These peroxides pose an extremely high-explosion hazard through rapid explosive decomposition.

Outdoor assembly event. An outdoor gathering of persons for any purpose.

Outdoor control area. An outdoor area that contains hazardous materials in amounts not exceeding the maximum allowable quantities of Table 5003.1.1(3) or Table 5003.1.1(4).

Outpatient clinic. See "Clinic, outpatient."

Overcrowding. A condition that exists when either there are more people in a building, structure or portion thereof than have been authorized or posted by the fire code official, or when the fire code official determines that a threat exists to the safety of the occupants due to persons sitting and/or standing in locations that may obstruct or impede the use of aisles, passages, corridors, stairways, exits or other components of the means of egress.

[A] Owner. Any person, agent, operator, entity, firm or corporation having any legal or equitable interest in the property; or recorded in the official records of the state, county or municipality as

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holding an interest or title to the property; or otherwise having possession or control of the property, including the guardian of the estate of any such person, and the executor or administrator of the estate of such person if ordered to take possession of real property by a court.

Oxidizer. A material that readily yields oxygen or other oxidizing gas, or that readily reacts to promote or initiate combustion of combustible materials and, if heated or contaminated, can result in vigorous self-sustained decomposition.

Class 4. An oxidizer that can undergo an explosive reaction due to contamination or exposure to thermal or physical shock and that causes a severe increase in the burning rate of combustible materials with which it comes into contact. Additionally, the oxidizer causes a severe increase in the burning rate and can cause spontaneous ignition of combustibles.

Class 3. An oxidizer that causes a severe increase in the burning rate of combustible materials with which it comes in contact.

Class 2. An oxidizer that will cause a moderate increase in the burning rate of combustible materials with which it comes in contact.

Class 1. An oxidizer that does not moderately increase the burning rate of combustible materials.

Oxidizing cryogenic fluid. An oxidizing gas in the cryogenic state.

Oxidizing gas. A gas that can support and accelerate combustion of other materials more than air does.

Ozone-gas generator. Equipment which causes the production of ozone.

[BE] Panic hardware. A door-latching assembly incorporating a device that releases the latch upon the application of a force in the direction of egress travel. See also “Fire exit hardware.”

Party popper. *A small plastic or paper item that contains not more than sixteen milligrams of friction-sensitive explosive composition, that is ignited by pulling a string protruding from the item, and from which paper streams are expelled when the item is ignited.*

Passive RF emitting device. A device that does not require an external AC or DC source of power for its operation and does not provide amplification of the RF signal, including but not limited to coax, couplers, splitters and passive antennas.

Pass-through. An enclosure installed in a wall with a door on each side that allows chemicals, HPM, equipment, and parts to be transferred from one side of the wall to the other.

[BG] Penthouse. An enclosed, unoccupied rooftop structure used for sheltering mechanical and electrical equipment, tanks, elevators and related machinery, and vertical shaft openings.

Permissible exposure limit (PEL).” The maximum permitted 8-hour time-weighted-average concentration of an airborne contaminant. The exposure limits to be utilized are those published in DOL 29 CFR Part 1910.1000. The Recommended Exposure Limit (REL) concentrations published by the US National Institute for Occupational Safety and Health (NIOSH), Threshold Limit Value-Time Weighted Average (TLV-TWA) concentrations published by the American

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Conference of Governmental Industrial Hygienists (ACGIH), Workplace Environmental Exposure Level (WEEL) Guides published by the American Industrial Hygiene Association (AIHA), and other approved, consistent measures are allowed as surrogates for hazardous substances not listed in DOL 29 CFR Part 1910.1000.

[A] Permit. An official document or certificate issued by the fire code official that authorizes performance of a specified activity.

Person. *In addition to the meaning in Section 1.59 of the Revised Code, means the state and any political subdivision of the state, and any other entity, public or private.*

[BG] Personal care service. The care of persons who do not require medical care. Personal care involves responsibility for the safety of the persons while inside the building.

Pesticide. A substance or mixture of substances, including fungicides, intended for preventing, destroying, repelling or mitigating pests and substances or a mixture of substances intended for use as a plant regulator, defoliant or desiccant. Products defined as drugs in the Federal Food, Drug and Cosmetic Act are not pesticides.

[BE] Photoluminescent. Having the property of emitting light that continues for a length of time after excitation by visible or invisible light has been removed.

Physical hazard. A chemical for which there is evidence that it is a combustible liquid, cryogenic fluid, explosive, flammable (solid, liquid or gas), organic peroxide (solid or liquid), oxidizer (solid or liquid), oxidizing gas, pyrophoric (solid, liquid or gas), unstable (reactive) material (solid, liquid or gas) or water-reactive material (solid or liquid).

Physiological warning threshold. A concentration of airborne contaminants, normally expressed in parts per million (ppm) or milligrams per cubic meter (mg/m^3), that represents the concentration at which persons can sense the presence of the contaminant due to odor, irritation or other quick-acting physiological responses. When used in conjunction with the permissible exposure limit (PEL), the physiological warning threshold levels are those consistent with the classification system used to establish the PEL. See the definition of “Permissible exposure limit (PEL).”

Pier. A structure built over the water, supported by pillars or piles, and used as a landing place, pleasure pavilion or similar purpose.

Place of religious worship. See “Religious worship, place of.”

[M] Plenum. An enclosed portion of the building structure, other than an occupiable space being conditioned, that is designed to allow air movement and thereby serve as part of an air distribution system.

Plosophoric material. Two or more unmixed, commercially manufactured, prepackaged chemical substances including oxidizers, flammable liquids or solids, or similar substances that are not independently classified as explosives but which, when mixed or combined, form an explosive that is intended for blasting.

Note: for copyright claim information, please see the notice on the last page of this rule.

Plywood and veneer mills. Facilities where raw wood products are processed into finished wood products, including waferboard, oriented strandboard, fiberboard, composite wood panels and plywood.

Portable generator. A mobile internal combustion engine-driven device that provide temporary electrical power. This includes hand portable, wheeled, trailer mounted, and motor vehicle-mounted generator sets. It does not include generators in permanent, fixed installations.

Portable outdoor fireplace. A portable, outdoor, solid-fuel-burning fireplace that may be constructed of steel, concrete, clay or other noncombustible material. A portable outdoor fireplace may be open in design or may be equipped with a small hearth opening and a short chimney or chimney opening in the top.

[BE] Power-assisted door. Swinging door that opens by reduced pushing or pulling force on the door-operating hardware. The door closes automatically after the pushing or pulling force is released, and functions with decreased forces. See also "Low energy power-operated door" and "Power-operated door."

Powered industrial truck. A forklift, tractor, platform lift truck or motorized hand truck powered by an electrical motor or internal combustion engine. Powered industrial trucks do not include farm vehicles or automotive vehicles for highway use.

~~**[BE] Power-assisted door.** Swinging door that opens by reduced pushing or pulling force on the door-operating hardware. The door closes automatically after the pushing or pulling force is released, and functions with decreased forces. See also "Low energy power-operated door" and "Power-operated door."~~

[BE] Power-operated door. Swinging, sliding, or folding door that opens automatically when approached by a pedestrian or opens automatically upon an action by a pedestrian. The door closes automatically and includes provisions such as presence sensors to prevent entrapment. See also "Low energy power-operated door" and "Power-assisted door."

Pressure vessel. A closed vessel designed to operate at pressures above 15 psig (103 kPa).

Primary containment. The first level of containment, consisting of the inside portion of that container which comes into immediate contact on its inner surface with the material being contained.

[BG] Private garage. A building or portion of a building in which motor vehicles used by the owner or tenants of the building or buildings on the premises are stored or kept, without provisions for repairing or servicing such vehicles for profit.

Processing of fireworks. *The making of fireworks from materials all or part of which in and of themselves constitute fireworks but does not include the mere packaging or repackaging of fireworks.*

Process transfer. The transfer of flammable or combustible liquids between tank vehicles or tank cars and process operations. Process operations may include containers, tanks, piping and equipment.

Note: for copyright claim information, please see the notice on the last page of this rule.

Propellant. The liquefied or compressed gas in an aerosol container that expels the contents from an aerosol container when the valve is actuated. A propellant is considered flammable if it forms a flammable mixture with air, or if a flame is self-propagating in a mixture with air.

Proximate audience. An audience closer to pyrotechnic devices than allowed by NFPA 1123.

[B] Psychiatric hospitals. See "Hospitals and psychiatric hospitals."

Public traffic route (PTR). Any public street, road, highway, navigable stream or passenger railroad that is used for through traffic by the general public.

~~**[BE] Public-use areas.** Interior or exterior rooms or spaces that are made available to the general public.~~

[A] Public way. A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet (3048 mm).

[BE] Public-use areas. Interior or exterior rooms or spaces that are made available to the general public.

Pyrophoric. A chemical with an autoignition temperature in air, at or below a temperature of 130°F (54°C).

Pyrotechnic article. A pyrotechnic device for use in the entertainment industry, which is not classified as fireworks.

Pyrotechnic composition. *A chemical mixture which upon burning and without explosion, produces a visible brilliant display, bright lights, or sounds.*

Pyrotechnic effect simulation equipment. *Equipment that uses a chemical mixture, heat source, and the introduction of oxygen to initiate or maintain combustion and is used to produce visible or audible effects by combustion, deflagration, or detonation. Pyrotechnic effect simulation equipment includes, but is not limited to, cold spark devices.*

Pyrotechnic special effect. A visible or audible effect for entertainment created through the use of pyrotechnic materials and devices.

Pyrotechnic special-effect material. A chemical mixture used in the entertainment industry to produce visible or audible effects by combustion, deflagration or detonation. Such a chemical mixture predominantly consists of solids capable of producing a controlled, self-sustaining and self-contained exothermic chemical reaction that results in heat, gas sound, light or a combination of these effects. The chemical reaction functions without external oxygen.

Pyrotechnics. Controlled exothermic chemical reactions timed to create the effects of heat, hot gas, sound, dispersion of aerosols, emission of visible light or a combination of such effects to achieve the maximum effect from the least volume of pyrotechnic composition.

Qualifying small government. *Has the same meaning as in division (A) of Section 3737.17 of the Revised Code.*

Note: for copyright claim information, please see the notice on the last page of this rule.

Quantity-distance (Q-D). The quantity of explosive material and separation distance relationships providing protection. These relationships are based on levels of risk considered acceptable for the stipulated exposures and are tabulated in the appropriate Q-D tables. The separation distances specified afford less than absolute safety:

Inhabited building distance (IBD). The minimum separation distance between an operating building or magazine containing explosive materials and an inhabited building or site boundary.

Intermagazine distance (IMD). The minimum separation distance between magazines.

Intraline distance (ILD) or Intraplant distance (IPD). The distance to be maintained between any two operating buildings on an explosives manufacturing site when at least one contains or is designed to contain explosives, or the distance between a magazine and an operating building.

~~**Minimum separation distance (D_0).** The minimum separation distance between adjacent buildings occupied in conjunction with the manufacture, transportation, storage or use of explosive materials where one of the buildings contains explosive materials and the other building does not.~~

Radio frequency (RF). A measurement representing the oscillation rate of the electromagnetic radiation spectrum, or electromagnetic radio waves, from public safety frequency bands as specified by the fire code official.

Railroad. *Any railway or railroad that carries freight or passengers for hire, but does not include auxiliary tracks, spurs, and sidings installed and primarily used in serving a mine, quarry, or plant.*

Railway. A steam, electric or other railroad or railway that carriers passengers for hire.

[BE] Ramp. A walking surface that has a running slope steeper than 1-unit vertical in 20 units horizontal (5-percent slope).

Ramp, exit access. See “Exit access ramp.”

Ramp, exterior exit. See “Exterior exit ramp.”

Ramp, interior exit. See “Interior exit ramp.”

Raw product. A mixture of natural materials such as tree, brush trimmings, or waste logs and stumps.

[M] Ready access (To). That which enables a device, appliance or equipment to be directly reached, without requiring the removal or movement of any panel or similar obstruction [see “Access (to)”].

Ready box. A weather-resistant container with a self-closing or automatic-closing cover that protects fireworks shells from burning debris. Tarpaulins shall not be considered as ready boxes.

Note: for copyright claim information, please see the notice on the last page of this rule.

[A] Record drawings. Drawings ("as builts") that document the location of all devices, appliances, wiring, sequences, wiring methods and connections of the components of a fire alarm system as installed.

Recreational fire. An outdoor fire burning materials other than rubbish where the fuel being burned is not contained in an incinerator, outdoor fireplace, portable outdoor fireplace, barbeque grill or barbeque pit and has a total fuel area of 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height for pleasure, religious, ceremonial, cooking, warmth or similar purposes.

Reduced flow valve. A valve equipped with a restricted flow orifice and inserted into a compressed gas cylinder, portable tank or stationary tank that is designed to reduce the maximum flow from the valve under full-flow conditions. The maximum flow rate from the valve is determined with the valve allowed to flow to atmosphere with no other piping or fittings attached.

Refinery. A plant in which flammable or combustible liquids are produced on a commercial scale from crude petroleum, natural gasoline or other hydrocarbon sources.

Refrigerant. The fluid used for heat transfer in a refrigeration system; the refrigerant absorbs heat and transfers it at a higher temperature and a higher pressure, usually with a change of state.

[M] Refrigerating (refrigeration) system. A combination of interconnected refrigerant-containing parts constituting one closed refrigerant circuit in which a refrigerant is circulated for the purpose of extracting heat.

[A] Registered design professional. An architect or engineer, registered or licensed to practice professional architecture or engineering, as defined by the statutory requirements of the professional registration laws of the state in which the project is to be constructed.

[BG] Religious worship, place of. A building or portion thereof intended for the performance of religious services.

Relocatable power tap. A relocatable electrical enclosure that provides one or more receptacle outlets and that is provided with an attached power supply cord and attachment plug for connection to a permanently installed receptacle outlet (also called a "multiplug adaptor").

Remote emergency shutoff device. The combination of an operator-carried signaling device and a mechanism on the tank vehicle. Activation of the remote emergency shutoff device sends a signal to the tanker-mounted mechanism and causes fuel flow to cease.

Remote solvent reservoir. A liquid solvent container enclosed against evaporative losses to the atmosphere during periods when the container is not being utilized, except for a solvent return opening not larger than 16 square inches (10 322 mm^2). Such return allows pump-cycled used solvent to drain back into the reservoir from a separate solvent sink or work area.

Remotely located, manually activated shutdown control. A control system that is designed to initiate shutdown of the flow of gases or liquids that is manually activated from a point located some distance from the delivery system.

Repair garage. A building, structure or portion thereof used for servicing or repairing motor vehicles.

Note: for copyright claim information, please see the notice on the last page of this rule.

Representative sample showroom. *A structure constructed and maintained in accordance with the building code and this code for a use and occupancy group that permits mercantile sales. A representative sample showroom shall not contain any pyrotechnics, pyrotechnic materials, fireworks, explosives, explosive materials, or any similar hazardous materials or substances.*

Residential facility. *Shall have the same meaning as in division (B) of Section 5119.34 of the Revised Code.*

Residential hotel. *A structure or structures consisting of one or more buildings, with more than five dwelling units, that are specifically constructed and approved through a valid certificate of occupancy issued by the building official having jurisdiction, as having both dwelling unit features for non-transient residence purposes and all of the transient residential group R-1 use and occupancy classification adopted by the board of building standards pursuant to Chapter 3781. of the Revised Code, and that are kept, used, maintained, advertised, operated as, or held out to the public to be a place where non-transient dwelling units are offered for pay to persons for a minimum stay of more than thirty days.*

Residential premises. *Has the same meaning as the term is defined in Section 5321.01 of the Revised Code.*

Resin application area. An area where reinforced plastics are used to manufacture products by hand lay-up or spray-fabrication methods.

Responsible *manager*. A person trained in the safety and fire safety considerations concerned with hot work. Responsible for reviewing the sites prior to issuing permits as part of the hot work permit program and following up as the job progresses.

Responsible person. *The person responsible for compliance with the state fire code, including but not limited to, the owner, lessee, agent, operator, or occupant of a building, premises or vehicle. Responsible persons can include individuals, heirs, executors, administrators or assigns, business associations, partnerships or corporations, its or their successors or assigns or the agent of any of the aforesaid.*

Retail display area. The area of a Group M occupancy open for the purpose of viewing or purchasing merchandise offered for sale. Individuals in such establishments are free to circulate among the items offered for sale which are typically displayed on shelves, racks or the floor.

Retail sale or sell at retail. *A sale of fireworks to a purchaser who intends to use the fireworks, and not resell them.*

Roll coating. The process of coating, spreading and impregnating fabrics, paper or other materials as they are passed directly through a tank or trough containing flammable or combustible liquids, or over the surface of a roller revolving partially submerged in a flammable or combustible liquid.

Rubbish (trash). Combustible and noncombustible waste materials, including residue from the burning of coal, wood, coke or other combustible material, paper, rags, cartons, tin cans, metals, mineral matter, glass crockery, dust and discarded refrigerators, and heating, cooking or incinerator-type appliances.

Note: for copyright claim information, please see the notice on the last page of this rule.

Safety can. An approved container of not more than 5-gallon (19 L) capacity having a spring-closing lid and spout cover so designed that it will relieve internal pressure when subjected to fire exposure.

~~Material s~~Safety data sheet (~~M~~SDS). Information concerning a hazardous material which is prepared in accordance with the provisions of DOL 29 CFR Part 1910.1200 or in accordance with the provisions of a federally approved state OSHA plan. A document titled as a Material Safety Data Sheet (MSDS) is equivalent to an SDS for the purposes of this code.

[BE] Scissor stairway. Two interlocking stairways providing two separate paths of egress located within one exit enclosure.

Secondary containment. That level of containment that is external to and separate from primary containment.

Seed cotton. See "Cotton."

Segregated. Storage in the same room or inside area, but physically separated by distance from incompatible materials.

[BF] Self-closing. As applied to a fire door or other opening, means equipped with an approved device that will ensure closing after having been opened.

[BE] Self-luminous. Illuminated by a self-contained power source, other than batteries, and operated independently of external power sources.

Self-preservation, incapable of. See "Incapable of self-preservation."

Self-service motor fuel-dispensing facility. That portion of motor fuel-dispensing facility where *flammable or combustible* liquids *or gases* are dispensed from fixed approved dispensing equipment into the fuel tanks of motor vehicles *or approved containers* by persons other than a motor fuel-dispensing facility attendant.

Semiconductor fabrication facility. A building or a portion of a building in which electrical circuits or devices are created on solid crystalline substances having electrical conductivity greater than insulators but less than conductors. These circuits or devices are commonly known as semiconductors.

Serious hazard. *A serious violation of the Ohio Fire Code shall be considered to exist if there is a substantial probability that an occurrence causing death or serious physical harm to persons could foreseeably result from a condition which exists, or from one or more practices, means, methods, operations or processes which have been adopted or are in use at a structure, location, vehicle or premise subject to the Ohio Fire Code. All distinct hazards constitute a serious hazard.*

Service corridor. A fully enclosed passage used for transporting HPM and purposes other than required means of egress.

Shelf storage. Storage on shelves less than 30 inches (762 mm) deep with the distance between shelves not exceeding 3 feet (914 mm) vertically. For other shelving arrangements, see the requirements for rack storage.

Note: for copyright claim information, please see the notice on the last page of this rule.

Single room occupancy. *One occupant per room.*

Single-station smoke alarm. An assembly incorporating the detector, the control equipment and the alarm-sounding device in one unit, operated from a power supply either in the unit or obtained at the point of installation.

[BG] Site. A parcel of land bounded by a lot line or a designated portion of a public right-of-way.

Site safety plan. A plan developed to establish a fire prevention program at a construction site.

[BG] Site-fabricated stretch system. A system, fabricated on site and intended for acoustical, tackable or aesthetic purposes, that is composed of three elements:

1. A frame constructed of plastic, wood, metal or other material used to hold fabric in place.
2. A core material (infill, with the correct properties for the application)~~; and~~.
3. An outside layer, comprised of a textile, fabric or vinyl, that is stretched taut and held in place by tension or mechanical fasteners via the frame.

Sky lantern. An unmanned device with a fuel source that incorporates an open flame in order to make the device airborne.

Sleeping room. *A room that provides at a minimum adequate sleeping accommodations for each guest such as a bed, bunk, cot or other furniture designed for sleeping and accompanying bedding, mattress, box spring, pillow(s), sheets and pillow cases.*

[BG] Sleeping unit. A ~~room or space in which people sleep, which can also~~single unit providing rooms or spaces for one or more persons that includes permanent provisions for sleeping and can include provisions for living, eating and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.

Small arms ammunition. A shotgun, rifle or pistol cartridge and any cartridge for propellant-actuated devices. This definition does not include military ammunition containing bursting charges or incendiary, trace, spotting or pyrotechnic projectiles.

Small arms primers. Small percussion-sensitive explosive charges, encased in a cap, used to ignite propellant powder.

Small municipality or small township. *A duly constituted municipality or village under Title 7 of the Revised Code or township under Title 5 of the Revised Code having a population of less than 25,000 permanent residents.*

Smoke alarm. A single- or multiple-station alarm responsive to smoke. See also “Single-station smoke alarm” and “Multiple-station smoke alarm.”

[BF] Smoke barrier. A continuous membrane, either vertical or horizontal, such as a wall, floor, or ceiling assembly, that is designed and constructed to restrict the movement of smoke.

[BG] Smoke compartment. A space within a building enclosed by smoke barriers on all sides, including the top and bottom.

Note: for copyright claim information, please see the notice on the last page of this rule.

[BF] Smoke damper. A listed device installed in ducts and air transfer openings designed to resist the passage of smoke. The device is installed to operate automatically, controlled by a smoke detection system, and where required, is capable of being positioned from a fire command center.

Smoke detector. A listed device that senses visible or invisible particles of combustion.

Smoke device. *A tube or sphere that contains pyrotechnic composition that, upon ignition, produces white or colored smoke as the primary effect.*

Smoke partition. A wall assembly that extends from the top of the foundation or floor below to the underside of the floor or roof sheathing, deck or slab above or to the underside of the ceiling above where the ceiling membrane is constructed to limit the transfer of smoke.

[BG] Smoke-developed index. A comparative measure, expressed as a dimensionless number, derived from measurements of smoke obscuration versus time for a material tested in accordance with ASTM E84.

Smokeless propellants. Solid propellants, commonly referred to as smokeless powders, used in small arms ammunition, cannons, rockets, propellant-actuated devices and similar articles.

[BF] Smokeproof enclosure. An interior exit stairway designed and constructed so that the movement of the products of combustion produced by a fire occurring in any part of the building into the enclosure is limited.

[BE] Smoke-protected assembly seating. Seating served by means of egress that is not subject to smoke accumulation within or under a structure for a specified design time by means of passive design or by mechanical ventilation.

Snake or glow worm. *A device that consists of a pressed pellet of pyrotechnic composition that produces a large, snake-like ash upon burning, which ash expands in length as the pellet burns.*

Snapper. *A small, paper-wrapped item that contains a minute quantity of explosive composition coated on small bits of sand, and that when dropped, implodes.*

Solid. A material that has a melting point and decomposes or sublimes at a temperature greater than 68°F (20°C).

Solid biofuel. Densified biomass made in the form of cubiform, polyhedral, polyhydric or cylindrical units, ~~provided~~ produced by compressing milled biomass.

Solid biomass feedstock. The basic materials of which solid biofuel is composed, manufactured or made.

Solid shelving. Shelving that is solid, slatted or of other construction located in racks and which obstructs sprinkler discharge down into the racks.

Solvent distillation unit. An appliance that receives contaminated flammable or combustible liquids and which distills the contents to remove contaminants and recover the solvents.

Note: for copyright claim information, please see the notice on the last page of this rule.

Solvent or liquid classifications. A method for classifying solvents or liquids according to the following classes:

Class I solvents. Liquids having a flash point below 100°F (38°C).

Class II solvents. Liquids having a flash point at or above 100°F (38°C) and below 140°F (60°C).

Class IIIA solvents. Liquids having a flash point at or above 140°F (60°C) and below 200°F (93°C).

Class IIIB solvents. Liquids having a flash point at or above 200°F (93°C).

Class IV solvents. Liquids classified as nonflammable.

Special amusement building. A building that is temporary, permanent or mobile that contains a device or system that conveys passengers or provides a walkway along, around or over a course in any direction as a form of amusement arranged so that the egress path is not readily apparent due to visual or audio distractions or an intentionally confounded egress path, or is not readily available because of the mode of conveyance through the building or structure.

[A] Special expert. An individual who has demonstrated qualifications in a specific area, outside the practice of architecture or engineering, through education, training and experience.

Special industrial explosive device. An explosive power pack containing an explosive charge in the form of a cartridge or construction device. The term includes but is not limited to explosive rivets, explosive bolts, explosive charges for driving pins or studs, cartridges for explosive-actuated power tools and charges of explosives used in automotive air bag inflators, jet tapping of open hearth furnaces and jet perforation of oil well casings.

Spray booth. A mechanically ventilated appliance of varying dimensions and construction provided to enclose or accommodate a spraying operation and to confine and limit the escape of spray vapor and residue and to exhaust it safely.

Spray room. A room designed to accommodate spraying operations, constructed in accordance with the *building code*. ~~and separated from the remainder of the building by a minimum 1-hour fire barrier.~~

Spraying space. An area in which dangerous quantities of flammable vapors or combustible residues, dusts or deposits are present due to the operation of spraying processes. The fire code official is authorized to define the limits of the spraying space in any specific case.

SRO facility. *A facility with more than five sleeping rooms that is kept, used, maintained, advertised, or held out to the public as a place where sleeping rooms are offered on a single room occupancy (SRO) basis and intended for use as a primary residence for residential guests for a period of more than thirty days. "SRO facility" does not include agricultural labor camps, apartment houses, lodging houses, rooming houses, or hospital or college dormitories. "Single room occupancy (SRO) basis" means one occupant per room.*

[BE] Stair. A change in elevation, consisting of one or more risers.

Note: for copyright claim information, please see the notice on the last page of this rule.

[BE] Stairway. One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

Stairway, exit access. See "Exit access stairway."

Stairway, exterior exit. See "Exterior exit stairway."

Stairway, interior exit." See "Interior exit stairway."

Stairway, scissor. See "Scissor stairway."

[BE] Stairway, spiral. A stairway having a closed circular form in its plan view with uniform section-shaped treads attached to and radiating from a minimum-diameter supporting column.

Standby power system. A source of automatic electric power of a required capacity and duration to operate required building, hazardous materials or ventilation systems in the event of a failure of the primary power. Standby power systems are required for electrical loads where interruption of the primary power could create hazards or hamper rescue or fire-fighting operations.

~~**Standpipe system, classes of.** Standpipe system classes are as follows:~~

~~**Class I system.** A system providing 2½ inch (64 mm) hose connections to supply water for use by fire departments and those trained in handling heavy fire streams.~~

~~**Class II system.** A system providing 1½ inch (38 mm) hose stations to supply water for use primarily by the building occupants or by the fire department during initial response.~~

~~**Class III system.** A system providing 1½ inch (38 mm) hose stations to supply water for use by building occupants and 2½ inch (64 mm) hose connections to supply a larger volume of water for use by fire departments and those trained in handling heavy fire streams.~~

Standpipe, types of. Standpipe types are as follows:

Automatic dry. A dry standpipe system, normally filled with pressurized air, that is arranged through the use of a device, such as a dry pipe valve, to admit water into the system piping automatically upon the opening of a hose valve. The water supply for an automatic dry standpipe system shall be capable of supplying the system demand.

Automatic wet. A wet standpipe system that has a water supply that is capable of supplying the system demand automatically.

Manual dry. A dry standpipe system that does not have a permanent water supply attached to the system. Manual dry standpipe systems require water from a fire department pumper to be pumped into the system through the fire department connection in order to supply the system demand.

Manual wet. A wet standpipe system connected to a water supply for the purpose of maintaining water within the system but which does not have a water supply capable of delivering the system demand attached to the system. Manual wet standpipe systems require

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water from a fire department pumper (or the like) to be pumped into the system in order to supply the system demand.

Semiautomatic dry. A dry standpipe system that is arranged through the use of a device, such as a deluge valve, to admit water into the system piping upon activation of a remote-control device located at a hose connection. A remote-control activation device shall be provided at each hose connection. The water supply for a semiautomatic dry standpipe system shall be capable of supplying the system demand.

Standpipe system, classes of. Standpipe system classes are as follows:

Class I system. A system providing 2½-inch (64 mm) hose connections to supply water for use by fire departments and those trained in handling heavy fire streams.

Class II system. A system providing 1½-inch (38 mm) hose stations to supply water for use primarily by the building occupants or by the fire department during initial response.

Class III system. A system providing 1½-inch (38 mm) hose stations to supply water for use by building occupants and 2½-inch (64 mm) hose connections to supply a larger volume of water for use by fire departments and those trained in handling heavy fire streams.

State fire marshal. *The state fire marshal appointed pursuant to Section 3737.21 of the Revised Code or his duly authorized representative. For the purposes of Section 122, 'state fire marshal' shall also mean the Ohio department of commerce, division of state fire marshal.*

Static piles. Piles in which processed wood product or solid biomass feedstock is mounded and is not being turned or moved.

Steel. Hot- or cold-rolled as defined by the *building code*.

Storage, hazardous materials. The keeping, retention or leaving of hazardous materials in closed containers, tanks, cylinders, or similar vessels; or vessels supplying operations through closed connections to the vessel.

Storage location. *A single parcel or contiguous parcels of real estate approved by the state fire marshal pursuant to division (I) of Section 3743.04 of the Revised Code or division (G) of Section 3743.17 of the Revised Code that are separate from a licensed premises containing a retail showroom, and which parcel or parcels a licensed manufacturer or wholesaler of fireworks may use only for the distribution, possession, and storage of fireworks in accordance with Chapter 3743. of the Revised Code and this chapter.*

[BG] Story. That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above (see "Basement," "Building height," "Grade plane" and "Mezzanine"). ~~It~~A story is measured as the vertical distance from top to top of two successive tiers of beams or finished floor surfaces and, for the topmost story, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

[BG] Story above grade plane. Any story having its finished floor surface entirely above grade plane, or in which the finished surface of the floor next above is:

1. More than 6 feet (1829 mm) above grade plane; or

2. More than 12 feet (3658 mm) above the finished ground level at any point.

Subordinate (fire protection and life safety system). A system that is activated by another fire protection or life safety system. For example, where a fire alarm system activates a smoke removal or elevator recall system, the smoke removal or elevator recall system is considered to be "subordinate" to the fire alarm system.

Supervising station. A facility that receives signals and at which personnel are in attendance at all times to respond to these signals.

Supervisory service. The service required to monitor performance of guard tours and the operative condition of ~~fixed suppression~~ fire protection systems or other systems for the protection of life and property.

Supervisory signal. A signal indicating the need of action in connection with the supervision of guard tours, the fire ~~suppression~~ protection systems or equipment, or the maintenance features of related systems.

Supervisory signal-initiating device. An initiating device such as a valve supervisory switch, water level indicator, or low-air pressure switch on a dry-pipe sprinkler system whose change of state signals an off-normal condition and its restoration to normal of a fire protection or life safety system; or a need for action in connection with guard tours, fire ~~suppression~~ protection systems or equipment, or maintenance features of related systems.

System. An assembly of equipment consisting of a tank, container or containers, appurtenances, pumps, compressors and connecting piping.

Tank. A vessel containing more than 60 gallons (227 L).

Tank, atmospheric. A storage tank designed to operate at pressures from atmospheric through 1.0 pound per square inch gauge (760 mm Hg through 812 mm Hg) measured at the top of the tank.

Tank, engine mounted. *An above-ground fuel tank furnished by the engine manufacturer or the emergency power system supplier and mounted on the engine, the engine frame, or under as a subbase.*

Tank, motor vehicle fuel. A tank permanently mounted on a motor vehicle to store a gas or liquid fuel that is used for propulsion.

Tank, portable. A packaging of more than 60-gallon (227 L) capacity and designed primarily to be loaded into or on or temporarily attached to a transport vehicle or ship and equipped with skids, mountings or accessories to facilitate handling of the tank by mechanical means. It does not include any cylinder having less than a 1,000-pound (454 kg) water capacity, cargo tank, tank car tank or trailers carrying cylinders of more than 1,000-pound (454 kg) water capacity.

Tank, primary. A listed atmospheric tank used to store liquid. See "Primary containment."

Tank, protected above ground. A tank listed in accordance with UL 2085 consisting of a primary tank provided with protection from physical damage and fire-resistive protection from a high-

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intensity liquid pool fire exposure. The tank may provide protection elements as a unit or may be an assembly of components, or a combination thereof.

Tank, stationary. Packaging designed primarily for stationary installations not intended for loading, unloading or attachment to a transport vehicle as part of its normal operation in the process of use. It does not include cylinders having less than a 1,000-pound (454 kg) water capacity.

Tank vehicle. A vehicle other than a railroad tank car or boat, with a cargo tank mounted thereon or built as an integral part thereof, used for the transportation of flammable or combustible liquids, LP-gas or hazardous chemicals. Tank vehicles include self-propelled vehicles and full trailers and semitrailers, with or without motive power, and carrying part or all of the load.

Temporary door locking device. *An assembly of parts intended to be engaged by a trained school staff member in a school building for the purpose of preventing both ingress and egress through a door in a school building for a finite period of time in an emergency situation and during active shooter drills. See Section 1010.4 of the building code.*

Temporary residence. ~~*Means six or more dwelling unit accommodations within a single structure, except apartment buildings and other structures or portions thereof that are either residential premises subject to Title LIII. of the Revised Code or a similar residential occupancy, offered for pay to persons for a period of one year or less.*~~*A dwelling unit accommodation room within a hotel that is used by its occupants but is not used as the permanent or principal residence of its occupants.*

~~**Temporary stage canopy.** A temporary ground-supported membrane-covered frame structure used to cover stage areas and support equipment in the production of outdoor entertainment events.~~

Temporary special event structure. Any temporary ground-supported structure, platform, stage, stage scaffolding or rigging, canopy, tower supporting audio or visual effects equipment or similar structures not regulated within the scope of the *building code*.

~~**[BG]**~~ **Tent.** A structure, enclosure, umbrella structure or shelter, with or without sidewalls or drops, constructed of fabric or pliable material supported ~~by~~ in any manner except by air or the contents ~~that~~ it protects (see "Umbrella structure").

Theft resistant. Construction designed to deter illegal entry into facilities for the storage of explosive materials.

[BF] Through-penetration firestop system. An assemblage consisting of a fire-resistance-rated floor, floor-ceiling or wall assembly, one or more penetrating items passing through the breaches in both sides of the assembly and the materials or devices, or both, installed to resist the spread of fire through the assembly for a prescribed period of time.

Timber and lumber production facilities. Facilities where raw wood products are processed into finished wood products.

Tires, bulk storage of. Storage of tires where the area available for storage exceeds 20,000 cubic feet (566 m^3).

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Tool. A device, storage container, workstation or process machine used in a fabrication area.

Torch-applied roof system. Bituminous roofing systems using membranes that are adhered by heating with a torch and melting asphalt back coating instead of mopping hot asphalt for adhesion.

[A] Townhouse. A single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from the foundation to roof and with open space on not less than two sides.

Toxic. A chemical falling within any of the following categories:

1. A chemical that has a median lethal dose (LD_{50}) of more than 50 milligrams per kilogram, but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.

2. A chemical that has a median lethal dose (LD_{50}) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between 2 and 3 kilograms each.

3. A chemical that has a median lethal concentration (LC_{50}) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than 2 milligrams per liter but not more than 20 milligrams per liter of mist, fume or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 200 and 300 grams each.

Traffic calming devices. Traffic calming devices are design elements of fire apparatus access roads such as street alignment, installation of barriers, and other physical measures intended to reduce traffic and cut-through volumes, and slow vehicle speeds.

[BG] Transient. Occupancy of a dwelling unit or sleeping unit for not more than 30 days.

[BG] Transient aircraft. Aircraft based at another location and that is at the transient location for not more than 90 days.

Transient hotel. *Any structure consisting of one or more buildings, with more than five sleeping rooms, that, through a valid certificate of occupancy, is specifically constructed, kept, used, maintained, advertised, or held out to the public to be a place where sleeping accommodations are offered for pay to transient guests for a period of thirty days or less, including, but not limited to, such a structure denoted as a hotel, motel, motor hotel, lodge, motor lodge, bed and breakfast, or inn.*

Transient 270 day stay hotel room. *A specifically designated sleeping room, in a licensed transient hotel meeting all the requirements contained in Section 3731.041 of the Revised Code.*

Transverse flue space. See “Flue spaces-transverse.”

Trash. See “Rubbish (trash).”

Trick match. *A kitchen or book match that is coated with a small quantity of explosive composition and that, upon ignition, produces a small report or a shower of sparks.*

Note: for copyright claim information, please see the notice on the last page of this rule.

Trouble signal. A signal initiated by the fire alarm system or device indicative of a fault in a monitored circuit or component.

Tube trailer. A semitrailer on which a number of tubular gas cylinders have been mounted. A manifold is typically provided that connects the cylinder valves enabling gas to be discharged from one or more tubes or cylinders through a piping and control system.

Umbrella structure. A structure, enclosure or shelter with or without sidewalls or drops, constructed of fabric or pliable material supported by a central pole or poles (see "Tent").

Unauthorized discharge. A release or emission of materials in a manner which does not conform to the provisions of this code or applicable public health and safety regulations.

Unfriendly fire. *A fire of destructive nature as distinguished from a controlled fire intended for a beneficial purpose.*

Unstable (reactive) material. A material, other than an explosive, which in the pure state or as commercially produced, will vigorously polymerize, decompose, condense or become self-reactive and undergo other violent chemical changes, including explosion, when exposed to heat, friction or shock, or in the absence of an inhibitor, or in the presence of contaminants, or in contact with incompatible materials. Unstable (reactive) materials are subdivided as follows:

Class 4. Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. This class includes materials that are sensitive to mechanical or localized thermal shock at normal temperatures and pressures.

Class 3. Materials that in themselves are capable of detonation or of explosive decomposition or explosive reaction but which require a strong initiating source or which must be heated under confinement before initiation. This class includes materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures.

Class 2. Materials that in themselves are normally unstable and readily undergo violent chemical change but do not detonate. This class includes materials that can undergo chemical change with rapid release of energy at normal temperatures and pressures, and that can undergo violent chemical change at elevated temperatures and pressures.

Class 1. Materials that in themselves are normally stable but which can become unstable at elevated temperatures and pressure.

Unwanted fire. A fire not used for cooking, heating or recreational purposes or one not incidental to the normal operations of the property.

Use (material). Placing a material into action, including solids, liquids and gases.

Vapor pressure. The pressure exerted by a volatile fluid as determined in accordance with ASTM D323.

[M] Ventilation. The natural or mechanical process of supplying conditioned or unconditioned air to, or removing such air from, any space.

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Vessel. A motorized watercraft, other than a seaplane on the water, used or capable of being used as a means of transportation. Nontransportation vessels, such as houseboats and boathouses, are included in this definition.

Visible alarm notification appliance. A notification appliance that alerts by the sense of sight.

Volunteer fire department. *A fire department, organized under Section 505.37, 505.371, 505.375 or 737.21 of the Revised Code, wherein at least one-half of the firefighters are volunteer firefighters.*

Volunteer fire fighter. *A duly appointed member of a fire department on either a nonpay or part-pay basis who is ineligible to be a member of the Ohio police and fire pension fund, or whose employment as a firefighter does not in itself qualify any such person for membership in the public employees retirement system, or who has waived membership in the public employees retirement system.*

Water mist system, automatic. See "Automatic water mist system."

Water-reactive material. A material that explodes; violently reacts; produces flammable, toxic or other hazardous gases; or evolves enough heat to cause autoignition or ignition of combustibles upon exposure to water or moisture. Water-reactive materials are subdivided as follows:

Class 3. Materials that react explosively with water without requiring heat or confinement.

Class 2. Materials that react violently with water or have the ability to boil water. Materials that produce flammable, toxic or other hazardous gases, or evolve enough heat to cause autoignition or ignition of combustibles upon exposure to water or moisture.

Class 1. Materials that react with water with some release of energy, but not violently.

~~**Wet chemical extinguishing agent.** A solution of water and potassium carbonate-based chemical, potassium acetate-based chemical or a combination thereof, forming an extinguishing agent.~~

Wet fueling. See "Mobile fueling."

Wet hosing. See "Mobile fueling."

Wet-chemical extinguishing agent. A solution of water and potassium-carbonate-based chemical, potassium-acetate-based chemical or a combination thereof, forming an extinguishing agent.

Wholesale sale or sell at wholesale. *A sale of fireworks to a purchaser who intends to resell the fireworks so purchased.*

Wharf. A structure or bulkhead constructed of wood, stone, concrete or similar material built at the shore of a harbor, lake or river for vessels to lie alongside of, and to anchor piers or floats.

Wildfire risk area. Land that is covered with grass, grain, brush or forest, whether privately or publicly owned, which is so situated or is of such inaccessible location that a fire originating upon

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it would present an abnormally difficult job of suppression or would result in great or unusual damage through fire or such areas designated by the fire code official.

[BE] Winder. A tread with nonparallel edges.

Wire sparkler. *A sparkler consisting of a wire or stick coated with a nonexplosive pyrotechnic mixture that produces a shower of sparks upon ignition and that contains no more than one hundred grams of this mixture.*

Wireless protection system. A system or a part of a system that can transmit and receive signals without the aid of wire.

Workstation. A defined space or an independent principal piece of equipment using HPM within a fabrication area where a specific function, laboratory procedure or research activity occurs. Approved or listed hazardous materials storage cabinets, flammable liquid storage cabinets or gas cabinets serving a workstation are included as part of the workstation. A workstation is allowed to contain ventilation equipment, fire protection devices, detection devices, electrical devices and other processing and scientific equipment.

[BG] Yard. An open space, other than a court, unobstructed from the ground to the sky, except where specifically provided by the *building code*, on the lot on which a building is situated.

Zone. A defined area within the protected premises. A zone can define an area from which a signal can be received, an area to which a signal can be sent or an area in which a form of control can be executed.

Zone, notification. An area within a building or facility covered by notification appliances which are activated simultaneously.

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1301:7-7-03 General requirements.

Section 301 General

301.1 Scope. The provisions of this chapter shall govern the occupancy and maintenance of all structures and premises for precautions against fire and the spread of fire and general requirements of fire safety.

301.2 Permits. Permits shall be required as set forth in *Chapter 1* for the activities or uses regulated by Sections 306, 307, 308, 315 and 320.

Section 302 Definitions

302.1 Definitions. The following terms are defined in Chapter 2.

3D printer.

Additive manufacturing.

Bonfire.

Hi-boy.

High-voltage transmission line.

Mobile food unit.

Open burning.

Portable outdoor fireplace.

Powered industrial truck.

Recreational fire.

Sky lantern.

Section 303 Asphalt kettles

303.1 Transporting. Asphalt (tar) kettles shall not be transported over any highway, road or street when the heat source for the kettle is operating.

Exception: Asphalt (tar) kettles in the process of patching road surfaces.

303.2 Location. Asphalt (tar) kettles shall not be located within 20 feet (6096 mm) of any combustible material, combustible building surface or any building opening. *Asphalt (tar) kettles shall be located* within a controlled area identified by the use of traffic cones, barriers or other approved means. Asphalt (tar) kettles and pots shall not be utilized inside or on the roof of a building or structure. Roofing kettles and operating asphalt (tar) kettles shall not block means of egress, gates, roadways or entrances.

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303.3 Location of fuel containers. Fuel containers shall be located not less than 10 feet (3048 mm) from the burner.

Exception: Containers properly insulated from heat or flame are allowed to be within 2 feet (610 mm) of the burner.

303.4 Attendant. An operating kettle shall be attended by not less than one employee knowledgeable of the operations and hazards. The employee shall be within 100 feet (30 480 mm) of the kettle and have the kettle within sight. Ladders or similar obstacles shall not form a part of the route between the attendant and the kettle.

303.5 Fire extinguishers. There shall be a portable fire extinguisher complying with Section 906 and with a minimum 40-B:C rating within 25 feet (7620 mm) of each asphalt (tar) kettle during the period such kettle is being utilized. Additionally, there shall be one portable fire extinguisher with a minimum 3-A:40-B:C rating on the roof being covered.

303.6 Lids. Asphalt (tar) kettles shall be equipped with tight-fitting lids.

303.7 Hi-boys. Hi-boys shall be constructed of noncombustible materials. Hi-boys shall be limited to a capacity of 55 gallons (208 L). Fuel sources or heating elements shall not be allowed as part of a hi-boy.

303.8 Roofing kettles. Roofing kettles shall be constructed of noncombustible materials.

303.9 Fuel containers under air pressure. Fuel containers that operate under air pressure shall not exceed 20 gallons (76 L) in capacity and shall be approved.

Section 304 Combustible waste material

304.1 Waste accumulation prohibited. Combustible waste material creating a fire hazard shall not be allowed to accumulate in buildings or structures or upon premises.

304.1.1 Waste material. Accumulations of wastepaper, wood, hay, straw, weeds, litter or combustible or flammable waste or rubbish of any type*, including but not limited to asphalt shingles*, shall not be permitted to remain on a roof or in any court, yard, vacant lot, alley, parking lot, open space, or beneath a grandstand, bleacher, pier, wharf, manufactured home, recreational vehicle or other similar structure.

304.1.2 Vegetation. Weeds, grass, vines or other growth that is capable of being ignited and endangering property, shall be cut down and removed by the owner or occupant of the premises. Vegetation clearance requirements in ~~urban-~~wildland-urban interface areas shall be in accordance with the International Wildland-Urban Interface Code.

304.1.3 Space underneath seats. Spaces underneath grandstand and bleacher seats shall be kept free from combustible and flammable materials. Except where enclosed in not less than 1-hour fire-resistance-rated construction in accordance with the *building code*~~.~~

304.1.3.1 Spaces underneath grandstands and bleachers. ~~s~~Spaces underneath grandstands and bleachers ~~seats~~ shall not be occupied or utilized for purposes other than means of egress except where equipped with an automatic sprinkler system in accordance

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with Section 903.2.1.5.1, or separated with fire barriers and horizontal assemblies in accordance with Section 1030.1.1.1.

304.2 Storage. Storage of combustible rubbish shall not produce conditions that will create a nuisance or a hazard to the public health, safety or welfare.

304.3 Containers. Combustible rubbish, and waste material kept within or near a structure shall be stored in accordance with Sections 304.3.1 through 304.3.4.

304.3.1 Spontaneous ignition. Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container. Contents of such containers shall be removed and disposed of daily.

304.3.2 Capacity exceeding 5.33 cubic feet. Containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15 m^3) shall be provided with lids. Containers and lids shall be constructed of noncombustible materials or of combustible materials with a peak rate of heat release not exceeding 300 kW/m^2 where tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m^2 in the horizontal orientation.

Exception: Wastebaskets complying with Section 808.

304.3.3 Capacity exceeding 1.5 cubic yards. Dumpsters and containers with an individual capacity of 1.5 cubic yards [40.5 cubic feet (1.15 m^3)] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings or combustible roof eave lines.

Exceptions:

1. Dumpsters or containers that are placed inside buildings in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.

2. Storage in a structure shall not be prohibited where the structure is of Type I or ~~Type~~ IIA construction, located not less than 10 feet (3048 mm) from other buildings and used exclusively for dumpster or container storage.

3. Dumpsters or containers that are located adjacent to buildings where the exterior area is protected by an approved automatic sprinkler system.

304.3.4 Capacity of 1 cubic yard or more. Dumpsters with an individual capacity of 1.0 cubic yard [200 gallons (0.76 m^3)] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings or combustible roof eave lines unless the dumpsters are constructed of noncombustible materials or of combustible materials with a peak rate of heat release not exceeding 300 kW/m^2 where tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m^2 in the horizontal orientation.

Exceptions:

1. Dumpsters in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.

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2. Storage in a structure shall not be prohibited where the structure is of Type I or IIA construction, located not less than 10 feet (3048 mm) from other buildings and used exclusively for dumpster or container storage.

Section 305 Ignition sources

305.1 Clearance from ignition sources. Clearance between ignition sources, such as luminaires, heaters, flame-producing devices and combustible materials, shall be maintained in an approved manner.

305.2 Hot ashes and spontaneous ignition sources. Hot ashes, cinders, smoldering coals or greasy or oily materials subject to spontaneous ignition shall not be deposited in a combustible receptacle, within 10 feet (3048 mm) of other combustible material including combustible walls and partitions or within 2 feet (610 mm) of openings to buildings.

Exception: The minimum required separation distance to other combustible materials shall be 2 feet (610 mm) where the material is deposited in a covered, noncombustible receptacle placed on a noncombustible floor, ground surface or stand.

305.3 Open-flame warning devices. Open-flame warning devices shall not be used along an excavation, road, or any place where the dislodgment of such device might permit the device to roll, fall or slide on to any area or land containing combustible material.

305.4 Deliberate or negligent burning. It shall be unlawful to deliberately or through negligence set fire to or cause the burning of combustible material in such a manner as to endanger the safety of persons or property.

305.5 Unwanted fire ignitions. Acts or processes that have caused repeated ignition of unwanted fires shall be modified to prevent future ignition.

Section 306 Motion picture projection rooms and film

306.1 Motion picture projection rooms. Electric arc, xenon or other light source projection equipment that develops hazardous gases, dust or radiation and the projection of ribbon-type cellulose nitrate film, regardless of the light source used in projection, shall be operated within a motion picture projection room complying with Section 409 of the *building code*.

306.2 Cellulose nitrate film storage. Storage of cellulose nitrate film shall be in accordance with NFPA 40.

Section 307 Open burning, recreational fires and portable outdoor fireplaces

307.1 General. A person shall not kindle or maintain or authorize to be kindled or maintained any open burning unless conducted and approved in accordance with Sections 307.1.1 through 307.5.

307.1.1 Prohibited open burning. Open burning shall be prohibited when atmospheric conditions or local circumstances make such fires hazardous.

Exception: *Setting a back fire* for the purpose of reducing the impact of wildland fire *as set forth in Sections 1503.11 and 1503.22 of the Revised Code or from any prescribed burn operations authorized under division (C) of Section 1503.18 of the Revised Code.*

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307.1.2 Ban on open burning, recreational fires, and portable outdoor fireplaces. *The state fire marshal, in the sole discretion of the state fire marshal, may issue a ban on open burning, recreational fires, or the use of portable outdoor fireplaces at any time when the state fire marshal determines that atmospheric or drought or other environmental conditions necessitate such a ban. The ban may be issued state-wide or may be tailored to a specific area, region or county of the state as conditions warrant.*

307.1.2.1 *No open burning or recreational fires shall occur and no portable outdoor fireplaces shall be used in any area where a ban is in effect or at any time during a period when the state fire marshal has issued a ban.*

307.1.2.2 *No permit authorizing open burning, recreational fires or the use of portable outdoor fireplaces shall be issued during any time or in any area where a ban has been issued by the state fire marshal.*

Exception: *A permit authorizing open burning, recreational fires, or the use of portable outdoor fireplaces may be issued for any area, if any, that is not subject to the ban.*

307.1.2.3 *Nothing in this section shall prohibit a local fire code official with authority to do so from issuing a local ban on open burning, recreational fires, or the use of portable outdoor fireplaces at any time when conditions warrant, including during times when the state fire marshal has issued a ban as long as the local ban does not contradict the ban issued by the state fire marshal.*

307.2 Permit required. A permit shall be obtained from the fire code official in accordance with *Chapter 1* prior to kindling a fire for recognized silvicultural or range or wildlife management practices, prevention or control of disease or pests, or a bonfire. Application for such approval shall only be presented by and permits issued to the owner of the land ~~upon~~ on which the fire is to be kindled.

307.2.1 Authorization. Where required by state or local law or regulations, open burning shall only be permitted with prior approval from the state or local air and water quality management authority, provided that all conditions specified in the authorization are followed.

307.3 Extinguishment authority. Where open burning creates or adds to a hazardous situation, or a required permit for open burning has not been obtained, the fire code official is authorized to order the extinguishment of the open burning operation.

307.4 Location. The location for open burning shall ~~not~~ be not less than 50 feet (15 240 mm) from any structure, and provisions shall be made to prevent the fire from spreading to within 50 feet (15 240 mm) of any structure.

Exceptions:

1. Fires in approved containers that are not less than 15 feet (4572 mm) from a structure.

2. The minimum required distance from a structure shall be 25 feet (7620 mm) where the pile size is 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height.

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307.4.1 Bonfires. A bonfire shall not be conducted within 50 feet (15 240 mm) of a structure or combustible material unless the fire is contained in a barbecue pit. Conditions that could cause a fire to spread within 50 feet (15 240 mm) of a structure shall be eliminated prior to ignition.

307.4.2 Recreational fires. Recreational fires shall not be conducted within 25 feet (7620 mm) of a structure or combustible material. Conditions that could cause a fire to spread within 25 feet (7620 mm) of a structure shall be eliminated prior to ignition.

307.4.2.1 Fire pits. *Recreational fires conducted in gas-fired recreational pits shall not be conducted within 15 feet of a structure or combustible materials.*

307.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

Exception: Portable outdoor fireplaces used at one-and two-family dwellings.

307.5 Attendance. Open burning, bonfires, recreational fires and use of portable outdoor fireplaces shall be constantly attended until the fire is extinguished. ~~A minimum of~~Not fewer than one portable fire extinguisher complying with Section 906 with a minimum 4-A rating or other approved on-site fire-extinguishing equipment, such as dirt, sand, water barrel, garden hose or water truck, shall be available for immediate utilization.

Section 308 Open flames

308.1 General. Open flame, fire and burning on all premises shall be in accordance with Sections 308.1.1 through 308.4.1 and with other applicable sections of this code.

308.1.1 Where prohibited. A person shall not take or utilize an open flame or light in a structure, vessel, boat or other place where highly flammable, combustible or explosive material is utilized or stored. Lighting appliances shall be well-secured in a glass globe and wire mesh cage or a similar approved device.

308.1.2 Throwing or placing sources of ignition. A person shall not throw or place, or cause to be thrown or placed, a lighted match, cigar, cigarette, matches, or other flaming or glowing substance or object on any surface or article where it can cause an unwanted fire.

308.1.3 Torches for removing paint. A person utilizing a torch or other flame-producing device for removing paint from a structure shall provide not less than one portable fire extinguisher complying with Section 906 and with a minimum 4-A rating, two portable fire extinguishers, each with a minimum 2-A rating, or a water hose connected to the water supply on the premises where such burning is done. The person doing the burning shall remain on the premises 1 hour after the torch or flame-producing device is utilized.

308.1.4 Open-flame cooking devices. Charcoal burners and other open-flame cooking devices shall not be operated on combustible balconies or within 10 feet (3048 mm) of combustible construction.

Exceptions:

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1. One- and two-family dwellings.

2. Where buildings, balconies and decks are protected by an automatic sprinkler system.

3. LP-gas cooking devices having LP-gas container with a water capacity not greater than 2½ pounds [nominal 1 pound (0.454 kg) LP-gas capacity].

~~3.~~4. *Where approved by the fire code official, charcoal burners are allowed to be operated on combustible balconies or within 10 feet (3048 mm) of combustible construction where all of the following conditions are met:*

~~3~~4.1 *The charcoal burners are attended by an adult at all times when in operation.*

~~3~~4.2 *Portable fire extinguishers in the type, quantity and size as approved by the fire code official are present on the combustible balconies or at the cooking site located within 10 feet (3048 mm) of combustible construction. Such portable fire extinguishers shall be in an operable condition at all times and maintained in accordance with NFPA 10.*

~~3~~4.3 *All non-structural combustible material must be removed from the combustible balconies or at the cooking site located within 10 feet (3048 mm) of combustible construction.*

~~4. LP-gas cooking devices having an LP-gas container with a water capacity not greater than 2½ pounds [nominal 1 pound (0.454 kg) LP-gas capacity].~~

308.1.4.1 Natural gas fired open-flame cooking devices. *Where approved in writing by the fire code official, the installation and use of natural gas fired open flame cooking devices and/or appliances shall be permissible on combustible balconies of multi- (greater than two) family dwelling unit structures or within 10 feet (3048 mm) of combustible construction at multi-family dwelling unit structures, with the following conditions:*

1. *The fire code official, in that official's discretion, may require that any person responsible for the use of a natural gas fire open flame cooking device or other appliance at a multi-family dwelling unit structure, to maintain comprehensive general liability insurance in an amount sufficient to cover any damages to persons or property that could be attributed to any fire caused by the use of an open flame cooking device.*

2. *The fuel supply for the natural gas fueled open flame cooking device or appliance be from the natural gas fuel supply piping system connected to the building where the cooking is to occur. There shall be no storage tanks or cylinders located in or near the dwelling unit structure where the cooking is to occur.*

3. *The gas pressure supplied to the natural gas fueled cooking appliance shall be no more than the pressure recommended by the cooking device/appliance manufacturer. In no case shall the maximum pressure supplied to the device or appliance exceed 2 pounds per square inch (psi).*

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4. *Portable fire extinguishers in the type, quantity and size as approved by the fire code official are present on the combustible balconies or at the cooking site located within 10 feet (3048 mm) of combustible construction. Such portable fire extinguishers shall be in an operable condition at all times and maintained in accordance with NFPA 10.*

5. *While the natural gas fired open flame cooking device or appliance is in use, all combustibles that are not part of the dwelling unit structure shall be kept 5 feet (1524 mm) away from the cooking device.*

6. *Any and all building code requirements for the installation and use of natural gas fired grills, open flame cooking devices or appliances shall be complied with, including compliance with any permit and inspection requirements.*

308.1.5 Location near combustibles. Open flames such as from candles, lanterns, kerosene heaters and gas-fired heaters shall not be located on or near decorative material or similar combustible materials.

308.1.6 Open-flame devices. Torches and other devices, machines or processes liable to start or cause fire shall not be operated or used in or ~~upon~~on wildfire risk areas, except by a permit in accordance with *Chapter 1* secured from the fire code official.

Exception: Use within inhabited premises or designated campsites that are not less than 30 feet (9144 mm) from grass-, grain-, brush- or forest-covered areas.

308.1.6.1 Signals and markers. Flame-employing devices, such as lanterns or kerosene road flares, shall not be operated or used as a signal or marker in or ~~upon~~on wildfire risk areas.

Exception: The proper use of fusees at the scenes of emergencies or as required by standard railroad operating procedures.

308.1.6.2 Portable fueled open-flame devices. Portable open-flame devices fueled by flammable or combustible gases or liquids shall be enclosed or installed in such a manner as to prevent the flame from contacting combustible material.

Exceptions:

1. LP-gas-fueled devices used for sweating pipe joints or removing paint in accordance with Chapter 61.

2. Cutting and welding operations in accordance with Chapter 35.

3. Torches or flame-producing devices in accordance with Section 308.4.

4. Candles and open-flame decorative devices in accordance with Section 308.3.

308.1.6.3 Sky lanterns. A person shall not release or cause to be released ~~an untethered~~*any* sky lantern.

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308.1.7 Religious ceremonies. ~~When~~Where, in the opinion of the fire code official, adequate safeguards have been taken, participants in religious ceremonies are allowed to carry hand-held candles. Hand-held candles shall not be passed from one person to another while lighted.

308.1.7.1 Aisles and exits. Candles shall be prohibited in areas where occupants stand, or in an aisle or exit.

308.1.8 Flaming food and beverage preparation. The preparation of flaming foods or beverages in places of assembly and drinking or dining establishments shall be in accordance with Sections 308.1.8.1 through 308.1.8.5.

308.1.8.1 Dispensing. Flammable or combustible liquids used in the preparation of flaming foods or beverages shall be dispensed from one of the following:

1. A 1-ounce (29.6 ml) container.

2. A container not exceeding 1-quart (946.5 ml) capacity with a controlled pouring device that will limit the flow to a 1-ounce (29.6 ml) serving.

308.1.8.2 Containers not in use. Containers shall be secured to prevent spillage when not in use.

308.1.8.3 Serving of flaming food. The serving of flaming foods or beverages shall be done in a safe manner and shall not create high flames. The pouring, ladling or spooning of liquids is restricted to a maximum height of 8 inches (203 mm) above the receiving receptacle.

308.1.8.4 Location. Flaming foods or beverages shall be prepared only in the immediate vicinity of the table being serviced. They shall not be transported or carried while burning.

308.1.8.5 Fire protection. The person preparing the flaming foods or beverages shall have a wet cloth towel immediately available for use in smothering the flames in the event of an emergency.

308.2 Permits required. Permits shall be obtained from the fire code official in accordance with *Chapter 1* prior to engaging in the following activities involving open flame, fire and burning:

1. Use of a torch or flame-producing device to remove paint from a structure.

2. Use of open flame, fire or burning in connection with Group A or E occupancies.

3. Use or operation of torches and other devices, machines or processes liable to start or cause fire in or ~~upon~~on wildfire risk areas.

308.3 Group A occupancies. Open-flame devices shall not be used in a Group A occupancy.

Exceptions:

1. Open-flame devices are allowed to be used in the following situations, provided that approved precautions are taken to prevent ignition of a combustible material or injury to occupants:

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1.1 Where necessary for ceremonial or religious purposes in accordance with Section 308.1.7.

1.2 On stages and platforms as a necessary part of a performance in accordance with Section 308.3.2.

1.3 Where candles on tables are securely supported on substantial noncombustible bases and the candle flames are protected.

2. Heat-producing equipment complying with Chapter 6 and *the mechanical code*.

3. Gas lights are allowed to be used provided that adequate precautions satisfactory to the fire code official are taken to prevent ignition of combustible materials.

308.3.1 Open-flame decorative devices. Open-flame decorative devices shall comply with all of the following restrictions:

1. Class I and Class II liquids and LP-gas shall not be used.

2. Liquid- or solid-fueled lighting devices containing more than 8 ounces (237 ml) of fuel must self-extinguish and not leak fuel at a rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.

3. The device or holder shall be constructed to prevent the spillage of liquid fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) when the device or holder is not in an upright position.

4. The device or holder shall be designed so that it will return to the upright position after being tilted to an angle of 45 degrees (0.79 rad) from vertical.

   Exception: Devices that self-extinguish if tipped over and do not spill fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.

5. The flame shall be enclosed except where openings on the side are not more than 0.375 inch (9.5 mm) diameter or where openings are on the top and the distance to the top is such that a piece of tissue paper placed on the top will not ignite in 10 seconds.

6. Chimneys shall be made of noncombustible materials and securely attached to the open-flame device.

   Exception: A chimney is not required to be attached to any open-flame device that will self-extinguish if the device is tipped over.

7. Fuel canisters shall be safely sealed for storage.

8. Storage and handling of combustible liquids shall be in accordance with Chapter 57.

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9. Shades, where used, shall be made of noncombustible materials and securely attached to the open-flame device holder or chimney.

10. Candelabras with flame-lighted candles shall be securely fastened in place to prevent overturning~~,~~ and shall be located away from occupants using the area and away from possible contact with drapes, curtains or other combustibles.

308.3.2 Theatrical performances. Where approved *in accordance with the permit requirements of Chapter 56*, open-flame devices used in conjunction with theatrical performances are allowed to be used ~~when~~where adequate safety precautions have been taken in accordance with NFPA 160.

308.4 Group R occupancies. Open flame, fire and burning in Group R occupancies shall comply with the requirements of Sections 308.1 through 308.1.6.3 and Section 308.4.1.

308.4.1 Group R-2 dormitories. Candles, incense and similar open-flame-producing items shall not be allowed in sleeping units in Group R-2 dormitory occupancies.

Section 309 Powered industrial trucks and equipment

309.1 General. Powered industrial trucks and similar equipment including, but not limited to, floor scrubbers and floor buffers, shall be operated and maintained in accordance with Sections 309.2 through ~~(I)(7)(309.6~~309.7.

309.2 Use in hazardous (classified) locations. Powered industrial trucks used in areas designated as hazardous (classified) locations in accordance with NFPA 70 shall be listed and labeled for use in the environment intended in accordance with NFPA 505.

~~309.2~~**309.3 Battery chargers.** Battery chargers shall be of an approved type. Combustible storage shall be kept not less than 3 feet (915 mm) from battery chargers. Battery charging shall not be conducted in areas ~~accessible~~open to the public.

~~309.3~~**309.4 Ventilation.** Ventilation shall be provided in an approved manner in battery-charging areas to prevent a dangerous accumulation of flammable gases.

~~309.4~~**309.5 Fire extinguishers.** Battery-charging areas shall be provided with a fire extinguisher complying with Section 906 having a minimum 4-A:20-B:C rating within 20 feet (6096 mm) of the battery charger.

~~309.5~~**309.6 Refueling.** Powered industrial trucks using liquid fuel, LP-gas or hydrogen shall be refueled outside of buildings or in areas specifically approved for that purpose. Fixed fuel-dispensing equipment and associated fueling operations shall be in accordance with Chapter 23. Other fuel-dispensing equipment and operations, including cylinder exchange for LP-gas-fueled vehicles, shall be in accordance with Chapter 57 for flammable and combustible liquids or Chapter 61 for LP-gas.

~~309.6~~**309.7 Repairs.** Repairs to fuel systems, electrical systems and repairs utilizing open flame or welding shall be done in approved locations outside of buildings or in areas specifically approved for that purpose.

Section 310 Smoking

Note: for copyright claim information, please see the notice on the last page of this rule.

310.1 General. The smoking or carrying of a lighted pipe, cigar, cigarette or any other type of smoking paraphernalia or material is prohibited in the areas indicated in Sections 310.2 through 310.8.

310.2 Prohibited areas. Smoking shall be prohibited where conditions are such as to make smoking a hazard, and in spaces where flammable or combustible materials are stored or handled.

Exception: In Group I-2 occupancies, patients shall be permitted to smoke in designated patient care areas based on the clinical needs of the patient.

310.2.1 Group I-2. In Group I-2 occupancies, smoking shall be prohibited in patient care areas or where oxygen is used, stored or handled.

310.3 "No Smoking" signs. The fire code official is authorized to order the posting of "No Smoking" signs or the international symbol for no smoking in a conspicuous location in each structure or location in which smoking is prohibited. The content, lettering, size, color and location of required "No Smoking" signs shall be approved.

Exception: ~~In Group I-2 occupancies where smoking is prohibited,~~ "No Smoking" signs are not required in interior locations of the facility where signs are displayed at all major entrances into the facility.

310.4 Removal of signs prohibited. A posted "No Smoking" sign shall not be obscured, removed, defaced, mutilated or destroyed.

310.5 Compliance with "No Smoking" signs. Smoking shall not be permitted nor shall a person smoke, throw or deposit any lighted or smoldering substance in any place where "No Smoking" signs are posted.

310.6 Ash trays. Where smoking is permitted, suitable noncombustible ash trays or match receivers shall be provided on each table and at other appropriate locations. In Group I-2 occupancies, noncombustible metal containers with self-closing covers shall be provided in areas where smoking is permitted.

310.7 Burning objects. Lighted matches, cigarettes, cigars or other burning object~~s~~ shall not be discarded in such a manner that could cause ignition of other combustible material.

310.8 Hazardous environmental conditions. Where the fire code official determines that hazardous environmental conditions necessitate controlled use of smoking materials, the ignition or use of such materials in mountainous, brush-covered or forest-covered areas or other designated areas is prohibited except in approved designated smoking areas.

Section 311 Vacant premises

311.1 General. Temporarily unoccupied buildings, structures, premises or portions thereof, including tenant spaces, shall be safeguarded and maintained in accordance with Sections 311.1.1 through 311.6.

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311.1.1 Abandoned premises. Buildings, structures and premises for which an owner cannot be identified or located by dispatch of a certificate of mailing to the last known or registered address, which persistently or repeatedly become unprotected or unsecured, which have been occupied by unauthorized persons or for illegal purposes, or which present a danger of structural collapse or fire spread to adjacent properties shall be considered to be abandoned, declared unsafe and abated by demolition or rehabilitation in accordance with the International Property Maintenance Code and the *building code*.

311.1.2 Tenant spaces. Storage and lease plans required by this code shall be revised and updated to reflect temporary or partial vacancies.

311.2 Safeguarding vacant premises. Temporarily unoccupied buildings, structures, premises or portions thereof shall be secured and protected in accordance with Sections 311.2.1 through 311.2.3.

311.2.1 Security. Exterior and interior openings ~~accessible~~open to other tenants or unauthorized persons shall be boarded, locked, blocked or otherwise protected to prevent entry by unauthorized individuals. The fire code official is authorized to placard, post signs, erect barrier tape or take similar measures as necessary to secure public safety.

311.2.1.1. *Residential property subject to Section 2308.02 of the Revised Code regarding an expedited foreclosure on vacant and abandoned property, shall be secured in accordance with Section 2308.031 of the Revised Code. If a quick release device is manufactured for the product used to secure the property, the quick release device shall be installed.*

311.2.2 Fire protection. Fire ~~alarm, sprinkler and standpipe~~protection systems shall be maintained in an operable condition at all times.

Exceptions:

1. ~~When~~Where the premises have been cleared of all combustible materials and debris and, in the opinion of the fire code official, the type of construction, fire separation distance and security of the premises do not create a fire hazard.

2. Where approved by the fire ~~chief~~code official, buildings that will not be heated and where fire protection systems will be exposed to freezing temperatures, fire alarm and automatic sprinkler systems are permitted to be placed out of service and standpipes are permitted to be maintained as dry systems (without an automatic water supply), provided that the building ~~has no~~does not have contents or storage, and windows, doors and other openings are secured to prohibit entry by unauthorized persons.

3. Where approved by the fire code official, fire alarm and automatic sprinkler systems are permitted to be placed out of service in seasonally occupied buildings; that will not be heated; where fire protection systems will be exposed to freezing temperatures; where fire areas do not exceed 12,000 square feet (1115 m^2); and that do not store motor vehicles or hazardous materials.

311.2.3 Fire separation. Fire-resistance-rated partitions, fire barriers and fire walls separating vacant tenant spaces from the remainder of the building shall be maintained. Openings, joints,

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and penetrations in fire-resistance-rated assemblies shall be protected in accordance with Chapter 7.

311.3 Removal of combustibles. Persons owning, or in charge or control of, a vacant building or portion thereof, shall remove therefrom all accumulations of combustible materials, flammable or combustible waste or rubbish and shall securely lock or otherwise secure doors, windows and other openings to prevent entry by unauthorized persons. The premises shall be maintained clear of waste or hazardous materials.

Exceptions:

1. Buildings or portions of buildings undergoing additions, alterations, repairs or change of occupancy in accordance with the *building code*, where waste is controlled and removed as required by Section 304.

2. Seasonally occupied buildings.

311.4 Removal of hazardous materials. Persons owning or having charge or control of a vacant building containing hazardous materials regulated by Chapter 50 shall comply with the facility closure requirements of Section 5001.6.

311.5 Placards. Any vacant or abandoned buildings or structures determined to be unsafe pursuant to Section ~~110~~114 of this code relating to structural or interior hazards shall be marked as required by Sections 311.5.1 through 311.5.5.

311.5.1 Placard location. Placards shall be applied on the front of the structure and be visible from the street. Additional placards shall be applied to the side of each entrance to the structure and on penthouses.

311.5.2 Placard size and color. Placards shall be 24 inches by 24 inches (610 mm by 610 mm) minimum in size with a red background, white reflective stripes and a white reflective border. The stripes and border shall have a 2-inch (51 mm) minimum stroke.

311.5.3 Placard date. Placards shall bear the date of their application to the building and the date of the most recent inspection.

311.5.4 Placard symbols. The design of the placards shall use the following symbols:

1. ☐ This symbol shall mean that the structure had normal structural conditions at the time of marking.

2. ⧅ This symbol shall mean that structural or interior hazards exist and interior fire-fighting or rescue operations should be conducted with extreme caution.

3. ☒ This symbol shall mean that structural or interior hazards exist to a degree that consideration should be given to limit fire fighting to exterior operations only, with entry only occurring for known life hazards.

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

   4.1 R/O-Roof open.

   4.2 S/M-Stairs, steps and landing missing.

   4.3 F/E-Avoid fire escapes.

   4.4 H/F-Holes in floor.

311.5.5 Informational use. The use of these symbols shall be informational only and shall not in any way limit the discretion of the on-scene incident commander.

311.6 Unoccupied tenant spaces in mall buildings. Unoccupied tenant spaces in covered and open mall buildings shall be:

1. Kept free from the storage of any materials.

2. Separated from the remainder of the building by partitions of not less than 0.5-inch-thick (12.7 mm) gypsum board or an approved equivalent to the underside of the ceiling of the adjoining tenant spaces.

3. Without doors or other access openings other than one door that shall be kept key locked in the closed position except during that time when opened for inspection.

4. Kept free from combustible waste and be broomswept clean.

Section 312 Vehicle impact protection

312.1 General. Vehicle impact protection required by this code shall be provided by posts that comply with Section 312.2 or by other approved physical barriers that comply with Section 312.3.

312.2 Posts. Guard posts shall comply with all of the following requirements:

1. Constructed of steel not less than 4 inches (102 mm) in diameter and concrete filled.

2. Spaced not more than 4 feet (1219 mm) between posts on center.

3. Set not less than 3 feet (914 mm) deep in a concrete footing of not less than a 15-inch (381 mm) diameter.

4. Set with the top of the posts not less than 3 feet (914 mm) above ground.

5. Located not less than 3 feet (914 mm) from the protected object.

312.3 Other barriers. Barriers, other than posts specified in Section 312.2, that are designed to resist, deflect or visually deter vehicular impact commensurate with an anticipated impact scenario shall be permitted where approved.

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Section 313 Fueled equipment

313.1 General. Fueled equipment including, but not limited to, motorcycles, mopeds, lawn-care equipment, portable generators and portable cooking equipment, shall not be stored, operated or repaired within a building.

Exceptions:

1. Buildings or rooms constructed for such use in accordance with the *building code*.
2. Where allowed by Section 314.
3. Storage of equipment utilized for maintenance purposes is allowed in approved locations where the aggregate fuel capacity of the stored equipment does not exceed 10 gallons (38 L) and the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

313.1.1 Removal. The fire code official is authorized to require removal of fueled equipment from locations where the presence of such equipment is determined by the fire code official to be hazardous.

313.2 Group R occupancies. Vehicles powered by flammable liquids, Class II combustible liquids or compressed flammable gases shall not be stored within the living space of Group R buildings.

Section 314 Indoor displays

314.1 General. Indoor displays constructed within any occupancy shall comply with Sections 314.2 through 314.4.

314.2 Fixtures and displays. Fixtures and displays of goods for sale to the public shall be arranged so as to maintain free, immediate and unobstructed access to exits as required by Chapter 10.

314.3 Highly combustible goods. The display of highly combustible goods, including but not limited to flammable or combustible liquids, liquefied flammable gases, oxidizing materials, pyroxylin plastics and agricultural goods, in main exit access aisles, corridors, covered and open malls, or within 5 feet (1524 mm) of entrances to exits and exterior exit doors is prohibited ~~when~~where a fire involving such goods would rapidly prevent or obstruct egress.

314.3.1 Display of fireworks for retail sale. *The display of fireworks for retail sale shall be in accordance with Chapter 56.*

314.4 Vehicles. Liquid-fueled or gaseous-fueled vehicles, aircraft, boats or other motorcraft shall not be located indoors except as follows:

1. ~~Batteries~~ The engine starting system is made inoperable or batteries are disconnected except where the fire code official requires that the batteries remain connected to maintain safety features.
2. Fuel in fuel tanks does not exceed one-quarter tank or 5 gallons (19 L) (whichever is least).

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3. Fuel tanks and fill openings are closed and sealed to prevent tampering.

4. Vehicles, aircraft, boats or other motorcraft equipment are not fueled or defueled within the building.

Section 315 General storage

315.1 General. Storage shall be in accordance with Sections 315.2 through ~~315.5~~315.6. Outdoor pallet storage shall be in accordance with Sections 315.2 and 315.7.

Exception: Wood and wood composite pallets stored outdoors at pallet manufacturing and recycling facilities and comply with Section 2810.

315.2 Permit required. A permit for miscellaneous combustible storage shall be required as set forth in *Chapter 1*.

315.3 Storage in buildings. Storage of materials in buildings shall be orderly and stacks shall be stable. Storage of combustible materials shall be separated from heaters or heating devices by distance or shielding so that ignition cannot occur.

315.3.1 Ceiling clearance. Storage shall be maintained 2 feet (610 mm) or more below the ceiling in nonsprinklered areas of buildings or not less than 18 inches (457 mm) below sprinkler head deflectors in sprinklered areas of buildings.

Exceptions:

1. The 2-foot (610 mm) ceiling clearance is not required for storage along walls in nonsprinklered areas of buildings.

2. The 18-inch (457 mm) ceiling clearance is not required for storage along walls in areas of buildings equipped with an automatic sprinkler system in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.

315.3.2 Means of egress. Combustible materials shall not be stored in exits or enclosures for stairways and ramps. Combustible materials in the means of egress during construction, demolition, remodeling or alterations shall comply with Section 3312.3.

315.3.3 Equipment rooms. Combustible material shall not be stored in boiler rooms, mechanical rooms, electrical equipment rooms or in fire command centers as specified in Section 508.1.5.

315.3.4 Attic, under-floor and concealed spaces. Attic, under-floor and concealed spaces used for storage of combustible materials shall be protected on the storage side as required for 1-hour fire-resistance-rated construction. Openings shall be protected by assemblies that are self-closing and are of noncombustible construction or solid wood core not less than 1¾ inches (44.5 mm) in thickness. Storage shall not be placed on exposed joists.

Exceptions:

1. Areas protected by approved automatic sprinkler systems.

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2. Group R-3 and Group U occupancies.

315.4 Outside storage. Outside storage of combustible materials shall not be located within 10 feet (3048 mm) of a ~~property~~lot line.

Exceptions:

1. The separation distance is allowed to be reduced to 3 feet (914 mm) for storage not exceeding 6 feet (1829 mm) in height.

2. The separation distance is allowed to be reduced where the fire code official determines that ~~no~~ hazard to the adjoining property does not exist~~s~~.

315.4.1 Storage beneath overhead projections from buildings. Where buildings are protected by an automatic sprinkler~~s~~ system, the outdoor storage, display and handling of combustible materials under eaves, canopies or other projections or overhangs are prohibited except where automatic sprinklers are installed under such eaves, canopies or other projections or overhangs.

315.4.2 Height. Storage in the open shall not exceed 20 feet (6096 mm) in height.

315.5 Storage underneath high-voltage transmission lines. Storage located underneath high-voltage transmission lines shall be in accordance with Section 316.6.2.

315.6 Storage in plenums. Storage ~~shall not be permitted~~is prohibited in plenums. Abandoned material in plenums shall be deemed to be storage and shall be removed. Where located in plenums, the ~~accessible~~ portion of abandoned cables that are ~~not~~able to be accessed without causing damage, or requiring demolition to the building shall be identified for future use with a tag or shall be deemed storage and shall be removed.

315.7 Outdoor pallet storage. Pallets stored outdoors shall comply with Sections 315.7 through 315.7.7. Pallets stored within a building shall be protected in accordance with Chapter 32.

315.7.1 Storage beneath overhead projections from buildings. Where buildings are equipped throughout with an automatic sprinkler system, the outdoor storage of pallets under eaves, canopies or other projections or overhangs are prohibited except where automatic sprinklers are installed under such eaves, canopies or other projections or overhangs.

315.7.2 Distance to lot line. Pallet storage shall not be located within 10 feet (3048 mm) of a lot line.

315.7.3 Storage height. Pallet storage shall not exceed 20 feet (6096 mm) in height.

315.7.4 Pallet pile stability and size. Pallet stacks shall be arranged to form stable piles. Individual pallet piles shall cover an area not greater than 400 square feet (37 m^2).

315.7.5 Pallet types. Pallets shall be all wood, with slatted or solid top or bottom, with metal fasteners, or shall be plastic or composite pallets, listed and labeled in accordance with UL 2335 or FM 4996. Plastic pallets shall be both solid and gridded deck, independent of the pallet manufacturing process, type of resin used in fabrication or geometry of the pallet.

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315.7.6 Pile separation distances. In addition to the other requirements of this section, pallet stacks and piles shall be separated in accordance with Sections 315.7.6.1 and 315.7.6.2.

315.7.6.1 Building separation. Pallet stacks and piles shall be separated from buildings in accordance with Table 315.7.6(1) for wood pallets and Table 315.7.6(2) for plastic pallets.

315.7.6.2 Separation from other pallets and on-site storage. Pallets shall be separated from other pallet piles and other storage in accordance with Table 315.7.6(3) for wood pallets and Table 315.7.6(4) for plastic pallets.

315.7.7 Prohibited locations. Pallets shall not be stored underneath high-voltage transmission lines, elevated roadways or elevated railways.

Table 315.7.6(1)
Separation distance between wood pallet stacks and buildings

Wall construction	Opening type	Wood pallet separation distance (feet)		
		≤50 pallets	51 to 200 pallets	>200 pallets
Masonry	None	2	2	2
Masonry	Fire-rated glazing with open sprinklers	2	5	20
Masonry	Fire-rated glazing	5	10	20
Masonry	Plain glass with open sprinklers	5	10	20
Noncombustible	None	5	10	20
Wood with open sprinklers	-----	5	10	20
Wood	None	15	30	90
Any	Plain glass	15	30	90

For SI: 1 foot = 304.8 mm.

Table 315.7.6(2)
Separation distance between plastic pallet stacks and buildings

Wall construction	Opening type	Plastic pallet separation distance (feet)		
		≤50 pallets	51 to 200 pallets	>200 pallets
Masonry	None	2	2	2
Masonry	Fire-rated glazing with open sprinklers	10	20	50
Masonry	Fire-rated glazing	15	40	100
Masonry	Plain glass with open sprinklers	15	40	100
Noncombustible	None	15	40	100
Wood with open sprinklers	-----	15	40	100

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Wood	None	30	80	150
Any	Plain glass	30	80	150

For SI: 1 foot = 304.8 mm.

Table 315.7.6(3)
Separation from other pallet piles and on-site storage (wood pallets)

	Wood pallet separation distance (feet)		
	≤50 pallets	51 to 200 pallets	>200 pallets
Between pallet piles	7.5	15	45
Other on-site storage	7.5	15	45

For SI: 1 foot = 304.8 mm.

Table 315.7.6(4)
Separation from other pallet piles and on-site storage (plastic pallets)

	Plastic pallet separation distance (feet)		
	≤50 pallets	51 to 200 pallets	>200 pallets
Between pallet piles	15	40	75
Other on-site storage	15	40	75

For SI: 1 foot = 304.8 mm.

Section 316 Hazards to fire fighters

316.1 Trapdoors to be closed. Trapdoors and scuttle covers, other than those that are within a dwelling unit or automatically operated, shall be kept closed at all times except when in use.

316.2 Shaftway markings. Vertical shafts shall be identified as required by this section.

316.2.1 Exterior access to shaftways. Outside openings ~~accessible to~~that can be reached by the fire department and that open directly on a hoistway or shaftway communicating between two or more floors in a building shall be plainly marked with the word SHAFTWAY in red letters not less than 6 inches (152 mm) high on a white background. Such warning signs shall be placed so as to be readily discernible from the outside of the building.

316.2.2 Interior access to shaftways. Door or window openings to a hoistway or shaftway from the interior of the building shall be plainly marked with the word SHAFTWAY in red letters not less than 6 inches (152 mm) high on a white background. Such warning signs shall be placed so as to be readily discernible.

Exception: Marking shall not be required on shaftway openings that are readily discernible as openings onto a shaftway by the construction or arrangement.

316.3 Pitfalls. The intentional design or alteration of buildings to disable, injure, maim or kill intruders is prohibited. A person shall not install and use firearms, sharp or pointed objects, razor wire, explosives, flammable or combustible liquid containers, or dispensers containing highly toxic, toxic, irritant or other hazardous materials in a manner that could passively or actively disable, injure, maim or kill a fire fighter who forcibly enters a building for the purpose of controlling or extinguishing a fire, rescuing trapped occupants or rendering other emergency assistance.

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316.4 Obstructions on roofs. Wires, cables, ropes, antennas, or other suspended obstructions installed on the roof of a building having a roof slope of less than 30 degrees (0.52 rad) shall not create an obstruction that is less than 7 feet (2133 mm) high above the surface of the roof.

Exceptions:

1. Such obstruction shall be permitted where the wire, cable, rope, antenna or suspended obstruction is encased in a white, 2-inch (51 mm) minimum diameter plastic pipe or an approved equivalent.

2. Such obstruction shall be permitted where there is a solid obstruction below such that accidentally walking into the wire, cable, rope, antenna or suspended obstruction is not possible.

316.5 Security device. Any security device or system that emits any medium that could obscure a means of egress in any building, structure or premise shall be prohibited.

316.6 Structures and outdoor storage underneath high-voltage transmission lines. Structures and outdoor storage underneath high-voltage transmission lines shall comply with Sections 316.6.1 and 316.6.2, respectively.

316.6.1 Structures. Structures shall not be constructed within the utility easement ~~underneath~~beneath high-voltage transmission lines.

Exception: Restrooms and unoccupied telecommunication structures of noncombustible construction less than 15 feet (4572 mm) in height.

316.6.2 Outdoor storage. Outdoor storage within the utility easement underneath high-voltage transmission lines shall be limited to noncombustible material. Storage of hazardous materials including, but not limited to, flammable and combustible liquids is prohibited.

Exception: Combustible storage, including vehicles and fuel storage for backup power equipment serving public utility equipment, is allowed, provided that a plan indicating the storage configuration is submitted and approved.

Section 317 ~~Rooftop gardens and l~~Landscaped roofs

317.1 General. ~~Rooftop gardens and l~~Landscaped roofs shall be installed and maintained in accordance with Sections 317.2 through 317.5 and Sections 1505 and 1507.16 of the *building code*.

317.2 ~~Rooftop garden or l~~Landscaped roof size. ~~Rooftop garden or l~~Landscaped roof areas shall not exceed 15 625 square feet (1450 m^2) in size for any single area with a maximum dimension of 125 feet (39 m) in length or width. A minimum 6-foot-wide (1.8 m) clearance consisting of a listed Class A ~~rated~~ roof ~~system complying~~assembly tested in accordance with ASTM E108 or UL 790 shall be provided between adjacent ~~rooftop gardens or~~ landscaped roof areas.

317.3 Rooftop structure and equipment clearance. For all ~~vegetated roofing systems~~ vegetative roofs abutting combustible vertical surfaces, a Class A-rated roof system complying with ASTM E108 or UL 790 shall be achieved for a minimum 6-foot-wide (1829 mm) continuous

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border placed around rooftop structures and all rooftop equipment including, but not limited to, mechanical and machine rooms, penthouses, skylights, roof vents, solar panels, antenna supports and building service equipment.

317.4 Vegetation. Vegetation shall be maintained in accordance with Sections 317.4.1 and 317.4.2.

317.4.1 Irrigation. Supplemental irrigation shall be provided to maintain levels of hydration necessary to keep green roof plants alive and to keep dry foliage to a minimum.

317.4.2 Dead foliage. Excess biomass, such as overgrown vegetation, leaves and other dead and decaying material, shall be removed at regular intervals not less than two times per year.

317.4.3 Maintenance plan. The fire code official is authorized to require a maintenance plan for vegetation placed on roofs due to the size of a landscaped roof ~~garden~~, materials used or where a fire hazard exists to the building or exposures due to the lack of maintenance.

317.5 Maintenance equipment. Fueled equipment stored on roofs and used for the care and maintenance of vegetation on roofs shall be stored in accordance with Section 313.

Section 318 Laundry carts

318.1 Laundry carts with a capacity of 1 cubic yard or more. Laundry carts with an individual capacity of 1 cubic yard [200 gallons (0.76 m^3)] or more, used in laundries within Group B, E, F-1, I, M and R-1 occupancies, shall be constructed of noncombustible materials or materials having a peak rate of heat release not exceeding 300 kW/m^2 at a flux of 50 kW/m^2 ~~when~~where tested in a horizontal orientation in accordance with ASTM E1354.

Exceptions:

1. Laundry carts in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1.

2. Laundry carts in coin-operated laundries.

~~(S) Section 319 Laboratories using chemicals~~

~~(1) 319.1 The operation and maintenance of all laboratories shall be in accordance with the requirements of NFPA 45.~~

~~(T) Section 320 Mobile food units~~

~~(1) 320.1 Scope. This section applies to all mobile food units operated within this state.~~

~~(2) 320.2 General. In addition to other applicable provisions of this code, all mobile food units being operated in this state shall comply with the provisions of this paragraph and with all applicable provisions of this code for the type of cooking performed.~~

~~(a) 320.2.1 Obstructions of fire lanes and equipment. Mobile food units shall not block fire lanes, fire hydrants, or other fire protection devices and equipment.~~

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(b) ***320.2.2 Operation of fuel source during transit.*** *LP-gas fueled equipment shall not be operated during transit unless the equipment meets both of the following:*

(i) *The equipment is designed to be in operation while the vehicle is in transit, such as cargo heaters or coolers; and*

(ii) *There is a means installed to stop the flow of gas in the event of a line break, such as an excess flow valve.*

(c) ***320.2.3 Carbon monoxide detection.*** *All mobile food units shall be equipped with at least one listed carbon monoxide detection device.*

Exception: *Carbon monoxide detectors shall not be required in mobile food units that are not equipped with fossil fuel powered equipment (such as generators or vehicle fuel tanks) and that do not otherwise produce carbon monoxide during operation.*

(3) ***320.3 Portable fire extinguishers.*** *All mobile food units shall have a minimum of one 5-pound ABC portable fire extinguisher located within the unit and readily accessible by the operator of the unit.*

Exception: *Open air hand carts that do not have fossil fuel powered equipment.*

(a) ***320.3.1 Class K portable fire extinguishers.*** *In addition to the portable fire extinguisher required in Section 320.3, all mobile food units that contain cooking equipment involving vegetable or animal oils and fats shall also be protected by at least one Class K rated portable fire extinguisher in accordance with Sections 904.12.5 through 904.12.5.2.*

(b) ***320.3.2 Installation and maintenance.*** *All portable fire extinguishers located within or at a mobile food unit shall be installed, serviced, tested, inspected and maintained in accordance with Section 906.*

(4) ***320.4 Egress.*** *All mobile food units while operating commercial cooking equipment shall have two accessible means of egress remotely located from each other.*

(a) ***320.4.1.*** *No means of egress required by this section shall be smaller than 5.7 square feet.*

(5) ***320.5 Smoking.*** *Smoking shall be prohibited inside of and within 10 feet of any mobile food unit that has any fuel source other than the vehicle fuel tank.*

(a) ***320.5.1.*** *"No Smoking" signs shall be conspicuously posted inside each mobile food unit, outside each mobile food unit in the vicinity of any location where compressed gas is stored or kept, and in a location that is visible to the public.*

(b) ***320.5.2.*** *"No Smoking" signs shall be in English, shall have a dark background, and shall have lettering in a contrasting color that is at least 4 inches tall and with a minimum brush stroke width of 1 inch.*

(6) ***320.6 LP-Gas.*** *The storage, use and handling of LP-Gas in a mobile food unit shall comply with this rule and, except as otherwise provided herein, shall also comply with Chapters 53, 57, 58 and 61.*

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(a) ***320.6.1 Containers.*** *Only ASME certified or DOTn certified mobile LP-Gas containers in compliance with the following shall be used:*

(i) *A maximum allowable working pressure (MAWP) of 312 psi (2.2 MPag) or higher for LP-Gas containers installed in the enclosed spaces of a vehicle.*

(ii) *A maximum allowable working pressure (MAWP) of 250 psi (2.2 MPag) or higher for LP-Gas containers installed on the exterior of a vehicle.*

(iii) Propane tanks must be kept in a secure manner at all times.

(iv) *The maximum aggregate capacity of containers used in a mobile food unit to contain LP-Gas shall not exceed 200 gallons (0.8 m^3) aggregate water capacity.*

(b) ***320.6.2 Location and installation.*** *Supply systems for mobile food units shall comply with the following:*

(i) *LP-Gas supply systems used for a mobile food unit, including the containers, shall be installed either on the outside of the vehicle or in a recess or cabinet that is vapor tight to the inside of the vehicle but accessible from and vented to the outside, with the vents located near the top and bottom of the enclosure and 1 m (3 ft) horizontally away from any opening into the vehicle.*

(ii) *Except as otherwise provided in Section 320.6.2, LP-Gas containers shall be mounted securely on the vehicle or within the enclosing recess or cabinet and secured with non-combustible material or devices, shall be kept in a secure manner at all times, and shall comply with the following:*

(a) *Cylinders shall be located to minimize exposure to excessive temperature rises, physical damage, or tampering.*

(b) *When secured to the rear of the vehicle, propane tanks shall be mounted with a minimum 30" clearance from the bottom of the tank to the ground.*

(c) *LP-Gas containers shall not be installed on the roof of the vehicle.*

(d) *Where LP-Gas containers are mounted within the vehicle housing, the housing shall be secure to the vehicle and any removable portions of the housing shall be secured to the housing while in transit.*

(e) *All LP-Gas container valves, appurtenances, and connections shall be protected to prevent damage from accidental contact with stationary objects, loose objects, stones, mud, or ice thrown, up from the ground or floor, and damage due to overturn or similar vehicular accident.*

(f) *LP-Gas cylinders shall have permanent protection for cylinder valves and connections.*

(g) *Where LP-Gas cylinders are located on the outside of a vehicle, weather protection shall be provided.*

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(h) All materials or devices used to secure LP-Gas containers shall be made of non-combustible material.

(iii) LP-Gas containers may be removed from the mobile food unit during operation activities. When so removed, propane tanks shall be secured to a stationary object or otherwise securely stabilized to prevent movement, overturn and damage at all times while operation activities are occurring.

(c) **320.6.3 Piping and connectors.** All piping installed in a mobile food unit shall comply with the following:

(i) Piping shall be installed in accordance with Section 6.9.3 of NFPA 58.

(ii) Steel tubing shall have a minimum wall thickness of 1.2 mm (0.049 in.).

(iii) A flexible connector shall be installed between the regulator outlet and the fixed piping system to protect against expansion, contraction, jarring, and vibration strains.

(iv) Flexibility shall be provided in the piping between a cylinder and the gas piping system or regulator.

(v) Flexible connectors shall be installed in accordance with Section 6.9.6 of NFPA 58. Flexible connectors installed between apparatus and the piping system shall be installed in accordance with ANSI Z21-69-2015/CSA 6.6-2015.

(vi) Flexible connectors longer than the length allowed in the code, or fuel lines that incorporate hose, shall be used only where approved.

(vii) The fixed piping system shall be designed, installed, supported, and secured to minimize the possibility of damage due to vibration, strains, or wear and to preclude any loosening while in transit.

(viii) Piping shall be installed in a protected location.

(a) Fastening or other protection shall be installed to prevent damage due to vibration or abrasion.

(b) At each point where piping passes through sheet metal or a structural member, a rubber grommet or equivalent protection shall be installed to prevent chafing.

(ix) Hydrostatic relief valves shall be installed in isolated sections of liquid piping in accordance with Section 6.13 of NFPA 58.

(x) Piping systems, including hose, shall be pressure tested and proven free of leaks in accordance with Section 6.14 of NFPA 58.

(d) **320.6.4 Emergency shut off controls.** Mobile food units using LP-Gas shall be provided with readily distinguishable and accessible marked exterior emergency shut off controls with a quarter-turn manual gas ball valve.

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~~(i) **320.6.4.1 Signage.** Signs shall be permanently mounted at the location of the emergency shut-off controls and shall state:~~

~~"EMERGENCY GAS SHUT-OFF VALVE"~~

~~(a) **320.6.4.1.1.** Signs shall be clearly visible and shall remain unobscured at all times. Signs shall be weather resistant, of contrasting colors, and shall be readable from a minimum distance of 25 feet.~~

~~(7) **320.7 Distance and separation requirements.** While parked and in operation mobile food units, exclusive of awnings and appurtenances, using or containing a fuel source or generator other than the vehicle fuel tank shall be separated from the entrances and other exits of buildings or structures and combustible materials by a clear space distance of 10 feet (3 m). While parked and in operation mobile food units using or containing a fuel source or generator other than the vehicle fuel tank shall be separated from other mobile food units by a clear space distance of 3 feet (0.9144 m).~~

~~(8) **320.8 Generators.**~~

~~(a) **320.8.1.** Generators servicing a mobile food unit shall not be fueled while the mobile food unit is in operation.~~

~~(b) **320.8.2.** Generators shall not be fueled while the generator is in use and shall not be fueled until the generator has been turned off and the surface temperature of the engine and fuel tank is below the autoignition temperature of the fuel.~~

~~(c) **320.8.3.** No generator shall be operated or used or fueled within the occupant space of a mobile food unit.~~

~~(9) **320.9 Electrical wiring and equipment.** All electrical wiring and equipment shall be installed in accordance with NFPA 70.~~

Section 319 Mobile food preparation vehicles

319.1 General. Mobile food preparation vehicles that are equipped with appliances that produce smoke or grease-laden vapors shall comply with this section.

319.2 Permit required. Permits shall be required as set forth in *Chapter 1*.

319.3 Exhaust hood. Cooking equipment that produces grease-laden vapors shall be provided with a kitchen exhaust hood in accordance with Section 606.

319.4 Fire protection. Fire protection shall be provided in accordance with Sections 319.4.1 and 319.4.2.

319.4.1 Fire protection for cooking equipment. Cooking equipment shall be protected by automatic fire extinguishing systems in accordance with *the following:*~~.~~

1. ***New mobile food preparation vehicles**. Vehicles that are manufactured or initially titled on or after December 31, 2025, and vehicles initially modified to operate as a mobile food preparation vehicle on or after December 31, 2025, shall not be operated*

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as a mobile food preparation vehicle in this state unless such vehicle is protected by an automatic fire extinguishing system that is listed, labelled, installed and maintained in accordance with this section and Section 904.13.

*2. **Existing mobile food preparation vehicles.** Mobile food preparation vehicles in operation as of the effective date of this code may continue to operate without a suppression system.*

***Exception:** If any mobile food preparation vehicle that is in operation as of the effective date of this code undergoes a substantial modification to the cooking equipment in the vehicle on or after December 31, 2025, the mobile food preparation vehicle shall be protected by an automatic fire extinguishing system that is listed, labelled, installed and maintained in accordance with this section and Section 904.13.*

319.4.2 Fire extinguisher. Portable fire extinguishers shall be provided in accordance with Section 906.4.

***319.4.2.1** Notwithstanding the provisions of Section 319.4.2, all mobile food preparation vehicles shall have a minimum of one 5-pound ABC portable fire extinguisher located within the vehicle and readily available to the operator of the vehicle.*

319.5 Appliance connection to fuel supply piping. Gas cooking appliances shall be secured in place and connected to fuel-supply piping with an appliance connector complying with ANSI Z21.69/CSA 6.16. The connector installation shall be configured in accordance with the manufacturer's installation instructions. Movement of appliances shall be limited by restraining devices installed in accordance with the connector and appliance manufacturer's instructions.

319.6 Cooking oil storage containers. Cooking oil storage containers within mobile food preparation vehicles shall have a maximum aggregate volume not more than 120 gallons (454 L), and shall be stored in such a way as to not be toppled or damaged during transport.

319.7 Cooking oil storage tanks. Cooking oil storage tanks within mobile food preparation vehicles shall comply with Sections 319.7.1 through 319.7.5.2.

319.7.1 Metallic storage tanks. Metallic cooking oil storage tanks shall be listed in accordance with UL 80 or UL 142 and shall be installed in accordance with the tank manufacturer's instructions.

319.7.2 Nonmetallic storage tanks. Nonmetallic cooking oil storage tanks shall be installed in accordance with the tank manufacturer's instructions and shall comply with both of the following:

1. Tanks shall be listed for use with cooking oil, including maximum temperature to which the tank will be exposed during use.

2. Tank capacity shall not exceed 200 gallons (757 L) per tank.

319.7.3 Cooking oil storage system components. Metallic and nonmetallic cooking oil storage system components shall include, but are not limited to, piping, connections, fittings,

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valves, tubing, hose, pumps, vents and other related components used for the transfer of cooking oil.

319.7.4 Design criteria. The design, fabrication and assembly of system components shall be suitable for the working pressures, temperatures and structural stresses to be encountered by the components.

319.7.5 Tank venting. Normal and emergency venting shall be provided for cooking oil storage tanks.

319.7.5.1 Normal vents. Normal vents shall be located above the maximum normal liquid line~~,~~ and shall have a minimum effective area not smaller than the largest filling or withdrawal connection. Normal vents are not required to vent to the exterior.

319.7.5.2 Emergency vents. Emergency relief vents shall be located above the maximum normal liquid line~~,~~ and shall be in the form of a device or devices that will relieve excessive internal pressure caused by an exposure fire. For nonmetallic tanks, the emergency relief vent shall be allowed to be in the form of construction. Emergency vents are not required to discharge to the exterior.

319.8 LP-gas systems. Where LP-gas systems provide fuel for cooking appliances, such systems shall comply with Chapter 61 and Sections 319.8.1 through 319.8.~~5~~6.

319.8.1 Maximum aggregate volume. The maximum aggregate capacity of LP-gas containers transported on the vehicle and used to fuel cooking appliances only shall not exceed ~~200 pounds (91 kg) propane capacity~~*200 gallons (0.8 m3) aggregate water capacity*.

319.8.2 Protection of container. LP-gas containers installed on the vehicle shall be securely mounted and restrained to prevent movement.

***319.8.2.1 Rear mounted tanks**. When secured to the rear of the vehicle, propane tanks shall be mounted with a minimum 30" clearance from the bottom of the tank to the ground.*

***319.8.2.2 Non-combustible materials.** All materials or devices used to secure LP-Gas containers shall be made of non-combustible material.*

***319.8.2.3 Removing containers during operation activities.** LP Gas containers may be removed from the mobile food preparation vehicle during operation activities. When so removed, propane tanks shall be secured to a stationary object or otherwise securely stabilized to prevent movement, overturn and damage at all times while operation activities are occurring.*

319.8.3 LP-gas container construction. LP-gas containers shall be manufactured in compliance with the requirements of NFPA 58.

319.8.4 Protection of system piping. LP-gas system piping, including valves and fittings, shall be adequately protected to prevent tampering, impact damage, and damage from vibration.

319.8.5 LP-gas alarms. A listed LP-gas alarm shall be installed within the vehicle in the vicinity of LP-gas system components, in accordance with the manufacturer's instructions.

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319.8.6 Piping and connectors. *All piping, including hose, shall be installed, tested and maintained in accordance with NFPA 58.*

319.9 CNG systems. Where CNG systems provide fuel for cooking appliances, such systems shall comply with Sections 319.9.1 through 319.9.4.

319.9.1 CNG containers supplying only cooking fuel. CNG containers installed solely to provide fuel for cooking purposes shall be in accordance with Sections 319.9.1.1 through 319.9.1.3.

319.9.1.1 Maximum aggregate volume. The maximum aggregate capacity of CNG containers transported on the vehicle shall not exceed 1,300 pounds (590 kg) water capacity.

319.9.1.2 Protection of container. CNG containers shall be securely mounted and restrained to prevent movement. Containers shall not be installed in locations subject to a direct vehicle impact.

319.9.1.3 CNG container construction. CNG containers shall be an NGV-2 cylinder.

319.9.2 CNG containers supplying transportation and cooking fuel. Where CNG containers and systems are used to supply fuel for cooking purposes in addition to being used for transportation fuel, the installation shall be in accordance with NFPA 52.

319.9.3 Protection of system piping. CNG system piping, including valves and fittings, shall be adequately protected to prevent tampering, impact damage and damage from vibration.

319.9.4 Methane alarms. A listed methane gas alarm shall be installed within the vehicle in accordance with manufacturer's instructions.

319.10 Maintenance. Maintenance of systems on mobile food preparation vehicles shall be in accordance with Sections 319.10.1 through 319.10.3.

319.10.1 Exhaust system. The exhaust system, including hood, grease-removal devices, fans, ducts and other appurtenances, shall be inspected and cleaned in accordance with Section 606.3.

319.10.2 Fire protection systems and devices. Fire protection systems and devices shall be maintained in accordance with Section 901.6.

319.10.3 Fuel gas systems. LP-gas containers installed on the vehicle and fuel-gas piping systems shall be inspected annually by an approved inspection agency or a company that is registered with the US Department of Transportation to requalify LP-gas cylinders, to ensure that system components are free from damage, suitable for the intended service and not subject to leaking. CNG containers shall be inspected every 3 years in a qualified service facility. CNG containers shall not be used past their expiration date as listed on the manufacturer's container label. Upon satisfactory inspection, the approved inspection agency shall affix a tag on the fuel gas system or within the vehicle indicating the name of the inspection agency and the date of satisfactory inspection.

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***319.11 Carbon monoxide detection**. All mobile food preparation vehicles shall be equipped with at least one listed carbon monoxide detection device.*

***Exception**: Carbon monoxide detectors shall not be required in mobile food preparation vehicles that are not equipped with fossil fuel powered equipment (such as generators or vehicle fuel tanks) and that do not otherwise produce carbon monoxide during operation.*

***319.12 Egress**. All mobile food preparation vehicles while operating commercial cooking equipment shall have two accessible means of egress remotely located from each other.*

***319.12.1**. No means of egress required by this paragraph shall be smaller than 5.7 square feet.*

***319.13 Smoking**. Smoking shall be prohibited inside of and within 10 feet of any mobile food preparation vehicle that has any fuel source other than the vehicle fuel tank.*

***319.13.1** "No Smoking" signs shall be conspicuously posted inside each mobile food preparation vehicle, outside each mobile food preparation vehicle in the vicinity of any location where compressed gas is stored or kept, and in a location that is visible to the public.*

***319.13.2** "No Smoking" signs shall be in English, shall have a dark background, and shall have lettering in a contrasting color that is at least 4 inches tall and with a minimum brush stroke width of 1 inch.*

***319.14 Emergency shut off controls**. Mobile food preparation vehicles using LP-Gas shall be provided with readily distinguishable and accessible marked exterior emergency shut off controls with a quarter-turn manual gas ball valve.*

***319.14.1 Signage**. Signs shall be permanently mounted at the location of the emergency shut off controls and shall state:*

"EMERGENCY GAS SHUT-OFF VALVE"

***319.14.1.1.** Signs shall be clearly visible and shall remain unobscured at all times. Signs shall be weather resistant, of contrasting colors, and shall be readable from a minimum distance of 25 feet.*

***319.15 Distance and separation requirements**. While parked and in operation mobile food preparation vehicles, exclusive of awnings and appurtenances, using or containing a fuel source or generator other than the vehicle fuel tank shall be separated from the entrances and other exits of buildings or structures and combustible materials by a clear space distance of 10 feet (3 m). While parked and in operation mobile food preparation vehicles using or containing a fuel source or generator other than the vehicle fuel tank shall be separated from other mobile food preparation vehicles by a clear space distance of 3 feet (0.9144 m).*

319.16 Generators.

***319. 16.1** Generators serving a mobile food preparation vehicle shall not be fueled while the mobile food preparation vehicle is in operation.*

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319. 16.2 *Generators shall not be fueled while the generator is in use and shall not be fueled until the generator has been turned off and the surface temperature of the engine and fuel tank is below the autoignition temperature of the fuel.*

319. 16.3 *No generator shall be operated or used or fueled within the occupant space of a mobile food preparation vehicle.*

319.17 *Electrical Wiring and Equipment. All electrical wiring and equipment shall be installed in accordance with NFPA 70.*

Section 320 Additive manufacturing (3D printing)

320.1 General. Additive manufacturing equipment and operations shall comply with Section 320.

320.1.1 Scope. Additive manufacturing shall comply with one of the following:

1. Nonindustrial additive manufacturing shall comply with Section 320.2.

2. Industrial additive manufacturing shall comply with Section 320.3.

320.1.2 Installation, operation and maintenance. 3D printers and associated additive manufacturing equipment shall be installed, operated and maintained in accordance with this code, the listing and the manufacturer's instructions.

320.1.3 Production materials. Only the production materials listed for use with the equipment and included in the manufacturer's instructions shall be used.

320.2 Nonindustrial additive manufacturing. Nonindustrial additive manufacturing equipment and operations shall comply with Sections 320.2.1 and 320.2.2. Additive manufacturing equipment and operations that do not comply with Section 320.2 shall comply with Section 320.3.

320.2.1 Listing. 3D printers used in nonindustrial additive manufacturing shall be listed and labeled in accordance with UL 2011, UL 60950-1 or UL 62368-1. The listing shall also verify:

1. The 3D printers are self-contained and utilize maximum 30-liter prepackaged production materials.

2. The operation of the 3D printers shall not create a hazardous (classified) electrical area or zone outside the unit.

3. If any hazardous (classified) electrical area or zone exists inside the unit's outer enclosure, the area shall be protected by intrinsically safe electrical construction or other acceptable protection methods.

4. The 3D printers shall not utilize inert gas or an external combustible dust collection system.

320.2.2 Occupancies. Nonindustrial additive manufacturing shall be permitted in all occupancy groups.

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320.3 Industrial additive manufacturing. Industrial additive manufacturing equipment and operations shall comply with Sections 320.3.1 through 320.3.12.

320.3.1 Permits required. Permits shall be obtained from the fire code official in accordance with *Chapter 1* prior to engaging in industrial additive manufacturing operations.

320.3.2 Listing. 3D printers used in industrial additive manufacturing shall be listed and labeled in accordance with UL 2011 or approved for the application based on a field evaluation conducted by an approved agency.

320.3.3 Combustible dusts and metals. Industrial additive manufacturing operations that store, use or produce combustible dust, combustible particulate solids or combustible metals shall comply with Chapter 22 and this section.

320.3.4 Powder evaluation. Printing powders used in industrial additive manufacturing operations shall be tested for combustibility in accordance with NFPA 484 or NFPA 652 as applicable. A copy of test reports shall be provided to the fire code official upon request.

320.3.5 Combustible (nonmetallic) dusts. Industrial additive manufacturing operations that store, use or produce combustible (nonmetallic) dusts shall comply with NFPA 654.

320.3.6 Combustible metals. Industrial additive manufacturing operations that store or use combustible metals shall comply with NFPA 484.

320.3.7 Ancillary equipment. Ancillary equipment provided for recycling, sieving, vacuuming or handling combustible powders shall be designed and approved for such use.

320.3.8 Hazardous materials. Industrial additive manufacturing operations that store or use hazardous materials exceeding the maximum allowable quantity limits shall comply with Chapter 50.

320.3.9 Inert gas. Additive manufacturing processes that utilize inert gases shall comply with Chapter 53. Ventilation or gas detection shall be provided in accordance with Section 5307.

320.3.10 Technical assistance. Where required by the fire code official, a report evaluating the acceptability of technologies, processes, products, facilities, materials and uses associated with the operation shall be provided in accordance with Section 104.8.2 and approved.

320.3.11 Performance-based design alternative. Where approved by the fire code official, buildings and facilities where industrial additive manufacturing is performed shall be permitted to comply with the performance-based design options in Section 5001.3 as an alternative to compliance with the other requirements set forth in this section.

320.3.12 Occupancies. Industrial additive manufacturing shall be conducted only in the occupancy groups associated with manufacturing operation and permitted by Chapter 50 maximum allowable quantity tables. Where approved, the requirements in Section 320.3.6 shall be permitted to provide the technical basis for determining compliance with Table 5003.1.1(1), Note q.

Section 321 Artificial combustible vegetation

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321.1 Artificial combustible vegetation on roofs and near buildings. Artificial combustible vegetation exceeding 6 feet (1829 mm) in height and permanently installed outdoors within 5 feet (1524 mm) of a building or on the roof of a building shall comply with Section 807.4.1. The placement of artificial combustible vegetation shall also comply with Sections 806.3 and 807.4.2.

Exception: Artificial decorative vegetation located more than 30 feet (9144 mm) from the exterior wall of a building.

Section ~~319~~ 322 Laboratories using chemicals

~~319.1~~ 322.1 *The operation and maintenance of all laboratories shall be in accordance with the requirements of NFPA 45 or, as applicable, Chapter 38.*

Section 323 Lithium-ion and lithium metal batteries

323.1 General. *The storage, use and charging of lithium-ion and lithium metal batteries shall comply with Section 323.*

Exceptions:

1. *New or refurbished batteries installed in the equipment, devices or vehicles they are designed to power.*
2. *New or refurbished batteries packed for use with the equipment, devices or vehicles they are designed to power.*
3. *Batteries in original retail packaging that are rated at not more than 300 watt-hours for lithium-ion batteries or contain not more than 25 grams of lithium metal for lithium metal batteries.*

323.2 Permits. *Permit shall be required for an accumulation of more than 15 cubic feet (0.42 m^3) of lithium-ion and lithium metal batteries, other than batteries listed in the exceptions of section 323.1, as set forth in Chapter 1.*

323.3 Fire safety plan. *A fire safety plan shall be provided in accordance with Section 404. In addition, the fire safety plan shall include emergency response actions to be taken upon detection of a fire or possible fire involving lithium-ion or lithium metal battery storage.*

323.4 Storage requirements. *Lithium-ion and lithium metal batteries shall be stored in accordance with Section 323.4.1, 323.4.2 or 323.4.3, as applicable.*

323.4.1 Limited indoor storage in containers. *Not more than 15 cubic feet (0.42 m^3) of lithium-ion or lithium metal batteries shall be permitted to be stored in containers in accordance with all of the following:*

1. *Containers shall be open top and constructed of noncombustible materials or shall be approved for battery collection.*

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2. Individual containers and groups of containers shall not exceed a capacity of 7.5 cubic feet (0.21 m^3).

3. A second container or group of containers shall be separated by not less than 3 feet (914 mm) of open space or 10 feet (3048 mm) of space that contains combustible materials.

4. Containers shall be located not less than 5 feet (1524 mm) from exits or exit access doors.

323.4.2 Indoor storage areas. Indoor storage areas for lithium-ion and lithium metal batteries, other than those complying with section 323.4.1, shall comply with Sections 323.4.2.1 through 323.4.2.6.

323.4.2.1 Technical opinion and report. A technical opinion and report complying with Section 104.8.2 shall be prepared to evaluate the fire and explosion risks associated with the indoor storage area and to make recommendations for fire and explosion protection. The report shall be submitted to the fire code official and shall require the fire code official's approval prior to issuance of a permit. In addition to the requirements of Section 104.8.2, the technical opinion and report shall specifically evaluate the following:

1. The potential for deflagration of flammable gases released during a thermal runaway event.

2. The basis of design for an automatic sprinkler system or other approved fire suppression system. Such design basis shall reference relevant full-scall fire testing or another approved method of demonstrating sufficiency of the recommended design.

323.4.2.2 Construction requirements. Where indoor storage areas for lithium-ion and lithium metal batteries are located in a building with other uses, battery storage areas shall be separated from the remainder of the building by 2-hour rated fire barriers or horizontal assemblies. Fire barriers shall be constructed in accordance with Section 707 of the building code, and horizontal assemblies shall be constructed in accordance with Section 711 of the building code.

Exceptions:

1. Where battery storage is contained in one or more approved prefabricated portable structures providing a complete 2-hour fire-resistance-rated enclosure, fire barriers and horizontal assemblies are not required.

2. Where battery storage is limited to new batteries in packaging that has been demonstrated to and approved by the fire code official as sufficient to isolate a fire in packaging to the package interior, fire barriers and horizontal assemblies are not required.

323.4.2.3 Fire protection systems. Indoor storage areas for lithium-ion and lithium metal batteries shall be protected by an automatic sprinkler system complying with Section 903.3.1.1 or an approved alternative fire suppression system. The system design shall be

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based on recommendations in the approved technical opinion and report required by Section 323.4.2.1.

323.4.2.4 Fire alarm systems. *Indoor storage area for lithium-ion and lithium metal batteries shall be provided with an approved automatic fire detection and alarm system complying with Section 907. The fire detection system shall use air-aspirating smoke detection, radiant energy-sensing fire detection or both.*

323.4.2.5 Explosion control. *Where the approved technical opinion and report required by Section 323.4.2.1 recommends explosion control, explosion control complying with Section 911 shall be provided.*

323.4.2.6 Reduced requirements for storage of partially charged batteries. *Indoor storage areas for lithium-ion and lithium metal batteries with a demonstrated state of charge not exceeding 30 percent shall not be required to comply with Sections 323.4.2.1, 323.4.2.2 and 323.4.2.5, provided that procedures for limiting and verifying that the state of charge will not exceed 30 percent have been approved.*

323.4.3 Outdoor storage. *Outdoor storage of lithium-ion or lithium metal batteries shall comply with Section 323.4.3.1 through 323.4.3.3.*

323.4.3.1 Distance from storage to exposures. *Outdoor storage of lithium-ion or lithium metal batteries, including storage beneath weather protection in accordance with Section 414.6.1 of the building code, shall comply with one of the following:*

1. *Battery storage shall be located not less than 20 feet (6096 mm) from any building, lot line, public street, public alley, public way or means of egress.*

2. *Battey storage shall be located not less than 3 feet (914 mm) from any building, lot line, public street, public alley, public way or means of egress, where the battery storage is separated by a 2-hour fire-resistance-rated assembly without opening or penetrations and extending 5 feet (1524 mm) above and to the sides of the battery storage area.*

3. *Battery storage shall be located not less than 3 feet (914 mm) from any building, lot line, public street, public alley, public way or means of egress, where batteries are contained in approved, prefabricated portable structures providing a complete e 2-hour fire-resistance-rated enclosure.*

323.4.3.2 Storage area size limits and separation. *Outdoor storage areas for lithium-ion or lithium metal batteries, including storage beneath weather protection in accordance with Section 414.6.1 of the building code, shall not exceed 900 square feet (83.6 m^2). The height of battery storage in such areas shall not exceed 10 feet (3048 mm) of open space.*

323.4.3.3 Fire detection. *Outdoor storage areas for lithium-ion and lithium metal batteries, regardless of whether such areas are open, under weather protection or in a prefabricated portable structure, shall be provided with an approved automatic fire detection and alarm system complying with Section 907. The fire detection system shall use radiant energy-sensing fire detection.*

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~~***323.5 Electric vehicle charging stations and systems.*** *Where provided, electric vehicle charging systems shall be installed in accordance with NFPA 70. Electric vehicle charging system equipment shall be listed and labeled in accordance with UL 2202. Electric vehicle supply equipment shall be listed and labeled in accordance with UL 2594. Accessibility to electric vehicle charging stations shall be provided in accordance with Section 1107 of the building code. Electric vehicle charging stations shall comply with Sections 323.5.1 through 323.5.4.4.*~~

~~***323.5.1 Location.*** *Electric vehicle charging stations shall not be located in the following areas:*~~

~~*Below grade.*~~

~~*In open or enclosed public or private parking garages on any floor other than the highest uncovered floor of the parking garage. Electric vehicle charging stations may be located near or outside parking garages in accordance with the separation distances otherwise provided for in this section.*~~

~~***323.5.2 Separation distances.*** *Electric vehicle charging stations shall be located as follows:*~~

~~*Not less than 15 feet (4572 mm) from any property line*~~

~~*Not less than 50 feet (15 240 mm) from any building with combustible exterior wall surfaces.*~~

~~*Not less than 30 feet (9144 mm) from any building with a 1-hour fire resistive exterior surface.*~~

~~*Not less than 30 feet (9144 mm) from any combustible awning or canopy.*~~

~~*Not less than 50 feet (15 240 mm) from any of the following:*~~

~~*5.1. Dispensing devices for flammable or combustible liquids.*~~

~~*5.2. Above ground or underground tanks, tank fill connections, remote or submersible pump transfer equipment, vapor recovery equipment and vents.*~~

~~*5.3. The location of tank vehicles while such are filling or transferring flammable or combustible liquids.*~~

~~***323.5.3 Impact protection.*** *All electric vehicle charging stations shall be protected in accordance with Section 312.*~~

~~***323.5.4 Emergency shutdown and electrical disconnect.*** *All electric vehicle charging stations shall have emergency shutdown devices or electrical disconnect switches which are approved and accessible to patrons and emergency responders. Electric vehicle charging station emergency shutdown devices and electrical disconnect switches shall comply with Sections 323.5.4.1 through 323.5.4.4.*~~

~~***323.5.4.1 Location.*** *Electric vehicle charging station emergency shutdown devices and electrical disconnect switches may serve more than one electric vehicle charging station but shall be located not less than 20 feet (6096 mm) and not more than 30 feet (9144 mm)*~~

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~~*from each electric vehicle charging station. An emergency shutdown device or electrical disconnect switch shall be located at each end of a bank of electric vehicle charging stations.*~~

~~***323.5.4.2 Shut down of all electric vehicle charging stations.*** *The use or activation of any emergency shutdown device or electrical disconnect switch that services an electric vehicle charging station shall de-energize all electric vehicle charging station equipment in the bank of charging stations.*~~

~~***323.5.4.3 Signage.*** *All electric vehicle charging station emergency shutdown devices and electrical disconnect switches shall be provided with approved signs that state "Emergency Shutdown Device" or "Electrical Disconnect Switch" in block letters on a contrasting background. The location of the signs shall be approved by the local authority having jurisdiction.*~~

~~***323.5.4.4 Resetting.*** *Reactivation of an electric vehicle charging station after a power outage or the use of an emergency shutdown device or electrical disconnect switch shall require manual intervention from personnel trained in the use of such systems.*~~

323.65 Micromobility Devices powered by lithium-ion or lithium metal batteries. *Lithium-ion and lithium metal battery powered micromobility devices shall be operated and maintained in accordance with this section.*

Exceptions:

1. *Storage, repair and charging in residential occupancies of powered mobility devices, provided that such devices are for personal use by their owner.*

2. *Charging of a single powered mobility device in any occupancy by the owner of the device.*

323.65.1 Prohibited locations. *The use of a residential occupancy as a business for the charging of commercially owned powered micromobility devices as part of a rental or sales service shall not be permitted.*

323.65.2 Battery chargers and equipment. *Powered micromobility devices shall be charged in accordance with their listing and the manufacturer's instructions using only the original manufacture-supplied charging equipment or charging equipment in accordance with the listing and manufacturer's instructions.*

323.65.3 Listing. *Powered micromobility devices shall be listed and labeled in accordance with UL 2272 or UL 2849, as applicable.*

323.65.4 Battery charging areas. *Where approved, powered micromobility devices shall be permitted to be charged in a room or area that complies with all of the following:*

1. *Only listed devices utilizing listed charging equipment shall be permitted to be charged.*

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2. The room or area is provided with sufficient electrical receptacles to allow the charging equipment for each device to be directly connected to a receptacle. Extension cords and relocatable power taps shall not be used.

3. Storage of combustible materials, combustible waste or hazardous materials shall not be permitted.

4. The charging operation shall not be conducted in or obstruct any required means of egress.

5. Removable storage batteries shall not be stacked or charged in an enclosed cabinet unless the cabinet is specially designed and approved for such purpose.

6. A minimum distance of 18 inches (457.2 mm) shall be maintained between each removable storage battery during charging operations unless each battery is isolated from neighboring batteries by an approved fire-resistant material.

7. A minimum of 18 inches (457.2 mm) shall be maintained between the location of the battery on each powered micromobility device during charging operations.

8. The indoor room or area shall be protected by a fire alarm system utilizing air-aspirating smoke detectors or radiant energy-sensing fire detection.

323.65.5 Fire safety plan. A fire safety plan shall be provided in accordance with Section 404.2.2. In addition, the fire safety plan shall include emergency response actions to be taken upon detection of a fire or possible fire involving lithium-ion or lithium metal battery storage.

~~**Section 324 Electric vehicle charging stations**~~

~~323.5324.1 **Electric vehicle charging stations and systems.** Where provided, electric vehicle charging systems shall be installed and maintained in accordance with NFPA 70 and the manufacturer's specifications and recommendations. Electric vehicle charging system equipment shall be listed and labeled in accordance with UL 2202. Electric vehicle supply equipment shall be listed and labeled in accordance with UL 2594. Accessibility to electric vehicle charging stations shall be provided in accordance with Section 1107 of the building code. Electric vehicle charging stations and equipment shall comply with Sections 323.5.1324.2 through 323.5.4.4324.7.~~

~~323.5.1324.2 **Location.** Electric vehicle charging stations shall not be located in the following areas:~~

~~1. Below grade.~~

~~2. In open or enclosed public or private parking garages on any floor other than the highest uncovered floor of the parking garage. Electric vehicle charging stations may be located near or outside parking garages in accordance with the separation distances otherwise provided for in this section.~~

~~323.5.2324.3 **Separation distances.** Electric vehicle charging stations shall be located as follows:~~

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1. Not less than 15 feet (4572 mm) from any property line,

2. Not less than 50 feet (15 240 mm) from any building with combustible exterior wall surfaces,

3. Not less than 30 feet (9144 mm) from any building with a 1-hour fire resistive exterior surface,

4. Not less than 30 feet (9144 mm) from any combustible awning or canopy,

5. Not less than 50 feet (15 240 mm) from any of the following:

5.1. Dispensing devices for flammable or combustible liquids,

5.2. Above ground or underground tanks, tank fill connections, remote or submersible pump transfer equipment, vapor recovery equipment and vents,

5.3. The location of tank vehicles while such are filling or transferring flammable or combustible liquids.

323.5.3324.4 **Impact protection.** All electric vehicle charging stations shall be protected in accordance with Section 312.

323.5.4324.5 **Emergency shutdown and electrical disconnect.** All electric vehicle charging stations shall have emergency shutdown devices or electrical disconnect switches which are approved and accessible to patrons and emergency responders. Electric vehicle charging station emergency shutdown devices and electrical disconnect switches shall comply with Sections 323.5.4.1324.5.1 through 323.5.4.4324.5.4.

323.5.4.1324.5.1 **Location.** Electric vehicle charging station emergency shutdown devices and electrical disconnect switches may serve more than one electric vehicle charging station but shall be located not less than 20 feet (6096 mm) and not more than 30 feet (9144 mm) from each electric vehicle charging station. An emergency shutdown device or electrical disconnect switch shall be located at each end of a bank of electric vehicle charging stations.

323.5.4.2324.5.2 **Shut down of all electric vehicle charging stations.** The use or activation of any emergency shutdown device or electrical disconnect switch that services an electric vehicle charging station shall de-energize all electric vehicle charging station equipment in the bank of charging stations.

323.5.4.3324.5.3 **Signage.** All Notwithstanding the provisions of Section 102.1.1, all electric vehicle charging station emergency shutdown devices and electrical disconnect switches shall be provided with approved signs that state "Emergency Shutdown Device" or "Electrical Disconnect Switch" in block letters on a contrasting background. The location of the signs shall be approved by the local authority having jurisdiction.

324.5.3.1 **Existing electric vehicle charging stations.** Electric vehicle charging stations in existence on or before the effective date of this code shall have signs installed in accordance with the provisions of Section 324.5.3 on or before the ninetieth day after the effective date of this code.

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Exception: *Signs installed at electric vehicle charging stations prior to the effective date of this code containing language that is substantially similar to the above language shall be deemed as compliant with this section.*

~~323.5.4.4~~324.5.4 **Resetting.** *Reactivation of an electric vehicle charging station after a power outage or the use of an emergency shutdown device or electrical disconnect switch shall require manual intervention from personnel trained in the use of such systems.*

324.6 Emergency procedures and signage. *Notwithstanding the provisions of Section 102.1.1, all electric vehicle charging stations shall have a sign posted in a conspicuous location within sight of each electric vehicle charging station that states:*

"IN CASE OF FIRE OR OTHER EMERGENCY:

1. USE EMERGENCY SHUTDOWN DEVICE OR ELECTICAL DISCONNECT SWITCH
2. CALL FIRE DEPARTMENT: ."

324.6.1 Existing electric vehicle charging stations. *Electric vehicle charging stations in existence on or before the effective date of this code shall have signs installed in accordance with the provisions of Section 324.6 on or before the ninetieth day after the effective date of this code.*

Exception: *Signs installed at electric vehicle charging stations prior to the effective date of this code containing language that is substantially similar to the above language shall be deemed as compliant with this section.*

324.7 Portable fire extinguishers. *A portable fire extinguisher approved by the authority having jurisdiction shall be located within a travel distance of 75 feet from each electric vehicle charging station. All portable fire extinguishers shall be installed and maintained in accordance with the applicable provisions of Section 906.*

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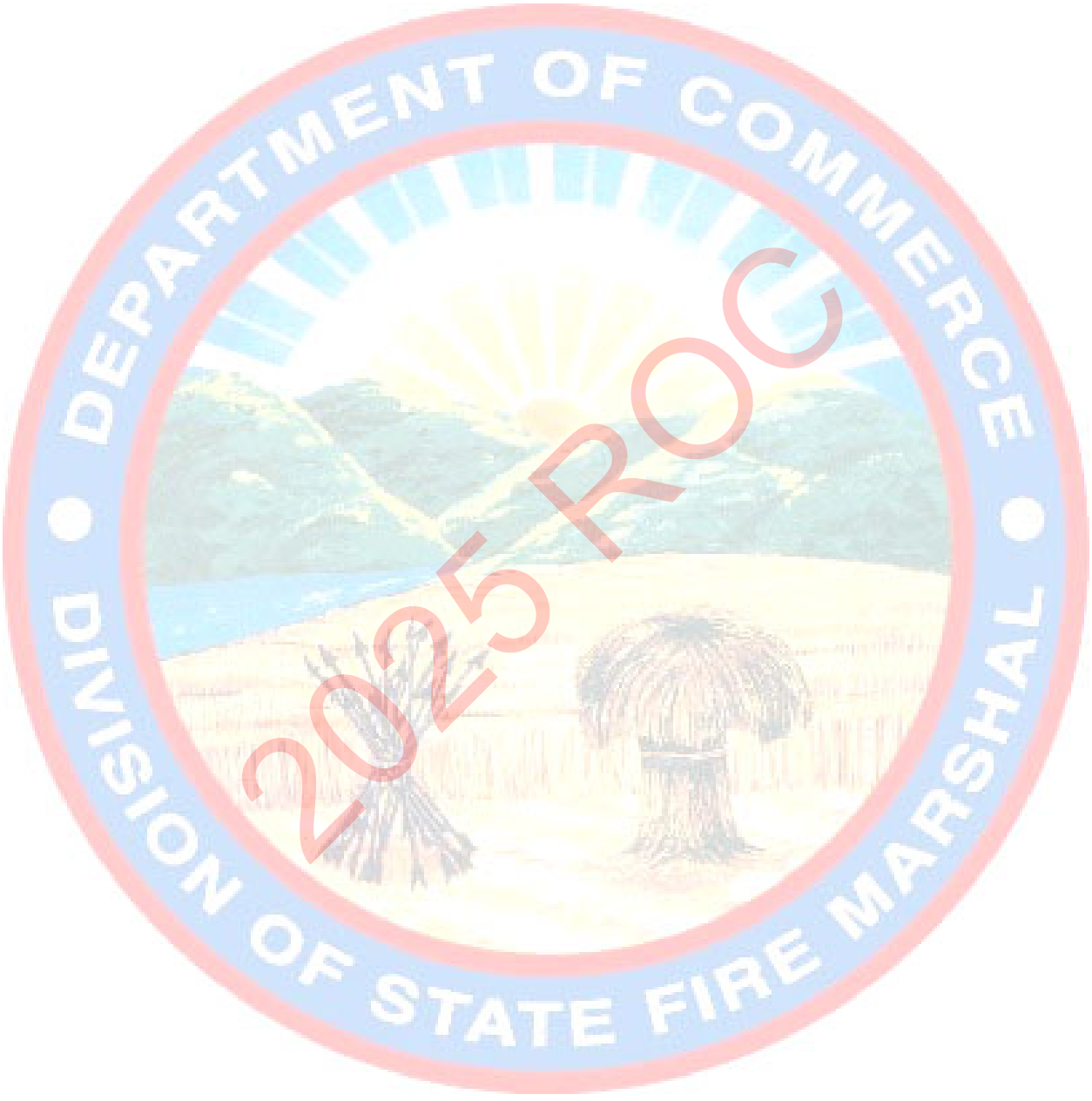

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1301:7-7-05 Fire service features.

Section 501 General

501.1 Scope. Fire service features for buildings, structures and premises shall comply with this chapter.

501.2 Permits. A permit shall be required as set forth in *Chapter 1*.

501.3 Construction documents. Construction documents for proposed fire apparatus access, location of fire lanes, security gates across fire apparatus access roads and construction documents and hydraulic calculations for fire hydrant systems shall be submitted to the fire department for review and approval prior to construction.

501.3.1 Site safety plan. The owner or owner's authorized agent shall be responsible for the development, implementation and maintenance of an approved written site safety plan in accordance with Section 3308.

501.4 Timing of installation. Where fire apparatus access roads or a water supply for fire protection are required to be installed, such protection shall be installed and made serviceable prior to and during the time of construction except ~~when~~where approved alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection where construction of new roadways allows passage by vehicles in accordance with Section 505.2.

Section 502 Definitions

502.1 Definitions. The following terms are defined in Chapter 2.

Agency.

Fire apparatus access road.

Fire command center.

Fire department master key.

Fire lane.

Key box.

Traffic calming devices.

Section 503 Fire apparatus access roads

503.1 Where required. Fire apparatus access roads *and fire lanes (as defined in Chapter 2)* shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.3.

503.1.1 Buildings and facilities. Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction *which are not readily accessible from a public and/or private street*. The fire apparatus access road shall comply with the requirements of this section and shall extend to

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within 150 feet (45 720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

Exceptions:

1. The fire code official is authorized to increase the dimension of 150 feet (45 720 mm) where any of the following conditions occur:

   1.1. The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.

   1.2. Fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, and an approved alternative means of fire protection is provided.

   1.3. There are not more than two Group R-3 or Group U occupancies.

2. Where approved by the fire code official, fire apparatus access roads shall be permitted to be exempted or modified for solar photovoltaic power generation facilities.

503.1.2 Additional access. The fire code official is authorized to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.

503.1.3 High-piled storage. Fire department vehicle access to buildings used for high-piled combustible storage shall comply with the applicable provisions of Chapter 32.

503.2 Specifications. Fire apparatus access roads shall be installed and arranged in accordance with Sections 503.2.1 through 503.2.8.

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

503.2.2 Authority. The fire code official shall have the authority to require or permit modifications to the required access widths where they are inadequate for fire or rescue operations or where necessary to meet the public safety objectives of the jurisdiction.

503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities *as approved by the fire code official*.

503.2.4 Turning radius. The required turning radius of a fire apparatus access road shall be determined by the fire code official.

503.2.5 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) in length shall be provided with an approved area for turning around fire apparatus.

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503.2.6 Bridges and elevated surfaces. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO HB-17. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges ~~when~~where required by the fire code official. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces that are not designed for such use, approved barriers, approved signs or both shall be installed and maintained where required by the fire code official.

503.2.7 Grade. The grade of the fire apparatus access road shall be within the limits established by the fire code official based on the fire department's apparatus.

503.2.8 Angles of approach and departure. The angles of approach and departure for fire apparatus access roads shall be within the limits established by the fire code official based on the fire department's apparatus.

503.3 Marking. Where required by the fire code official, approved signs or other approved notices or markings that include the words NO PARKING-FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

503.4 Obstruction of fire apparatus access roads. Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Sections 503.2.1 and 503.2.2 shall be maintained at all times.

503.4.1 Traffic calming devices. Traffic calming devices shall be prohibited unless approved by the fire code official.

503.5 Required gates or barricades. The fire code official is authorized to require the installation and maintenance of gates or other approved barricades across fire apparatus access roads, trails or other accessways, not including public streets, alleys or highways. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.

503.5.1 Secured gates and barricades. Where required, gates and barricades shall be secured in an approved manner. Roads, trails and other accessways that have been closed and obstructed in the manner prescribed by Section 503.5 shall not be trespassed on or used unless authorized by the owner and the fire code official.

Exception: The restriction on use shall not apply to public officers acting within the scope of duty.

503.6 Security gates. The installation of security gates across a fire apparatus access road shall be approved by the fire ~~chief~~code official. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.

Section 504 Access to building openings and roofs

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504.1 Required access. Exterior doors and openings required by this code or the *building code* shall be maintained readily accessible for emergency access by the fire department. An approved access walkway leading from fire apparatus access roads to exterior openings shall be provided ~~when~~where required by the fire code official.

504.2 Maintenance of exterior doors and openings. Exterior doors and their function shall not be eliminated without prior approval. Exterior doors that have been rendered nonfunctional and that retain a functional door exterior appearance shall have a sign affixed to the exterior side of the door with the words THIS DOOR BLOCKED. The sign shall consist of letters having a principal stroke of not less than ¾ inch (19.1 mm) wide and not less than 6 inches (152 mm) high on a contrasting background. Required fire department access doors shall not be obstructed or eliminated. Exit and exit access doors shall comply with Chapter 10. Access doors for high-piled combustible storage shall comply with Section ~~3206.6.1~~3206.7.

504.3 Stairway access to roof. New buildings four or more stories ~~in~~ above grade plane, except those with a roof slope greater than four units vertical in 12 units horizontal (33.3-percent slope), shall be provided with a stairway to the roof. Stairway access to the roof shall be in accordance with Section 1011.12. Such stairway shall be marked at street and floor levels with a sign indicating that the stairway continues to the roof. Where roofs are used for ~~roof gardens~~landscaped roofs or for other purposes, stairways shall be provided as required for such occupancy classification.

Section 505 Premises identification

505.1 Address identification. New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall ~~not~~ be not less than 4 inches (102 mm) high with a minimum stroke width of ½ inch (12.7 mm). Where required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address identification shall be maintained.

505.2 Street or road signs. Streets and roads shall be identified with approved signs. Temporary signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles. Signs shall be of an approved size, weather resistant and be maintained until replaced by permanent signs.

Section 506 Key boxes

506.1 Where required. Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the fire code official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type listed in accordance with UL 1037 and shall contain keys to gain necessary access as required by the fire code official.

506.1.1 Locks. An approved lock shall be installed on gates or similar barriers where required by the fire code official.

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506.1.2 Key boxes for nonstandardized fire service elevator keys. Key boxes provided for nonstandardized fire service elevator keys shall comply with Section 506.1 and all of the following:

1. The key box shall be compatible with an existing rapid entry key box system in use in the jurisdiction and approved by the fire code official.

2. The front cover shall be permanently labeled with the words FIRE DEPARTMENT USE ONLY-ELEVATOR KEYS.

3. The key box shall be mounted at each elevator bank at the lobby nearest to the lowest level of fire department access.

4. The key box shall be mounted 5 feet 6 inches (1676 mm) above the finished floor to the right side of the elevator bank.

5. Contents of the key box are limited to fire service elevator keys. Additional elevator access tools, keys and information pertinent to emergency planning or elevator access shall be permitted where authorized by the fire code official.

6. In buildings with two or more elevator banks, a single key box shall be permitted to be used where such elevator banks are separated by not more than 30 feet (9144 mm). Additional key boxes shall be provided for each individual elevator or elevator bank separated by more than 30 feet (9144 mm).

Exception: A single key box shall be permitted to be located adjacent to a fire command center or the ~~non-standard~~ nonstandard fire service elevator key shall be permitted to be secured in a key box used for other purposes and located in accordance with Section 506.1.

506.2 Key box maintenance. The operator of the building shall immediately notify the fire code official and provide the new key where a lock is changed or rekeyed. The key to such lock shall be secured in the key box.

Section 507 Fire protection water supplies

507.1 Required water supply. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises ~~upon~~ on which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction.

507.1.1. *Unobstructed access to water supplies shall be maintained at all times and fire department access to existing water supplies shall not be hindered in any manner.*

507.2 Type of water supply. A water supply shall consist of reservoirs, pressure tanks, elevated tanks, water mains or other fixed systems capable of providing the required fire flow.

507.2.1 Private fire service mains. Private fire service mains and appurtenances shall be installed in accordance with NFPA 24.

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507.2.2 Water tanks. Water tanks for private fire protection shall be installed in accordance with NFPA 22.

507.3 Fire flow. Fire-flow requirements for buildings or portions of buildings and facilities shall be determined by an approved method.

507.4 Water supply test. The fire code official shall be notified prior to the water supply test. Water supply tests shall be witnessed by the fire code official or approved documentation of the test shall be provided to the fire code official prior to final approval of the water supply system.

507.5 Fire hydrant systems. Fire hydrant systems shall comply with Sections 507.5.1 through 507.5.6.

507.5.1 Where required. Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.

Exceptions:

1. For Group R-3 and Group U occupancies, the distance requirement shall be 600 feet (183 m).

2. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the distance requirement shall be 600 feet (183 m).

507.5.1.1 Hydrant for standpipe systems. Buildings equipped with a standpipe system installed in accordance with Section 905 shall have a fire hydrant within 100 feet (30 480 mm) of the fire department connections.

Exception: The distance shall be permitted to exceed 100 feet (30 480 mm) where approved by the fire code official.

507.5.2 Inspection, testing and maintenance. Fire hydrant systems shall be subject to periodic tests as required by the fire code official. Fire hydrant systems shall be maintained in an operative condition at all times and shall be repaired where defective. Additions, repairs, alterations and servicing shall comply with approved standards. Records of tests and required maintenance shall be maintained.

507.5.3 Private fire service mains and water tanks. Private fire service mains and water tanks shall be periodically inspected, tested and maintained in accordance with NFPA 25 at the following intervals:

1. Private fire hydrants of all types: Inspection annually and after each operation; flow test and maintenance annually.

2. Fire service main piping: Inspection of exposed, annually; flow test every 5 years.

3. Fire service main piping strainers: Inspection and maintenance after each use.

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Records of inspections, testing and maintenance shall be maintained.

507.5.4 Obstruction. Unobstructed access to fire hydrants shall be maintained at all times. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.

507.5.5 Clear space around hydrants. A 3-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants, except as otherwise required or approved.

507.5.6 Physical protection. Where fire hydrants are subject to impact by a motor vehicle, guard posts or other approved means shall comply with Section 312.

507.5.7 Hydrant color. *Fire hydrants shall be colored in a manner approved by the fire code official of the political subdivision in which they are located.*

Section 508 Fire command center

508.1 General. Where required by other sections of this code and in all buildings classified as high-rise buildings by the *building code*, and in all F-1 and S-1 occupancies with a building footprint greater than 500,000 square feet (46 452 m^2), a fire command center for fire department operations shall be provided and shall comply with Sections 508.1.1 through ~~508.1.6~~508.1.7.

508.1.1 Location and access. The location and ~~accessibility of~~ access to the fire command center shall be approved by the fire code official.

508.1.2 Separation. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 707 of the *building code* or horizontal assembly constructed in accordance with Section 711 of the *building code*, or both.

508.1.3 Size. The fire command center shall be not less than ~~200 square feet (19 m^2) in area with a minimum dimension of 10 feet (3048 mm).~~0.015 percent of the total building area of the facility served or 200 square feet (19 m^2) in area, whichever is greater, with a minimum dimension of 0.7 times the square root of the room area or 10 feet (3048 mm), whichever is greater.

Where a fire command center is required for Group F-1 and S-1 occupancies with a building footprint greater than 500,000 square feet (46 452 m^2), the fire command center shall have a minimum size of 96 square feet (9 m^2) with a minimum dimension of 8 feet (2438 mm) where approved by the fire code official.

508.1.4 Layout approval. A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation.

508.1.5 Storage. Storage unrelated to operation of the fire command center shall be prohibited.

508.1.6 Required features. The fire command center shall comply with NFPA 72 and shall contain the following features:

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1. The emergency voice/alarm communication system control unit.

2. The fire department communications system.

3. Fire detection and alarm system annunciator.

4. Annunciator unit visually indicating the location of the elevators and whether they are operational.

5. Status indicators and controls for air distribution systems.

6. The fire fighter's control panel required by Section 909.16 for smoke control systems installed in the building.

7. Controls for unlocking interior exit stairway doors simultaneously.

8. Sprinkler valve and water-flow detector display panels.

9. Emergency and standby power status indicators.

10. A telephone for fire department use with controlled access to the public telephone system.

11. Fire pump status indicators.

12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighter air-replenishment systems, fire-fighting equipment and fire department access, and the location of fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions.

13. An approved Building Information Card that includes, but is not limited to, all of the following information:

    13.1 General building information that includes: property name, address, the number of floors in the building above and below grade, use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor) and the estimated building population during the day, night, and weekend~~;~~.

    13.2 Building emergency contact information that includes: a list of the building's emergency contacts including but not limited to building manager, building engineer and their respective work phone number, cell phone number and ~~e-mail~~email address~~;~~.

    13.3 Building construction information that includes: the type of building construction including but not limited to floors, walls, columns and roof assembly~~;~~.

    13.4 Exit access stairway and exit stairway information that includes: number of exit access stairways and exit stairways in building; each exit access stairway and exit stairway designation and floors served; location where each exit access stairway and exit stairway discharges, interior exit stairways that are pressurized; exit stairways provided with emergency lighting; each exit stairway that allows reentry;

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exit stairways providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve; location of elevator machine rooms, control rooms and control spaces; location of sky lobby; and location of freight elevator banks~~;~~.

13.5 Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator and location of natural gas service~~;~~.

13.6 Fire protection system information that includes: location~~s~~ of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers and location of different types of automatic sprinkler systems installed including but not limited to dry, wet and pre-action~~;~~.

13.7 Hazardous material information that includes: location and quantity of hazardous material.

14. Work table.

15. Generator supervision devices, manual start and transfer features.

16. Public address system, where specifically required by other sections of this code.

17. Elevator fire recall switch in accordance with ASME A17.1/CSA B44.

18. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

508.1.7 Fire command center identification. The fire command center shall be identified by a permanent, easily visible sign stating "FIRE COMMAND CENTER" located on the door to the fire command center.

Section 509 Fire protection and utility equipment identification and access

509.1 Identification. Fire protection equipment shall be identified in an approved manner. Rooms containing controls for air-conditioning systems~~, sprinkler risers and valves, or other fire detection, suppression or control elements~~ or fire protection systems shall be identified for the use of the fire department. Approved signs required to identify fire protection system equipment and equipment location shall be constructed of durable materials, permanently installed and readily visible.

509.1.1 Utility identification. Where required by the fire code official, gas shutoff valves, electric meters, service switches and other utility equipment shall be clearly and legibly marked to identify the unit or space that it serves. Identification shall be made in an approved manner, readily visible and shall be maintained.

509.2 Equipment access. Approved access shall be provided and maintained for all fire protection system equipment to permit immediate safe operation and maintenance of such equipment. *Unobstructed access to fire protection equipment shall be maintained at all times.* Storage, trash and other materials or objects shall not be placed or kept in such a manner that would prevent such equipment from being readily accessible.

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Section 510 Emergency responder ~~radio~~communication coverage

510.1 Emergency responder ~~radio~~communication coverage in new buildings. ~~All new buildings shall have approved radio~~ Approved in-building, two-way emergency responder communication coverage for emergency responders shall be provided in all new buildings. In-building, two-way emergency responder communication coverage within the building shall be based ~~upon~~on the existing coverage levels of the public safety communication systems ~~of~~utilized by the jurisdiction, measured at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.

Exceptions:

1. Where approved by the building official and the fire code official, a wired communication system in accordance with Section 907.2.13.2 shall be permitted to be installed or maintained ~~in lieu~~instead of an approved radio coverage system.

2. Where it is determined by the fire code official that the radio coverage system is not needed.

3. In facilities where emergency responder radio coverage is required and such systems, components or equipment required could have a negative impact on the normal operations of that facility, the fire code official shall have the authority to accept an automatically activated emergency responder radio coverage system.

~~3.~~4. One-story buildings not exceeding 12,000 square feet (1115 m^2) with no below-ground area(s).

510.2 Emergency responder ~~radio~~communication coverage in existing buildings. Existing buildings shall be provided with approved ~~radio~~ in-building, two-way emergency responder communication coverage for emergency responders as required in Chapter 11.

510.3 Permit required. A construction permit for the installation of or modification to in-building, two-way emergency responder ~~radio~~communication coverage systems and related equipment is required as specified in ~~105.7.5~~ *Chapter 1*. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

510.4 Technical requirements. Equipment required to provide in-building, two-way emergency responder communication coverage shall be listed in accordance with UL 2524. Systems, components and equipment required to provide the in-building, two-way emergency responder ~~radio~~ communication coverage system shall comply with Sections 510.4.1 through ~~510.4.2.5~~ 510.4.2.8.

510.4.1 ~~Radio~~Emergency responder communication coverage system signal strength. The building shall be considered to have acceptable in-building, two-way emergency responder ~~radio~~communication system coverage ~~when~~where signal strength measurements in 95 percent of all areas and 99 percent of areas designated as critical areas by the fire code official on each floor of the building meet the signal strength requirements in Sections 510.4.1.1 through ~~510.4.1.2~~ 510.4.1.3.

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510.4.1.1 Minimum signal strength into the building. ~~A minimum signal strength of -95 dBm shall be receivable within the building.~~The minimum inbound signal strength shall be sufficient to provide usable voice communications throughout the coverage area as specified by the fire code official. The inbound signal level shall be ~~a minimum of -95dBm throughout the coverage area and~~ sufficient to provide not less than a Delivered Audio Quality (DAQ) of 3.0 or an equivalent Signal-to-Interference-Plus-Noise Ratio (SINR) applicable to the technology for either analog or digital signals.

510.4.1.2 Minimum signal strength out of the building. ~~A minimum signal strength of -95 dBm shall be received by the agency's radio system when transmitted from within the building.~~The minimum outbound signal strength shall be sufficient to provide usable voice communications throughout the coverage area as specified by the fire code official. The outbound signal level shall be sufficient to provide not less than a DAQ of 3.0 or an equivalent SINR applicable to the technology for either analog or digital signals.

510.4.1.3 System performance. Signal strength shall be sufficient to meet the requirements of the applications being utilized by public safety for emergency operations through the coverage area as specified by the fire code official in Section 510.4.2.2.

510.4.2 System design. The in-building, two-way emergency responder ~~radio~~communication coverage system shall be designed in accordance with Sections 510.4.2.1 through ~~510.4.2.5~~ 510.4.2.8 and NFPA 1221.

510.4.2.1 Amplification systems ~~allowed~~and components. Buildings and structures that cannot support the required level of ~~radio~~ in-building, two-way emergency responder communication coverage shall be equipped with ~~a radiating cable system, a distributed antenna system with "Federal Communications Commission" ("FCC")-certified signal boosters, or other system approved by the fire code official in order to achieve the required adequate radio coverage.~~systems and components to enhance the radio signals and achieve the required level of in-building, two-way emergency responder communication coverage specified in Sections 510.4.1 through 510.4.1.3. In-building, two-way emergency responder communication systems utilizing radio-frequency-emitting devices and cabling shall be approved by the fire code official. Prior to installation, all RF-emitting devices shall have the certification of the radio licensing authority and be suitable for public safety use.

510.4.2.2 Technical criteria. The fire code official shall maintain a document providing the specific technical information and requirements for the in-building, two-way emergency responder ~~radio~~communication coverage system. This document shall contain, but not be limited to, the various frequencies required, the location of radio sites, the effective radiated power of radio sites, the maximum propagation delay in microseconds, the applications being used and other supporting technical information necessary for system design.

510.4.2.3 Standby power. ~~Emergency~~In-building, two-way emergency responder communication radio coverage systems shall be provided with ~~standby power in accordance with *paragraph* (D)(604) *of rule 1301:7-7-06 of the Administrative Code*. The standby power supply shall be capable of operating the emergency responder radio coverage system for a duration of not less than 24 hours.~~dedicated standby batteries or provided with 2-hour standby batteries and connected to the facility generator power system in accordance with Section 1203. The standby power supply shall be capable of

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operating the in-building, two-way emergency responder communication coverage system at 100-percent system capacity for a duration of not less than 12 hours.

510.4.2.4 Signal booster requirements. If used, signal boosters shall meet the following requirements:

1. All signal booster components shall be contained in a National Electrical Manufacturer's Association (NEMA) 4-type waterproof cabinet.

2. Battery systems used for the emergency power source shall be contained in a NEMA ~~4-type waterproof~~3R or higher-rated cabinet.

   ~~The signal booster system and battery system shall be electrically supervised and monitored by a supervisory service, or when approved by the fire code official, shall sound an audible signal at a constantly attended location.~~

3. Equipment shall have FCC or other radio licensing authority certification and be suitable for public safety use prior to installation.

~~3.~~4. Where a donor antenna exists, isolation shall be maintained between the donor antenna and all inside antennas to not less than 20dB greater than the system gain under all operating conditions.

5. Active RF-emitting devices used for in-building, two-way emergency responder communication coverage systems shall have built-in oscillation detection and control circuitry.

~~4.~~6. The installation of amplification systems or systems that operate on or provide the means to cause interference on any in-building, two-way emergency responder communication coverage network shall be coordinated and approved by the fire code official.

510.4.2.5 System monitoring. The in-building, two-way emergency responder communication coverage system shall be monitored by a listed fire alarm control unit, or where approved by the fire code official, shall sound an audible signal at a constantly attended on-site location. Automatic supervisory signals shall include the following:

1. Loss of normal AC power supply.

2. System battery charger(s) failure.

3. Malfunction of the donor antenna(s).

4. Failure of active RF-emitting device(s).

5. Low-battery capacity at 70-percent reduction of operating capacity.

6. Failure of critical system components.

7. The communications link between the fire alarm system and the in-building, two-way emergency responder communication coverage system. *This provision shall*

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not be interpreted to require a fire alarm system in any building that is not already required to have such a system pursuant to other applicable sections of this code.

8. Oscillation of active RF-emitting device(s).

~~510.4.2.5~~**510.4.2.6 Additional frequencies and change of frequencies.** The in-building, two-way emergency responder ~~radio~~communication coverage system shall be capable of modification or expansion in the event frequency changes are required by the FCC or other radio licensing authority, or additional frequencies are made available by the FCC or other radio licensing authority.

510.4.2.7 Design documents. The fire code official shall have the authority to require "as-built" design documents and specifications for in-building, two-way emergency responder communication coverage systems. The documents shall be in a format acceptable to the fire code official.

510.4.2.8 Radio communication antenna density. Systems shall be engineered to minimize the near-far effect. In-building, two-way emergency responder communication coverage system designs shall include sufficient antenna density to address reduced gain conditions.

Exception: Systems where all portable devices within the same band use active power control features.

510.5 Installation requirements. The installation of the ~~public safety radio~~ in-building, two-way emergency responder communication coverage system shall be in accordance with NFPA 1221 and Sections ~~510.5.1~~ *510.5.1* through ~~510.5.4~~ 510.5.5.

510.5.1 Mounting of the donor antenna(s). To maintain proper alignment with the system designed donor site, donor antennas shall be permanently affixed on the building or where approved, mounted on a movable sled with a clearly visible sign stating "MOVEMENT OR REPOSITIONING OF THIS ANTENNA IS PROHIBITED WITHOUT APPROVAL FROM THE FIRE CODE OFFICIAL." The antenna installation shall be in accordance with the applicable requirements in the *building code* for weather protection of the building envelope.

~~510.5.1~~**510.5.2 Approval prior to installation.** Amplification systems capable of operating on frequencies licensed to any public safety agency by the FCC or other radio licensing authority shall not be installed without prior coordination and approval of the fire code official.

~~510.5.2~~**510.5.3 Minimum qualifications of personnel.** The minimum qualifications of the system designer and lead installation personnel shall include both of the following:

1. A valid FCC-issued general radio operators license.

2. Certification of in-building system training issued by ~~a nationally recognized~~an approved organization~~,~~ or approved school, or a certificate issued by the manufacturer of the equipment being installed.

These qualifications shall not be required where demonstration of adequate skills and experience satisfactory to the fire code official is provided.

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~~510.5.3~~510.5.4 **Acceptance test procedure.** Where an in-building, two-way emergency responder ~~radio~~communication coverage system is required, and upon completion of installation, the building owner shall have the radio system tested to verify that two-way coverage on each floor of the building is not less than ~~90~~95 percent. The test procedure shall be conducted as follows:

1. Each floor of the building shall be divided into a grid of 20 approximately equal test areas.

2. The test shall be conducted using a calibrated portable radio of the latest brand and model used by the agency talking through the agency's radio communications system or equipment approved by the fire code official.

3. Failure of more than ~~two nonadjacent~~one test area~~s~~ shall result in failure of the test.

4. In the event that ~~three~~two of the test areas fail the test, in order to be more statistically accurate, the floor shall be permitted to be divided into 40 equal test areas. Failure of not more than ~~four~~ two nonadjacent test areas shall not result in failure of the test. If the system fails the 40-area test, the system shall be altered to meet the ~~90~~95-percent coverage requirement.

5. A test location approximately in the center of each test area shall be selected for the test, with the radio enabled to verify two-way communications to and from the outside of the building through the public agency's radio communications system. Once the test location has been selected, that location shall represent the entire test area. Failure in the selected test location shall be considered to be a failure of that test area. Additional test locations shall not be permitted.

6. The gain values of all amplifiers shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified during annual tests. In the event that the measurement results become lost, the building owner shall be required to rerun the acceptance test to reestablish the gain values.

7. As part of the installation, a spectrum analyzer or other suitable test equipment shall be utilized to ensure spurious oscillations are not being generated by the subject signal booster. This test shall be conducted at the time of installation and at subsequent annual inspections.

8. Systems shall be tested using two portable radios simultaneously conducting subjective voice quality checks. One portable radio shall be positioned not greater than 10 feet (3048 mm) from the indoor antenna. The second portable radio shall be positioned at a distance that represents the farthest distance from any indoor antenna. With both portable radios simultaneously keyed up on different frequencies within the same band, subjective audio testing shall be conducted and comply with DAQ levels as specified in Sections 510.4.1.1 and 510.4.1.2.

~~510.5.4~~510.5.5 **FCC compliance.** The in-building, two-way emergency responder ~~radio~~communication coverage system installation and components shall ~~also~~ comply with all applicable federal regulations including, but not limited to, FCC 47 CFR Part 90.219.

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510.6 Maintenance. The in-building, two-way emergency responder ~~radio~~communication coverage system shall be maintained operational at all times in accordance with Sections 510.6.1 through ~~510.6.3~~ 510.6.4.

510.6.1 Testing and proof of compliance. The owner of the building or owner's authorized agent shall have ~~T~~the in-building, two-way emergency responder ~~radio~~communication coverage system ~~shall be~~ inspected and tested annually or where structural changes occur including additions or remodels that could materially change the original field performance tests. Testing shall consist of the following:

1. In-building coverage test as described in Section ~~510.5.3~~ 510.5.4.
2. Signal boosters shall be tested to verify that the gain is the same as it was upon initial installation and acceptance or set to optimize the performance of the system.
3. Backup batteries and power supplies shall be tested under load of a period of 1 hour to verify that they will properly operate during an actual power outage. If within the 1-hour test period the battery exhibits symptoms of failure, the test shall be extended for additional 1-hour periods until the integrity of the battery can be determined.
4. ~~Other~~All active components shall be checked to verify operation within the manufacturer's specifications.

~~(v)~~ At the conclusion of the testing, a report, which shall verify compliance with Section ~~510.5.3~~ 510.5.4, shall be submitted to the fire code official.

510.6.2 Additional frequencies. The building owner shall modify or expand the in-building, two-way emergency responder ~~radio~~communication coverage system at his or her expense in the event frequency changes are required by the FCC or other radio licensing authority, or additional frequencies are made available by the FCC or other radio licensing authority. Prior approval of ~~the public safety radio~~ an in-building, two-way emergency responder communication coverage system on previous frequencies does not exempt this section.

510.6.3 Nonpublic safety system. Where other nonpublic safety amplification systems installed in buildings reduce the performance or cause interference with the in-building, two-way emergency responder communication coverage system, the nonpublic safety amplification system shall be corrected or removed.

~~510.6.3~~510.6.4 Field testing. Agency personnel shall have the right to enter onto the property at any reasonable time to conduct field testing to verify the required level of radio coverage.

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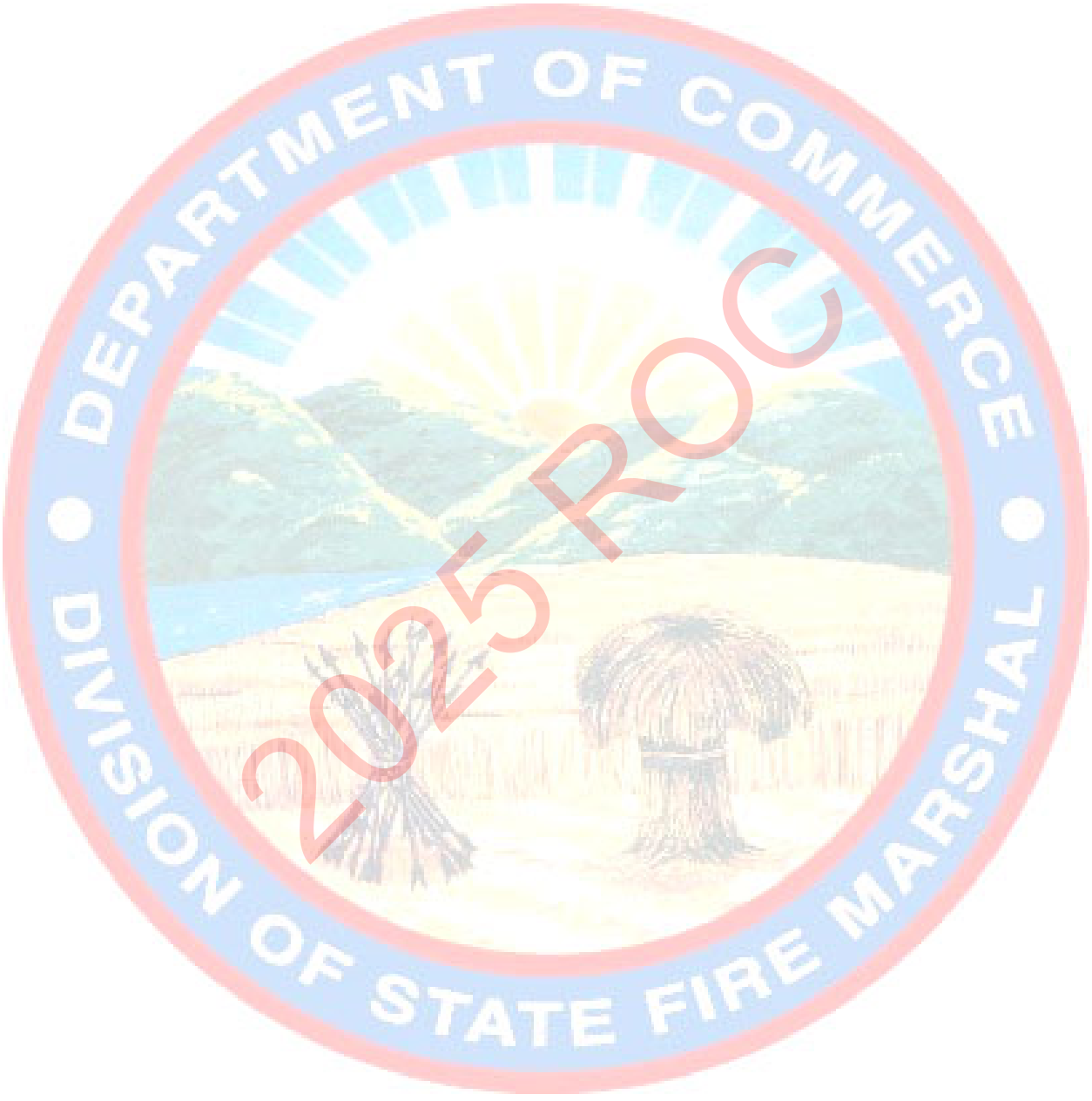

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1301:7-7-09 Fire protection and life safety systems.

Section 901 General

901.1 Scope. The provisions of this chapter shall specify where fire protection and life safety systems are required and shall apply to the design, installation, inspection, operation, testing and maintenance of all fire protection and life safety systems. *The requirements in this chapter for fire protection systems in structures regulated by the building code submitted for plan review in accordance with this section are subject to and do not supersede or otherwise conflict with the requirements of Section 104.2.1.*

901.2 Construction documents. *Notwithstanding the requirements of Sections 104.2.1*, the fire code official shall have the authority to require construction documents and calculations for all fire protection and life safety systems and to require permits be *obtained* for the installation, rehabilitation or modification of any fire protection ~~system~~and life safety systems. Construction documents for fire protection and life safety systems shall be submitted for review ~~prior to system installation~~ and approval. *At locations or in structures not regulated by the building code, the construction documents shall be reviewed and approved by the fire code official prior to system installation.*

~~901.5.1~~901.2.1 Statement of compliance. Before requesting final *inspection* of the installation, where required by the fire code official, the installing contractor shall furnish a written statement to the fire code official that the subject fire protection or life safety system has been installed in accordance with ~~plans approved plans~~ *plans approved by the building code official* and has been tested in accordance with the manufacturer's specifications and the appropriate installation standard. Any deviations from the design standards shall be noted and copies of the approvals for such deviations shall be attached to the written statement.

901.3 Permits. Permits shall be required as set forth in *Chapter 1 and as required by the building code*.

901.4 ~~Installation~~Fire protection and life safety systems. Fire protection and life safety systems shall be installed, repaired, operated and maintained in accordance with ~~the original installation standards for that system. Required *fire protection* systems shall be extended, altered or augmented as necessary to maintain and continue protection where the building is altered, remodeled or added to. Alterations to fire protection systems shall be done in accordance with~~ this code and *the building code* ~~*and* applicable standards~~.

901.4.1 Required fire protection and life safety systems. Fire protection and life safety systems required by this code or the *building code* shall be installed, repaired, operated, tested and maintained in accordance with this code. A fire protection or life safety system for which a design option, exception or reduction to the provisions of this code or the *building code* has been granted shall be considered to be a required system.

901.4.2 Nonrequired fire protection and life safety systems. ~~A fire~~Fire protection ~~system~~ and life safety systems or portion thereof not required by this code or the *building code* shall be allowed to be furnished for partial or complete protection provided that such installed systems meet~~s~~ the applicable requirements of this code and the *building code*.

901.4.3 Alterations in buildings and structures. For any alteration within a building or structure, the fire protection and life safety systems shall be extended, altered or augmented

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to maintain and continue protection within the building or structure. Persons shall not remove or modify any fire protection or life safety system installed or maintained under the provisions of this code or the *building code* without approval from the fire code official.

901.4.4 Fire areas. Where buildings, or portions thereof, are divided into fire areas so as not to exceed the limits established for requiring a fire protection system in accordance with this chapter, such fire areas shall be separated by fire barriers constructed in accordance with Section 707 of the *building code* or horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both, having a fire-resistance rating of not less than that determined in accordance with Section 707.3.10 of the *building code*.

~~901.4.4~~**901.4.5 Additional fire protection systems.** In occupancies of a hazardous nature, where special hazards exist in addition to the normal hazards of the occupancy, or where the fire code official determines that access for fire apparatus is unduly difficult, the fire code official shall have the authority to require additional safeguards~~. Such safeguards include, but shall not be limited to, the following: automatic fire detection systems, fire alarm systems, automatic fire extinguishing systems, standpipe systems, or portable or fixed extinguishers. Fire protection equipment~~ and fire protection systems. Fire protection and life safety systems required under this section shall be installed in accordance with this code and the applicable referenced standards.

~~901.4.5~~**901.4.6 Appearance of equipment.** Any device that has the physical appearance of life safety or fire protection equipment but that does not perform that life safety or fire protection function shall be prohibited.

~~901.4.6~~**901.4.7 Pump and riser room size.** Where provided, fire pump rooms and automatic sprinkler system riser rooms shall be designed with adequate space for all equipment necessary for the installation, as defined by the manufacturer, with sufficient working space around the stationary equipment. Clearances around equipment to elements of permanent construction, including other installed equipment and appliances, shall be sufficient to allow inspection, service, repair or replacement without removing such elements of permanent construction or disabling the function of a required fire-resistance-rated assembly. Fire pump and automatic sprinkler system riser rooms shall be provided with ~~a~~ door~~(~~s~~)~~ and ~~an~~ unobstructed passageway~~s~~ large enough to allow removal of the largest piece of equipment.

901.4.7.1 Access. Automatic sprinkler system risers, fire pumps and controllers shall be provided with ready access. Where located in a fire pump room or automatic sprinkler system riser room, the door shall be permitted to be locked provided that the key is available at all times.

901.4.7.2 Marking on access doors. Access doors for automatic sprinkler system riser rooms and fire pump rooms shall be labeled with an approved sign. The lettering shall be in contrasting color to the background. Letters shall have a minimum height of 2 inches (51 mm) with a minimum stroke of 3/8 inch (10 mm).

901.4.7.3 Environment. Automatic sprinkler system riser rooms and fire pump rooms shall be maintained at a temperature of not less than 40°F (4°C). Heating units shall be permanently installed.

901.4.7.4 Lighting. Permanently installed artificial illumination shall be provided in the automatic sprinkler system riser rooms and fire pump rooms.

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901.5 Installation acceptance testing. ~~Fire detection and alarm systems, fire extinguishing systems, fire hydrant systems, fire standpipe systems, fire pump systems, private fire service mains and all other fire~~ Fire protection and life safety systems and appurtenances thereto shall be subject to acceptance tests as contained in the installation standards and as approved by the fire code official *in accordance with this code and the building official in accordance with Section 901.5 of the building code*.

1. The fire code official shall be notified *by the responsible person of* any *scheduled* acceptance testing *of a fire protection system not less than forty-eight hours prior to the occurrence of such acceptance test. Advanced notice of the test schedule shall be given to the building official in accordance with Section 901.5 of the building code.*

2. *When required by the fire code official all acceptance testing shall be conducted in the presence of the fire code official.*

3. *When required by the fire code official all acceptance testing shall be conducted in the presence of the person who installed the equipment or, if it is not possible for the actual installer to be present, the acceptance testing shall be conducted in the presence of another qualified representative of the company that installed the equipment.*

~~(a) **901.5.1 Statement of compliance.** Before requesting final *inspection* of the installation, where required by the fire code official, the installing contractor shall furnish a written statement to the fire code official that the subject fire protection system has been installed in accordance with plans approved *by the building code official* and has been tested in accordance with the manufacturer's specifications and the appropriate installation standard. Any deviations from the design standards shall be noted and copies of the approvals for such deviations shall be attached to the written statement.~~

~~*901.5.2*~~*901.5.1* **Occupancy.** It shall be unlawful to occupy any portion of a building or structure until the required fire ~~detection, alarm~~protection and ~~suppression~~life safety systems have been tested, *inspected* and approved *by the fire code official in accordance with this code and the building official in accordance with Section 901.5 of the building code*.

901.6 Inspection, testing and maintenance. Fire ~~detection,~~ protection and ~~alarm~~ life safety systems ~~and extinguishing systems, mechanical smoke exhaust systems, and smoke and heat vents~~ shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Nonrequired fire protection and life safety systems and equipment shall be inspected, tested and maintained or removed in accordance with Section 901.8. *Any discontinuance or removal of nonrequired fire protection equipment shall be approved by the fire code official. Such approval shall be conditioned upon receipt of verification of building official determination that such fire protection equipment is nonrequired.*

901.6.1 Standards. Fire protection systems shall be inspected, tested and maintained in accordance with the referenced standards listed in Table 901.6.1.

Table 901.6.1
Fire protection system maintenance standards

System	Standard
Portable fire extinguishers	NFPA 10

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Carbon dioxide fire-extinguishing systems	NFPA 12
Halon 1301 fire-extinguishing systems	NFPA 12A
Dry-chemical extinguishing systems	NFPA 17
Wet-chemical extinguishing systems	NFPA 17A
Water-based fire protection systems	NFPA 25
Fire alarm systems	NFPA 72
Smoke and heat vents	NFPA 204
Water-mist systems	NFPA 750
Clean-agent extinguishing systems	NFPA 2001
Aerosol fire-extinguishing systems	NFPA 2010

901.6.2 Integrated testing. Where two or more fire protection or life safety systems are interconnected, the intended response of subordinate fire protection and life safety systems shall be verified when required testing of the initiating system is conducted. In addition, integrated testing shall be performed in accordance with Sections 901.6.2.1 and 901.6.2.2.

901.6.2.1 High-rise buildings. For high-rise buildings, integrated testing shall comply with NFPA 4, with an integrated test performed prior to issuance of the certificate of occupancy and at intervals not exceeding 10 years, unless otherwise specified by an integrated system test plan prepared in accordance with NFPA 4. If an equipment failure is detected during integrated testing, a repeat of the integrated test shall not be required, except as necessary to verify operation of fire protection or life safety functions that are initiated by equipment that was repaired or replaced.

901.6.2.2 Smoke control systems. Where a fire alarm system is integrated with a smoke control system as outlined in Section 909, integrated testing shall comply with NFPA 4, with an integrated test performed prior to issuance of the certificate of occupancy and at intervals not exceeding 10 years, unless otherwise specified by an integrated system test plan prepared in accordance with NFPA 4. If an equipment failure is detected during integrated testing, a repeat of the integrated test shall not be required, except as necessary to verify operation of fire protection or life safety functions that are initiated by equipment that was repaired or replaced.

~~901.6.2~~901.6.3 **Records.** Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained.

~~901.6.2.1~~901.6.3.1 **Records information.** Initial records shall include the name of the installation contractor, type of components installed, *the* manufacturer of the components, location and number of components installed per floor. Records shall ~~also~~ include the ~~manufacturer's~~ manufacturers' operation and maintenance instruction manuals. Such records shall be maintained for the life of the installation. *Acceptance testing records (original documents) shall be retained for the life of the system.*

~~*901.6.3*~~*901.6.4* ***Annual inspection tag for fire protection systems.*** *An inspection tag shall be attached to each fire protection system near the main control valve, main panel, or other such appropriate and visible location as determined by the fire code official. The annual inspection tag shall contain the following information:*

1. *The individual performing the work and the state fire marshal installer certification number(s) (when applicable);*

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2. *Date of test;*

3. *Results of inspection and test;*

4. *Deficiencies or impairments noted (yes or no).*

~~901.6.3.1~~901.6.4.1 When a sprinkler or standpipe system is found impaired or out of service, the tag requirement shall include an impairment tag in accordance with NFPA 25.

901.7 Systems out of service. Where a required fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall be either evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shutdown until the fire protection system has been returned to service.

Where utilized, fire watches shall be provided with not less than one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

Exception: Facilities with an approved notification and impairment management program. The notification and impairment program for water-based fire protection systems shall comply with NFPA 25.

901.7.1 Impairment coordinator. The building owner shall assign an impairment coordinator to comply with the requirements of this section. In the absence of a specific designee, the owner shall be considered to be the impairment coordinator.

901.7.2 Tag required. A tag shall be used to indicate that a system, or portion thereof, has been removed from service.

901.7.3 Placement of tag. The tag shall be posted at each fire department connection, system control valve, fire alarm control unit, fire alarm annunciator and fire command center, indicating which system, or part thereof, has been removed from service. The fire code official shall specify where the tag is to be placed.

901.7.4 Preplanned impairment programs. Preplanned impairments shall be authorized by the impairment coordinator. Before authorization is given, a designated individual shall be responsible for verifying that all of the following procedures have been implemented:

1. The extent and expected duration of the impairment have been determined.

2. The areas or buildings involved have been inspected and the increased risks determined.

3. Recommendations have been submitted to management or the building owner/manager.

4. The fire department has been notified.

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5. The insurance carrier, the alarm company, the building owner/manager and other authorities having jurisdiction have been notified.

6. The supervisors in the areas to be affected have been notified.

7. A tag impairment system has been implemented.

8. Necessary tools and materials have been assembled on the impairment site.

901.7.5 Emergency impairments. Where unplanned impairments occur, appropriate emergency action shall be taken to minimize potential injury and damage. The impairment coordinator shall implement the steps outlined in Section 901.7.4.

901.7.6 Restoring systems to service. ~~When~~Where impaired equipment is restored to normal working order, the impairment coordinator shall verify that all of the following procedures have been implemented:

1. Necessary inspections and tests have been conducted to verify that affected systems are operational.

2. Supervisors have been advised that protection is restored.

3. The fire department has been advised that protection is restored.

4. The building owner/manager, insurance carrier, alarm company and other involved parties have been advised that protection is restored.

5. The impairment tag has been removed.

901.8 Removal of or tampering with equipment. It shall be unlawful for any person to remove, tamper with or otherwise disturb any fire ~~hydrant, fire detection and alarm~~ protection or life safety system~~, fire suppression system or other fire appliance~~ required by this code except for the purposes of extinguishing fire, training ~~purposes~~, recharging or making necessary repairs or where approved by the fire code official.

901.8.1 Removal of or tampering with appurtenances. Locks, gates, doors, barricades, chains, enclosures, signs, tags or seals that have been installed by or at the direction of the fire code official shall not be removed, unlocked, destroyed, tampered with or otherwise vandalized in any manner.

901.8.2 Removal of existing occupant-use hose lines. The fire code official is authorized to permit the removal of existing occupant-use hose~~s~~ lines where ~~all~~both of the following conditions exist:

~~1. Installation is not required by this code or the *building code*.~~

~~2.~~1. The hose line would not be utilized by trained personnel or the fire department.

~~3.~~2. The remaining outlets are compatible with local fire department fittings.

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901.8.3 Notification of termination of supervisory services. *The responsible person shall notify the local fire code official of the termination of any supervisory service within twenty-four (24) hours of such termination.*

901.9 Termination of monitoring service. For fire alarm systems required to be monitored by this code, notice shall be made to the fire code official whenever alarm monitoring services are terminated. Notice shall be made in writing~~, to the fire code official~~ by the provider of the monitoring service ~~provider~~ being terminated.

901.10 Recall of fire protection components. Any fire protection system component regulated by this code that is the subject of a voluntary or mandatory recall under federal law shall be replaced with approved, listed components in compliance with the referenced standards of this code. The fire code official shall be notified in writing by the building owner when the recalled component parts have been replaced.

Section 902 Definitions

902.1 Definitions. The following terms are defined in Chapter 2.

Alarm notification appliance.

Alarm signal.

Alarm verification feature.

Annunciator.

Audible alarm notification appliance.

Automatic.

Automatic fire-extinguishing system.

Automatic smoke detection system.

Automatic sprinkler system.

Automatic water mist system.

Average ambient sound level.

Carbon dioxide extinguishing system.

Clean agent.

Commercial motor vehicle.

Constantly attended location.

Deluge system.

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Detector, heat.

Dry-chemical extinguishing agent.

Elevator group.

Emergency alarm system.

Emergency voice/alarm communications.

Fire alarm box, manual.

Fire alarm control unit.

Fire alarm signal.

Fire alarm system.

Fire area.

Fire detector, automatic.

Fire protection system.

Fire safety functions.

Fixed base operator (FBO).

Foam-extinguishing system.

Gas detection system.

Halogenated extinguishing system.

Impairment coordinator.

Initiating device.

Life safety systems.

Manual fire alarm box.

Multiple-station alarm device.

Multiple-station smoke alarm.

Notification zone.

Nuisance alarm.

Private garage.

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Record drawings.

Single-station smoke alarm.

Sleeping unit.

Smoke alarm.

Smoke detector.

Standpipe system, classes of.

Class I system.

Class II system.

Class III system.

Standpipes, types of.

Automatic dry.

Automatic wet.

Manual dry.

Manual wet.

Semiautomatic dry.

Supervising station.

Supervisory service.

Supervisory signal.

Supervisory signal-initiating device.

Tires, bulk storage of.

Transient aircraft.

Trouble signal.

Visible alarm notification appliance.

Wet-chemical extinguishing agent.

Wireless protection system.

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Zone.

Zone, notification.

Section 903 Automatic sprinkler systems

903.1 General. Automatic sprinkler systems shall comply with this section.

903.1.1 Alternative protection. Alternative automatic fire-extinguishing systems complying with Section 904 *may be installed* ~~in lieu~~instead of automatic sprinkler protection where recognized by the applicable standard and approved by the fire code official *pursuant to Section 901.1. At locations or in structures not regulated by the building code, the alternative automatic fire-extinguishing system shall be approved by the fire code official prior to system installation.*

903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations *where required by the building code and as* described in ~~this section~~Sections 903.2.1 through 903.2.12. *The requirements for automatic sprinkler systems in new buildings contained in this rule are subject to and do not supersede or otherwise conflict with the requirements of Section 104.2.1.*

Exception: Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than ~~1hour~~ 1-hour fire barriers constructed in accordance with Section 707 of the *building code* or not less than 2-hour horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both.

903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. ~~For Group A-1, A-2, A-3 and A-4 occupancies, the automatic sprinkler system shall be provided throughout the story where the fire area containing the Group A-1, A-2, A-3 or A-4 occupancy is located, and throughout all stories from the Group A occupancy to, and including, the levels of exit discharge serving the Group A occupancy. For Group A-5 occupancies, the automatic sprinkler system shall be provided in the spaces indicated in *paragraph* (C)(2)(a)(iv)(903.2.1.5) *of this rule*.~~

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided ~~for fire areas~~throughout stories containing Group A-1 occupancies and ~~intervening floors of the building~~throughout all stories from the Group A-1 occupancy to and including the levels of exit discharge serving that occupancy where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m^2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.
4. The fire area contains a ~~multi~~multiple-theater complex.

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903.2.1.2 Group A-2. An automatic sprinkler system shall be provided ~~for fire areas~~throughout stories containing Group A-2 occupancies and ~~intervening floors of the building~~throughout all stories from the Group A-2 occupancy to and including the levels of exit discharge serving that occupancy where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464 m^2).
2. The fire area has an occupant load of 100 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided ~~for fire areas~~throughout stories containing Group A-3 occupancies and ~~intervening floors of the building~~throughout all stories from the Group A-3 occupancy to and including the levels of exit discharge serving that occupancy where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m^2).

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

2. The fire area has an occupant load of 300 or more.

   Exceptions:

   ~~3.1~~2.1 *Fire areas used primarily for worship with fixed seating.*

   ~~3.2~~2.2 *Fire areas without fixed seating not used for exhibition or display.*

~~4.~~3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

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.*

903.2.1.4 Group A-4. An automatic sprinkler system shall be provided ~~for fire areas~~throughout stories containing Group A-4 occupancies and ~~intervening floors of the building~~throughout all stories from the Group A-4 occupancy to and including the levels of exit discharge serving that occupancy where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m^2).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than a level of exit discharge serving such occupancies.

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

903.2.1.5 Group A-5. An automatic sprinkler system shall be provided for all enclosed Group A-5 ~~occupancies in the following areas: concession stands, retail areas, press boxes and other~~ accessory use areas in excess of 1,000 square feet (93 m^2).

(*a*) **903.2.1.5.1 Spaces under grandstands or bleachers.** Enclosed spaces under grandstands or bleachers shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 where either of the following exist:

1. The enclosed area is 1,000 square feet (93 m^2) or less and is not constructed in accordance with Section 1030.1.1.1.

~~1.~~2. The enclosed area exceeds 1,000 square feet (93 m^2).

903.2.1.6 Assembly occupancies on roofs. Where an occupied roof has an assembly occupancy with an occupant load exceeding 100 for Group A-2 and 300 for other Group A occupancies, all floors between the occupied roof and the level of exit discharge shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Exception: Open parking garages of Type I or Type II construction.

903.2.1.7 Multiple fire areas. An automatic sprinkler system shall be provided where multiple fire areas of Group A-1, A-2, A-3 or A-4 occupancies share exit or exit access components and the combined occupant load of these fire areas is 300 or more.

903.2.2 Ambulatory care facilities. An automatic sprinkler system shall be installed throughout the entire floor containing an ambulatory care facility where either of the following conditions exist at any time:

1. Four or more care recipients are incapable of self-preservation~~, whether rendered incapable by staff or staff has accepted responsibility for care recipients already incapable~~.

2. One or more care recipients that are incapable of self-preservation are located at other than the level of exit discharge serving such a facility.

In buildings where ambulatory care is provided on levels other than the level of exit discharge, an automatic sprinkler system shall be installed throughout the entire floor ~~where such care is provided~~ as well as all floors below where such care is provided, and all floors between the level of ambulatory care and the nearest level of exit discharge, ~~including~~ the level of exit discharge and all floors below the level of exit discharge.

Exception: Floors classified as an open parking garage are not required to be sprinklered.

903.2.3 Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

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1. Throughout all Group E fire areas greater than *20,000* square feet (*1858* m^2) in area.

2. ~~Throughout every portion of educational buildings below the lowest level of exit discharge serving that portion of the building.~~The Group E fire area is located on a floor other than a level of exit discharge serving such occupancies.

   Exception: ~~An automatic sprinkler system is not required in any area below the lowest level of exit discharge serving that area where every classroom throughout the building has not fewer than one exterior exit door at ground level.~~In buildings where every classroom has not fewer than one exterior exit door at ground level, an automatic sprinkler system is not required in any area below the lowest level of exit discharge serving that area.

3. The Group E fire area has an occupant load of 300 or more.

4. *Throughout every portion of Group E day care facilities – 2½ years or less of age.*

   Exception: *An automatic sprinkler system is not required in day care facilities that provide care for more than five but no more than 100 children 2½ years or less of age and the day care facilities are at the level of exit discharge and where every room where care is provided has no fewer than one exterior exit door for which the exit access and exit discharge do not require the traversing of stairs.*

903.2.4 Group F-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group F-1 occupancy where one of the following conditions exists:

1. A Group F-1 fire area exceeds 12,000 square feet (1115 m^2).

2. A Group F-1 fire area is located more than three stories above grade plane.

3. The combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m^2).

4. ~~A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m^2).~~

903.2.4.1 Woodworking operations. An automatic sprinkler system shall be provided throughout all Group F-1 occupancy fire areas that contain woodworking operations in excess of 2,500 square feet ~~in area~~ (232 m^2) in area that generate finely divided combustible waste or use finely divided combustible materials.

903.2.4.2 Group F-1 distilled spirits. An automatic sprinkler system shall be provided throughout a Group F-1 fire area used for the manufacture of distilled spirits.

903.2.4.3 Group F-1 upholstered furniture or mattresses. An automatic sprinkler system shall be provided throughout a Group F-1 fire area that exceeds 2,500 square feet (232 m^2) used for the manufacture of upholstered furniture or mattresses.

903.2.5 Group H. Automatic sprinkler systems shall be provided in high-hazard occupancies as required in Sections 903.2.5.1 through 903.2.5.3.

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903.2.5.1 General. An automatic sprinkler system shall be installed in Group H occupancies.

903.2.5.2 Group H-5 occupancies. An automatic sprinkler system shall be installed throughout buildings containing Group H-5 occupancies. The design of the sprinkler system shall be not less than that required under the *building code* for the occupancy hazard classifications in accordance with Table 903.2.5.2.

Where the design area of the sprinkler system consists of a corridor protected by one row of sprinklers, the maximum number of sprinklers required to be calculated is 13.

Table 903.2.5.2
Group H-5 sprinkler design criteria

Location	Occupancy hazard classification
Fabrication areas	Ordinary Hazard Group 2
Service corridors	Ordinary Hazard Group 2
Storage rooms without dispensing	Ordinary Hazard Group 2
Storage rooms with dispensing	Extra Hazard Group 2
Corridors	Ordinary Hazard Group 2

903.2.5.3 Pyroxylin plastics. An automatic sprinkler system shall be provided in buildings, or portions thereof, where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled in quantities exceeding 100 pounds (45 kg).

903.2.6 Group I. An automatic sprinkler system shall be provided throughout buildings with a Group I fire area.

Exceptions:

1. An automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be permitted in Group I-1, Condition 1 facilities.

2. An automatic sprinkler system is not required where Group I-4 day care facilities are at the level of exit discharge and where every room where care is provided has not fewer than one exterior exit door.

3. In buildings where Group I-4 day care is provided on levels other than the level of exit discharge, an automatic sprinkler system in accordance with Section 903.3.1.1 shall be installed on the entire floor where care is provided, all floors between the level of care and the level of exit discharge and all floors below the level of exit discharge other than areas classified as an open parking garage.

4. *An automatic sprinkler system is not required in day care facilities that provide care for more than five but no more than 100 children 2½ years or less of age and the day care facilities are at the level of exit discharge and where every room where care is provided has no fewer than one exterior exit door for which the exit access and exit discharge do not require the traversing of stairs.*

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903.2.7 Group M. An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. A Group M fire area exceeds 12,000 square feet (1115m^2).

2. A Group M fire area is located more than three stories above grade plane.

3. The combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m^2).

~~4 A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m^2).~~

903.2.7.1 High-piled storage. An automatic sprinkler system shall be provided as required in Chapter 32 in all buildings of Group M where storage of merchandise is in high-piled or rack storage arrays.

903.2.7.2 Group M upholstered furniture or mattresses. An automatic sprinkler system shall be provided throughout a Group M fire area where the area used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m^2).

903.2.8 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area.

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 1006.3.2 of the building code 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 stair per Section 1027 of the building code, 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 of the building code 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.*

903.2.8.1 Group R-3. An automatic sprinkler system installed in accordance with Section 903.3.1.3 shall be permitted in Group R-3 occupancies.

[F] 903.2.8.2 Group R-4, Condition 1. An automatic sprinkler system installed in accordance with Section 903.3.1.3 shall be permitted in Group R-4, Condition 1 occupancies.

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[F] 903.2.8.3 Group R-4, Condition 2. An automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be permitted in Group R-4, Condition 2 occupancies. ~~Attics shall be protected in accordance with *paragraph* (C)(2)(g)(iii)(*a*)(903.2.8.3.1) or (C)(2)(g)(iii)(*b*)(903.2.8.3.2) *of this rule*.~~

~~(*a*) **[F] 903.2.8.3.1 Attics used for living purposes, storage or fuel-fired equipment.** Attics used for living purposes, storage or fuel-fired equipment shall be protected throughout with an automatic sprinkler system installed in accordance with *paragraph* (C)(3)(a)(ii)(903.3.1.2) *of this rule*.~~

~~(*b*) **[F] 903.2.8.3.2 Attics not used for living purposes, storage or fuel-fired equipment.** Attics not used for living purposes, storage or fuel-fired equipment shall be protected in accordance with one of the following:~~

~~(*i*) Attics protected throughout by a heat detector system arranged to activate the building fire alarm system in accordance with *paragraph* (G)(2)(j)(907.2.10) *of this rule*.~~

~~(*ii*) Attics constructed of noncombustible materials.~~

~~(*iii*) Attics constructed of fire-retardant-treated wood framing complying with Section 2303.2 of the *building code as listed in rule 1301:7-7-80 of the Administrative Code*.~~

~~(*iv*) The automatic sprinkler system shall be extended to provide protection throughout the attic space.~~

903.2.8.4 Care facilities. An automatic sprinkler system installed in accordance with Section 903.3.1.3 shall be permitted in care facilities with five or fewer individuals in a single-family dwelling.

903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 fire area exceeds 12,000 square feet (1115 m^2).
2. A Group S-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m^2).
4. A Group S-1 fire area used for the storage of commercial motor vehicles where the fire area exceeds 5,000 square feet (464 m^2).

~~5. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m^2).~~

903.2.9.1 Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Section 406.8 of the *building code*, as shown:

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1. Buildings having two or more stories above grade plane, including basements, with a fire area containing a repair garage exceeding 10,000 square feet (929 m^2).

2. Buildings ~~no~~not more than one story above grade plane, with a fire area containing a repair garage exceeding 12,000 square feet (1115 m^2).

3. Buildings with repair garages servicing vehicles parked in basements.

4. A Group S-1 fire area used for the repair of commercial motor vehicles where the fire area exceeds 5,000 square feet (464 m^2).

903.2.9.2 Bulk storage of tires. Buildings and structures where the area for the storage of tires exceeds 20,000 cubic feet (566 m^3) shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

903.2.9.3 Group S-1 distilled spirits or wine. An automatic sprinkler system shall be provided throughout a Group S-1 fire area used for the bulk storage of distilled spirits or wine.

903.2.9.4 Group S-1 upholstered furniture and mattresses. An automatic sprinkler system shall be provided throughout a Group S-1 fire area where the area used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m^2).

Exception: Self-service storage facilities not greater than one story above grade plane where all storage spaces can be accessed directly from the exterior.

903.2.10 Group S-2 ~~enclosed~~ parking garages. An automatic sprinkler system shall be provided throughout buildings classified as ~~enclosed~~ parking garages ~~in accordance with Section 406.6 of the *building code* as listed in rule 1301:7-7-80 of the Administrative Code~~ where ~~either~~ any of the following conditions exist~~s~~:

1. Where the fire area of the enclosed parking garage, in accordance with Section 406.6 of the *building code* exceeds 12,000 square feet (1115 m^2).

2. Where the enclosed parking garage, in accordance with Section 406.6 of the *building code* is located beneath other groups.

   Exception: Enclosed parking garages located beneath Group R-3 occupancies.

3. Where the fire area of the open parking garage, in accordance with Section 406.5 of the *building code*, exceeds 48,000 square feet (4460 m^2).

903.2.10.1 Commercial parking garages. An automatic sprinkler system shall be provided throughout buildings used for storage of commercial motor vehicles where the fire area exceeds 5,000 square feet (464 m^2).

903.2.10.2 Mechanical-access enclosed parking garages. An approved automatic sprinkler system shall be provided throughout buildings used for the storage of motor vehicles in a mechanical-access enclosed parking garage. The portion of the building that

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contains the mechanical-access enclosed parking garage shall be protected with a specially engineered automatic sprinkler system.

903.2.11 Specific buildings areas and hazards. In all occupancies other than Group U, an automatic sprinkler system shall be installed for building design or hazards in the locations set forth in Sections 903.2.11.1 through 903.2.11.6.

903.2.11.1 Stories without openings. An automatic sprinkler system shall be installed throughout all stories, including basements, of all buildings where the floor area exceeds 1,500 square feet (139.4 m^2) and where there is not provided not fewer than one of the story does not comply with the following types ofcriteria for exterior wall openings:

1. Openings below grade that lead directly to ground level by an exterior stairway complying with Section 1011 or an outside ramp complying with Section 1012. Openings shall be located in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on at leastnot fewer than one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm).

2. Openings entirely above the adjoining ground level totaling not less than 20 square feet (1.86 m^2) in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on at leastnot fewer than one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm). The height of the bottom of the clear opening shall not exceed 44 inches (1118 mm) measured from the floor.

903.2.11.1.1 Opening dimensions and access. Openings shall have a minimum dimension of not less than 30 inches (762 mm). Access to Ssuch openings shall be accessible toprovided for the fire department from the exterior and shall not be obstructed in a manner such that fire-fighting or rescue cannot be accomplished from the exterior.

903.2.11.1.2 Openings on one side only. Where openings in a story are provided on only one side and the opposite wall of such story is more than 75 feet (22 860 mm) from such openings, the story shall be equipped throughout with an approved automatic sprinkler system, or openings as specified above shall be provided on not fewer than two sides of the story.

903.2.11.1.3 Basements. Where any portion of a basement is located more than 75 feet (22 860 mm) from openings required by Section 903.2.11.1, or where walls, partitions or other obstructions are installed that restrict the application of water from hose streams, the basement shall be equipped throughout with an approved automatic sprinkler system.

903.2.11.2 Rubbish and linen chutes. An automatic sprinkler system shall be installed at the top of rubbish and linen chutes and in their terminal rooms. Chutes shall have additional sprinkler heads installed at alternate floors and at the lowest intake. Where a rubbish chute extends through a building more than one floor below the lowest intake, the extension shall have sprinklers installed that are recessed from the drop area of the chute and protected from freezing in accordance with Section 903.3.1.1. Such sprinklers shall be installed at alternate floors, beginning with the second level below the last intake and

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ending with the floor above the discharge. ~~Chute~~ Access to sprinklers in chutes shall be ~~accessible~~provided for servicing.

903.2.11.3 Buildings 55 feet or more in height. An automatic sprinkler system shall be installed throughout buildings that have one or more stories with an occupant load of 30 or more located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access, measured to the finished floor.

~~**Exceptions:**~~

~~1. Open parking structures.~~

Exception: Occupancies in Group F-2.

903.2.11.4 Ducts conveying hazardous exhausts. Where required by the *mechanical code*, automatic sprinklers shall be provided in ducts conveying hazardous exhaust~~,~~ or flammable or combustible materials.

Exception: Ducts where the largest cross-sectional diameter of the duct is less than 10 inches (254 mm).

903.2.11.5 Commercial cooking operations. An automatic sprinkler system shall be installed in commercial kitchen exhaust hood and duct systems where an automatic sprinkler system is used to comply with Section 904.

903.2.11.6 Other required ~~suppression~~fire protection systems. In addition to the requirements of Section 903.2, the provisions indicated in Table 903.2.11.6 require the installation of a fire ~~suppression~~protection system for certain buildings and areas.

Table 903.2.11.6
Additional required fire-~~extinguishing~~protection systems

Section	Subject
903.2.10.2	Mechanical-access enclosed parking garages
914.2.1	Covered and open mall buildings
914.3.1	High-rise buildings
914.4.1	Atriums
914.5.1	Underground structures
914.6.1	Stages
914.7.1	Special amusement buildings
914.8.2	Airport traffic control towers
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The building code	*Sprinkler system requirements as set forth in Section 903.2.11.6 of the building code*

For SI: 1 cubic foot = 0.023 m^3.

903.2.12 During construction. Automatic sprinkler systems required during construction, alteration and demolition operations shall be provided in accordance with Section ~~3313~~ 3314.

903.3 Installation requirements. Automatic sprinkler systems shall be designed and installed in accordance with Sections 903.3.1 through 903.3.8.

903.3.1 Standards. Sprinkler systems shall be designed and installed in accordance with Section 903.3.1.1, unless otherwise permitted by Sections 903.3.1.2 and 903.3.1.3 and other chapters of this code, as applicable.

903.3.1.1 NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Sections 903.3.1.1.1 and 903.3.1.1.2.

903.3.1.1.1 Exempt locations. Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from a room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment.

1. A room where the application of water, or flame and water, constitutes a serious life or fire hazard.

2. A room or space where sprinklers are considered undesirable because of the nature of the contents, where approved by the fire code official *pursuant to Section 901.1. At locations or in structures not regulated by the building code, the exempt location shall be approved by the fire code official prior to system installation*.

3. Generator and transformer rooms separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.

4. Rooms or areas that are of noncombustible construction with wholly noncombustible contents.

5. Fire service access elevator machine rooms and machinery spaces.

6. Machine rooms, machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008 of the *building code*.

903.3.1.1.2 Bathrooms. In Group R occupancies, ~~other than Group R-4 occupancies,~~ sprinklers shall not be required in bathrooms that do not exceed 55 square feet (5 m^2) in area and are located within individual dwelling units or sleeping units, provided that

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walls and ceilings, including the walls and ceilings behind a shower enclosure or tub, are of noncombustible or limited-combustible materials with a 15-minute thermal barrier rating.

903.3.1.2 NFPA 13R sprinkler systems. Automatic sprinkler systems in Group ~~*I-1, I-4 and*~~ R occupancies ~~up to and including four stories in height in buildings not exceeding 60 feet (18 288 mm) in height above grade plane~~ shall be permitted to be installed throughout in accordance with NFPA 13R where the Group R occupancy meets all of the following conditions:

1. Four stories or less above grade plane.

2. The floor level of the highest story is 30 feet (9144 mm) or less above the lowest level of fire department vehicle access.

3. The floor level of the lowest story is 30 feet (9144 mm) or less below the lowest level of fire department vehicle access.

The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 of the ***building code*** shall be measured from ~~the horizontal assembly creating separate buildings~~ grade plane.

903.3.1.2.1 Balconies and decks. Sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of dwelling units and sleeping units where either of the following conditions exists:

1. ~~t~~The building is of Type V construction, provided that there is a roof or deck above.

2. Exterior balconies, decks and ground floor patios of dwelling units and sleeping units are constructed in accordance with Section 705.2.3.1, Exception 3 of the *building code*.

Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch (25 mm) to 6 inches (152 mm) below the structural members and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies and decks that are constructed of open wood joist construction.

903.3.1.2.2 ~~Open-ended corridors~~Corridors and balconies in the means of egress. Sprinkler protection shall be provided in corridors and for balconies in the means of egress where any of the following conditions apply:

1. Corridors with combustible floor or walls.

2. Corridors with an interior change of direction exceeding 45 degrees (0.79 rad).

3. Corridors that are less than 50 percent open to the outside atmosphere at the ends.

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4. ~~open~~Open-ended corridors and associated exterior stairways and ramps as specified in Section 1027.6, Exception 3.

5. Egress balconies not complying with Sections 1021.2 and 1021.3.

903.3.1.2.3 Attics. Attic protection shall be provided as follows:

1. Attics that are used or intended for living purposes or storage shall be protected by an automatic sprinkler system.

2. Where fuel-fired equipment is installed in an unsprinklered attic, not fewer than one quick-response intermediate temperature sprinkler shall be installed above the equipment.

3. Where located in a building of Type III, Type IV or Type V construction designed in accordance with Section 510.2 or 510.4 of the *building code*, attics not required by Item 1 to have sprinklers shall comply with one of the following if the roof assembly is located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access needed to meet the provisions of Section 503:

   3.1 Provide automatic sprinkler system protection.

   3.2 Construct the attic using noncombustible materials.

   3.3 Construct the attic using fire-retardant-treated wood complying with Section 2303.2 of the *building code*.

   3.4 Fill the attic with noncombustible insulation.

   The height of the roof assembly shall be determined by measuring the distance from the lowest required fire vehicle access road surface adjacent to the building to the eave of the highest pitched roof, the intersection of the highest roof to the exterior wall, or the top of the highest parapet, whichever yields the greatest distance. For the purpose of this measurement, required fire vehicle access roads shall include only those roads that are necessary for compliance with Section 503.

4. Group R-4, Condition 2 occupancy attics not required by Item 1 to have sprinklers shall comply with one of the following:

   4.1 Provide automatic sprinkler system protection.

   4.2 Provide a heat detection system throughout the attic that is arranged to activate the building fire alarm system.

   4.3 Construct the attic using noncombustible materials.

   ~~3.1~~4.4 Construct the attic using fire-retardant-treated wood complying with Section 2303.2 of the *building code*.

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~~3.~~24.5 Fill the attic with noncombustible insulation.

903.3.1.3 NFPA 13D sprinkler systems. Automatic sprinkler systems *installed in buildings of Groups I-1, R-3, Group R-4 Condition 1* and townhouses shall be permitted to be installed throughout in accordance with NFPA 13D.

903.3.2 Quick-response and residential sprinklers. Where automatic sprinkler systems are required by this code, quick-response or residential automatic sprinklers shall be installed in all of the following areas in accordance with Section 903.3.1 and their listings:

1. Throughout all spaces within a smoke compartment containing care recipient sleeping units in Group I-2 in accordance with the *building code*.

2. Throughout all spaces within a smoke compartment containing gas fireplace appliances and decorative gas appliances in Group I-2 in accordance with the *building code*.

~~2.~~3. Throughout all spaces within a smoke compartment containing treatment rooms in ambulatory care facilities.

~~3.~~4. Dwelling units and sleeping units in Group I-1 and R occupancies.

~~4.~~5. Light-hazard occupancies as defined in NFPA 13.

903.3.3 Obstructed locations. Automatic sprinklers shall be installed with ~~due~~ regard to obstructions that will delay activation or obstruct the water distribution pattern and shall be in accordance with the applicable automatic sprinkler system standard that is being used. Automatic sprinklers shall be installed in or under covered kiosks, displays, booths, concession stands or equipment that exceeds 4 feet (1219 mm) in width. Not less than a 3-foot (914 mm) clearance shall be maintained between automatic sprinklers and the top of piles of combustible fibers.

Exception: Kitchen equipment under exhaust hoods protected with a fire-extinguishing system in accordance with Section 904.

903.3.4 Actuation. Automatic sprinkler systems shall be automatically actuated unless specifically provided for in this code.

903.3.5 Water supplies. Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with the requirements of this section and the *plumbing code*. For connections to public waterworks systems, the water supply test used for design of fire protection systems shall be adjusted to account for seasonal and daily pressure fluctuations based on information from the water supply authority and as approved by the fire code official.

903.3.5.1 Domestic services. Where the domestic service provides the water supply for the automatic sprinkler system, the supply shall be in accordance with this section.

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903.3.5.2 Residential combination services. A single combination water supply shall be allowed provided that the domestic demand is added to the sprinkler demand as required by NFPA 13R.

903.3.6 Hose threads. Fire hose threads and fittings used in connection with automatic sprinkler systems shall be as prescribed by the fire code official.

903.3.7 Fire department connections. Fire department connections for automatic sprinkler systems shall be installed in accordance with Section 912.

903.3.7.1 Locking fire department connection ("FDC") caps. *Where required by the fire code official and the responding fire department carries appropriate key wrenches for removal, locking "FDC" caps on fire department connections for water-based fire protection systems shall be provided.*

903.3.8 Limited area sprinkler systems. Limited area sprinkler systems shall be in accordance with the standards listed in Section 903.3.1 except as provided in Sections 903.3.8.1 through 903.3.8.5.

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

903.3.8.2 Occupancy hazard classification. Only areas classified by NFPA 13 as Light Hazard or Ordinary Hazard Group 1 shall be permitted to be protected by limited area sprinkler systems.

903.3.8.3 Piping arrangement. Where a limited area sprinkler system is installed in a building with an automatic wet standpipe system, sprinklers shall be supplied by the standpipe system. Where a limited area sprinkler system is installed in a building without an automatic wet standpipe system, water shall be permitted to be supplied by the plumbing system provided that the plumbing system is capable of simultaneously supplying domestic and sprinkler demands.

903.3.8.4 Supervision. Control valves shall not be installed between the water supply and sprinklers unless the valves are of an approved indicating type that are supervised or secured in the open position.

903.3.8.5 Calculations. Hydraulic calculations in accordance with NFPA 13 shall be provided to demonstrate that the available water flow and pressure are adequate to supply all sprinklers installed in any single fire area with discharge densities corresponding to the hazard classification.

903.4 Sprinkler system supervision and alarms. Valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures and waterflow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit.

Exceptions:

1. ~~*Deleted.*~~ Automatic sprinkler systems protecting one- and two-family dwellings.

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2. Limited area sprinkler systems in accordance with Section 903.3.8.

~~2~~3. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic water and the automatic sprinkler system, and a separate shutoff valve for the automatic sprinkler system is not provided.

~~3~~4. Jockey pump control valves that are sealed or locked in the open position.

~~4~~5. Control valves to commercial kitchen hoods, paint spray booths or dip tanks that are sealed or locked in the open position.

~~5~~6. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position.

~~6~~7. Trim valves to pressure switches in dry, preaction and deluge sprinkler systems that are sealed or locked in the open position.

8. Underground key or hub gate valves in roadway boxes.

9. Backflow prevention assembly water supply control valves that are locked in the open position.

10. With the approval of the authority having jurisdiction, remote valves located in a secure unoccupied pit or vault locked in the open position.

903.4.1 Monitoring. Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved supervising station or, where approved by the fire code official *pursuant to Section 901.1,* shall sound an audible signal at a constantly attended location. *At locations or in structures not regulated by the building code, the constantly attended location shall be approved by the fire code official prior to system installation.*

~~**Exceptions:**~~

~~1. Underground key or hub valves in roadway boxes provided by the municipality or public utility are not required to be monitored.~~

~~2.~~ **Exception:** Backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position. In occupancies required to be equipped with a fire alarm system, the backflow preventer valves shall be electrically supervised by a tamper switch installed in accordance with NFPA 72 and separately annunciated.

903.4.2 Alarms. An approved audible device, located on the exterior of the building in an approved location, shall be connected to each automatic sprinkler system. Such sprinkler waterflow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

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

903.4.3 Floor control valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings.

903.5 Testing and maintenance. Sprinkler systems shall be tested and maintained in accordance with Section 901.

903.6 Where required in existing buildings and structures. An automatic sprinkler system shall be provided in existing buildings and structures where required in Chapter 11.

Section 904 Alternative automatic fire-extinguishing systems

904.1 General. Automatic fire-extinguishing systems, other than automatic sprinkler systems, shall be designed, installed, inspected, tested and maintained in accordance with the provisions of this section and the applicable referenced standards.

904.1.1 Certification of service personnel for fire-extinguishing equipment. Service personnel providing or conducting maintenance on automatic fire-extinguishing systems, other than automatic sprinkler systems, shall possess a valid certificate issued by an approved governmental agency, or other approved organization for the type of system and work performed.

904.2 Where permitted. Automatic fire-extinguishing systems installed as an alternative to the required automatic sprinkler systems of Section 903 shall be approved by the fire code official *pursuant to Section 901.1. At locations or in structures not regulated by the building code, the alternative automatic fire-extinguishing system shall be approved by the fire code official prior to system installation.*

904.2.1 Restriction on using automatic sprinkler system exceptions or reductions. Automatic fire-extinguishing systems shall not be considered alternatives for the purposes of exceptions or reductions allowed for automatic sprinkler systems or by other requirements of this code.

904.2.2 Commercial hood and duct systems. Each required commercial kitchen exhaust hood and duct system required by Section ~~609~~ 606 to have a Type I hood shall be protected with an approved automatic fire-extinguishing system installed in accordance with this code.

904.3 Installation. Automatic fire-extinguishing systems shall be installed in accordance with this section.

904.3.1 Electrical wiring. Electrical wiring shall be in accordance with NFPA 70.

904.3.2 Actuation. Automatic fire-extinguishing systems shall be automatically actuated and provided with a manual means of actuation in accordance with Section ~~904.12.1~~ 904.13.1. Where more than one hazard could be simultaneously involved in fire due to their proximity, all hazards shall be protected by a single system designed to protect all hazards that could become involved.

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Exception: Multiple systems shall be permitted to be installed if they are designed to operate simultaneously.

904.3.3 System interlocking. Automatic equipment interlocks with fuel shutoffs, ventilation controls, door closers, window shutters, conveyor openings, smoke and heat vents and other features necessary for proper operation of the fire-extinguishing system shall be provided as required by the design and installation standard utilized for the hazard.

904.3.4 Alarms and warning signs. Where alarms are required to indicate the operation of automatic fire-extinguishing systems, distinctive audible, visible alarms and warning signs shall be provided to warn of pending agent discharge. Where exposure to automatic-extinguishing agents poses a hazard to persons and a delay is required to ensure the evacuation of occupants before agent discharge, a separate warning signal shall be provided to alert occupants once agent discharge has begun. Audible signals shall be in accordance with Section 907.5.2.

904.3.5 Monitoring. Where a building fire alarm system is installed, automatic fire-extinguishing systems shall be monitored by the building fire alarm system in accordance with NFPA 72.

904.3.5.1 Signs. Where a fire alarm system is not installed, an approved sign shall be installed adjacent to the audible alarm or visual indicator for the automatic fire-extinguishing system that reads: "WHEN ALARM SOUNDS – CALL FIRE DEPARTMENT."

904.4 Inspection and testing. Automatic fire-extinguishing systems shall be inspected and tested in accordance with the provisions of this section prior to acceptance.

904.4.1 Inspection. Prior to conducting final acceptance tests, all of the following items shall be inspected:

1. Hazard specification for consistency with design hazard.
2. Type, location and spacing of automatic- and manual-initiating devices.
3. Size, placement and position of nozzles or discharge orifices.
4. Location and identification of audible and visible alarm devices.
5. Identification of devices with proper designations.
6. Operating instructions.

904.4.2 Alarm testing. Notification appliances, connections to fire alarm systems and connections to approved supervising stations shall be tested in accordance with this section and Section 907 to verify proper operation.

904.4.2.1 Audible and visible signals. The audibility and visibility of notification appliances signaling agent discharge or system operation, where required, shall be verified.

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904.4.3 Monitor testing. Connections to protected premises and supervising station fire alarm systems shall be tested to verify proper identification and retransmission of alarms from automatic fire-extinguishing systems.

904.5 Wet-chemical systems. Wet-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 17A and their listing. Records of inspections and testing shall be maintained.

904.5.1 System test. Systems shall be inspected and tested for proper operation at six-month intervals. Tests shall include a check of the detection system, alarms and releasing devices, including manual stations and other associated equipment. Extinguishing system units shall be weighed and the required amount of agent verified. Stored pressure-type units shall be checked for the required pressure. The cartridge of cartridge-operated units shall be weighed and replaced at intervals indicated by the manufacturer.

904.5.2 Fusible link maintenance. Fixed temperature-sensing elements shall be maintained *in accordance with NFPA 17A* to ensure proper operation of the system.

904.6 Dry-chemical systems. Dry-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 17 and their listing. Records of inspections and testing shall be maintained.

904.6.1 System test. Systems shall be inspected and tested for proper operation at six-month intervals. Tests shall include a check of the detection system, alarms and releasing devices, including manual stations and other associated equipment. Extinguishing system units shall be weighed, and the required amount of agent verified. Stored pressure-type units shall be checked for the required pressure. The cartridge of cartridge-operated units shall be weighed and replaced at intervals indicated by the manufacturer.

904.6.2 Fusible link maintenance. Fixed temperature-sensing elements shall be maintained to ensure proper operation of the system.

904.7 Foam systems. Foam-extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 11 and NFPA 16 and their listing. Records of inspections and testing shall be maintained.

904.7.1 System test. Foam-extinguishing systems shall be inspected and tested at intervals in accordance with NFPA 25.

904.8 Carbon dioxide systems. Carbon dioxide extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 12 and their listing. Records of inspections and testing shall be maintained.

904.8.1 System test. Systems shall be inspected and tested for proper operation at 12-month intervals.

904.8.2 High-pressure cylinders. High-pressure cylinders shall be weighed and the date of the last hydrostatic test shall be verified at six-month intervals. Where a container shows a loss in original content of more than 10 per cent, the cylinder shall be refilled or replaced.

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904.8.3 Low-pressure containers. The liquid-level gauges of low-pressure containers shall be observed at one-week intervals. Where a container shows a content loss of more than 10 per cent, the container shall be refilled to maintain the minimum gas requirements.

904.8.4 System hoses. System hoses shall be examined at 12-month intervals for damage. Damaged hoses shall be replaced or tested. At five-year intervals, all hoses shall be tested.

904.8.4.1 Test procedure. Hoses shall be tested at not less than 2,500 pounds per square inch (psi) (17 238 kPa) for high-pressure systems and at not less than 900 psi (6206 kPa) for low-pressure systems.

904.8.5 Auxiliary equipment. Auxiliary and supplementary components, such as switches, door and window releases, interconnected valves, damper releases and supplementary alarms, shall be manually operated at 12-month intervals to ensure that such components are in proper operating condition.

904.9 Halon systems. Halogenated extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 12A and their listing. Records of inspections and testing shall be maintained.

904.9.1 System test. Systems shall be inspected and tested for proper operation at 12-month intervals.

904.9.2 Containers. The extinguishing agent quantity and pressure of containers shall be checked at six-month intervals. Where a container shows a loss ~~of~~ in original weight of more than 5 percent or a loss in original pressure (adjusted for temperature) of more than 10 percent, the container shall be refilled or replaced. The weight and pressure of the container shall be recorded on a tag attached to the container.

904.9.3 System hoses. System hoses shall be examined at 12-month intervals for damage. Damaged hoses shall be replaced or tested. At five-year intervals, all hoses shall be tested.

904.9.3.1 Test procedure. For Halon 1301 systems, hoses shall be tested at not less than 1,500 psi (10 343 kPa) for 600 psi (4137 kPa) charging pressure systems and not less than 900 psi (6206 kPa) for 360 psi (2482 kPa) charging pressure systems. For Halon 1211 hand-hose line systems, hoses shall be tested at 2,500 psi (17 238 kPa) for high-pressure systems and 900 psi (6206 kPa) for low-pressure systems.

904.9.4 Auxiliary equipment. Auxiliary and supplementary components, such as switches, door and window releases, interconnected valves, damper releases and supplementary alarms, shall be manually operated at 12-month intervals to ensure such components are in proper operating condition.

904.10 Clean-agent systems. Clean-agent fire-extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 2001 and their listing. Records of inspections and testing shall be maintained.

904.10.1 System test. Systems shall be inspected and tested for proper operation at 12-month intervals.

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904.10.2 Containers. The extinguishing agent quantity and pressure of the containers shall be checked at six-month intervals. Where a container shows a loss in original weight of more than 5 per cent or a loss in original pressure, adjusted for temperature, of more than 10 per cent, the container shall be refilled or replaced. The weight and pressure of the container shall be recorded on a tag attached to the container.

904.10.3 System hoses. System hoses shall be examined at 12-month intervals for damage. Damaged hoses shall be replaced or tested. All hoses shall be tested at five-year intervals.

904.11 Automatic water mist systems. Automatic water mist systems shall be permitted in applications that are consistent with the applicable listing or approvals and shall comply with Sections 904.11.1 through 904.11.3.

904.11.1 Design and installation requirements. Automatic water mist systems shall be designed and installed in accordance with Sections 904.11.1.1 through 904.11.1.4.

904.11.1.1 General. Automatic water mist systems shall be designed and installed in accordance with NFPA 750 and the manufacturer's instructions.

904.11.1.2 Actuation. Automatic water mist systems shall be automatically actuated.

904.11.1.3 Water supply protection. Connections to a potable water supply shall be protected against backflow in accordance with the *plumbing code*.

904.11.1.4 Secondary water supply. Where a secondary water supply is required for an automatic sprinkler system, an automatic water mist system shall be provided with an approved secondary water supply.

904.11.2 Water mist system supervision and alarms. Supervision and alarms shall be provided as required for automatic sprinkler systems in accordance with Section 903.4.

904.11.2.1 Monitoring. Monitoring shall be provided as required for automatic sprinkler systems in accordance with Section 903.4.1.

904.11.2.2 Alarms. Alarms shall be provided as required for automatic sprinkler systems in accordance with Section 903.4.2.

904.11.2.3 Floor control valves. Floor control valves shall be provided as required for automatic sprinkler systems in accordance with Section 903.4.3.

904.11.3 Testing and maintenance. Automatic water mist systems shall be tested and maintained in accordance with Section 901.6.

~~**904.14**~~**904.12 Aerosol fire-extinguishing systems.** Aerosol fire-extinguishing systems shall be installed, maintained, periodically inspected, and tested ~~and maintained~~ in accordance with ~~*paragraphs* (A)(901) and (D)(4)(904.4) *of this rule*,~~ NFPA 2010, and ~~in accordance with their~~ listing.

Such devices and appurtenances shall be listed and installed in compliance with manufacturer's instructions.

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~~904.14.1~~904.12.1 **Maintenance.** Not less than semiannually, an inspection shall be conducted by a trained person to assess whether the system is in working order. Not less than annually, a certified fire suppression contractor having knowledge of and training in the installation, operation and maintenance of the specific fire-extinguishing system shall inspect, test, service and maintain such system in accordance with this ~~*paragraph*~~section and the manufacturer's specifications and servicing manuals. Records of inspections and testing shall be maintained.

~~904.12~~904.13 **Commercial cooking systems.** The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Preengineered automatic dry- and wet-chemical extinguishing systems shall be tested in accordance with UL 300 and listed and labeled for the intended application. Other types of automatic fire-extinguishing systems shall be listed and labeled for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this code, NFPA 96, its listing and the manufacturer's installation instructions. Automatic fire-extinguishing systems of the following types shall be installed in accordance with the referenced standard indicated, as follows:

1. Carbon dioxide extinguishing systems, NFPA 12.

2. Automatic sprinkler systems, NFPA 13.

~~2.~~3. Automatic water mist systems, NFPA 750.

~~3.~~4. Foam-water sprinkler system or foam-water spray systems, NFPA 16.

~~4.~~5. Dry-chemical extinguishing systems, NFPA 17.

~~5.~~6. Wet-chemical extinguishing systems, NFPA 17A.

Exception: Factory-built commercial cooking recirculating systems that are tested in accordance with UL 710B and listed, labeled and installed in accordance with Section 304.1 of the *mechanical code*.

Automatic fire-extinguishing systems shall be inspected and maintained in accordance with NFPA 96 as applicable.

~~904.12.1~~904.13.1 **Manual system operation.** A manual actuation device shall be located at or near a means of egress from the cooking area not less than 10 feet (3048 mm) and not more than 20 feet (6096 mm) from the kitchen exhaust system. The manual actuation device shall be installed not more than 48 inches (1200 mm) nor less than 42 inches (1067 mm) above the floor and shall clearly identify the hazard protected. The manual actuation shall require a maximum force of 40 pounds (178 N) and a maximum movement of 14 inches (356 mm) to actuate the fire suppression system.

Exception: Automatic sprinkler systems shall not be required to be equipped with manual actuation means.

~~904.12.2~~904.13.2 **System interconnection.** The actuation of the fire extinguishing system shall automatically shut down the fuel or electrical power supply to the cooking equipment. The fuel and electrical supply reset shall be manual.

Note: for copyright claim information, please see the notice on the last page of this rule.

~~904.12.3~~904.13.3 **Carbon dioxide systems.** ~~When~~Where carbon dioxide systems are used, there shall be a nozzle at the top of the ventilating duct. Additional nozzles that are symmetrically arranged to give uniform distribution shall be installed within vertical ducts exceeding 20 feet (6096 mm) and horizontal ducts exceeding 50 feet (15 240 mm). Dampers shall be installed at either the top or the bottom of the duct and shall be arranged to operate automatically upon activation of the fire-extinguishing system. ~~When~~Where the damper is installed at the top of the duct, the top nozzle shall be immediately below the damper. Automatic carbon dioxide fire-extinguishing systems shall be sufficiently sized to protect all hazards venting through a common duct simultaneously.

~~904.12.3.1~~904.13.3.1 **Ventilation system.** Commercial-type cooking equipment protected by an automatic carbon dioxide extinguishing system shall be arranged to shut off the ventilation system upon activation.

~~904.12.4~~904.13.4 **Special provisions for automatic sprinkler systems.** Automatic sprinkler systems protecting commercial-type cooking equipment shall be supplied from a separate, ~~readily accessible,~~ indicating-type control valve that is identified. Access to the control valve shall be provided.

~~904.12.4.1~~904.13.4.1 **Listed sprinklers.** Sprinklers used for the protection of fryers shall be tested in accordance with UL 199E, listed for that application and installed in accordance with their listing.

~~(e) **904.12.5 Portable fire extinguishers for commercial cooking equipment.** Portable fire extinguishers shall be provided within a 30-foot (9144 mm) distance of travel from commercial-type cooking equipment. Cooking equipment involving solid fuels or vegetable or animal oils and fats shall be protected by a Class K rated portable extinguisher in accordance with *paragraphs* (D)(12)(e)(i)(904.12.5.1) or (D)(12)(e)(ii)(904.12.5.2) *of this rule*, as applicable.~~

~~(i) **904.12.5.1 Portable fire extinguishers for solid fuel cooking appliances.** Solid fuel cooking appliances, whether or not under a hood, with fireboxes 5 cubic feet (0.14m^3) or less in volume shall have a minimum 2.5-gallon (9 L) or two 1.5-gallon (6 L) Class K wet-chemical portable fire extinguishers located in accordance with *paragraph* (D)(12)(e)(904.12.5) *of this rule*.~~

~~(ii) **904.12.5.2 Class K portable fire extinguishers for deep fat fryers.** When hazard areas include deep fat fryers, listed Class K portable fire extinguishers shall be provided as follows:~~

~~*(a)* For up to four fryers having a maximum cooking medium capacity of 80 pounds (36.3 kg) each: One Class K portable fire extinguisher of a minimum 1.5 gallon (6 L) capacity.~~

~~*(b)*(a) For every additional group of four fryers having a maximum cooking medium capacity of 80 pounds (36.3 kg) each: one additional Class K portable fire extinguisher of a minimum 1.5 gallon (6 L) capacity shall be provided.~~

~~*(c)*(a) For individual fryers exceeding 6 square feet (0.55 m^2) in surface area: Class K portable fire extinguishers shall be installed in accordance with the extinguisher manufacturer's recommendations.~~

Note: for copyright claim information, please see the notice on the last page of this rule.

~~904.12.6~~904.13.5 **Operations and maintenance.** Automatic fire-extinguishing systems protecting commercial cooking systems shall be maintained in accordance with Sections ~~904.12.6.1~~ 904.13.5.1 through ~~904.12.6.3~~ 904.13.5.3.

~~904.12.6.1~~904.13.5.1 **Existing automatic fire extinguishing systems.** Where changes in the cooking media, positioning of cooking equipment or replacement of cooking equipment occur in existing commercial cooking systems, the automatic fire-extinguishing system shall be required to comply with the applicable provisions of Sections ~~904.12~~ 904.13 through ~~904.12.4~~ 904.13.4.

~~904.12.6.2~~904.13.5.2 **Extinguishing system service.** Automatic fire-extinguishing systems shall be serviced ~~at least~~not less frequently than every ~~6~~six months and after activation of the system. Inspection shall be by qualified individuals, and a certificate of inspection shall be forwarded to the fire code official upon completion.

~~904.12.6.3~~904.13.5.3 **Fusible link and sprinkler head replacement.** Fusible links and automatic sprinkler heads shall be replaced ~~at least~~ annually, and other protection devices shall be serviced or replaced in accordance with the manufacturer's instructions.

Exception: Frangible bulbs are not required to be replaced annually.

~~904.13~~904.14 **Domestic cooking facilities ~~systems in Group I-2 Condition 1~~.** ~~In Group I-2 Condition 1 occupancies where cooking facilities are installed in accordance with Section 407.2.6 of the *building code as listed in rule 1301:7-7-80 of the Administrative Code*, the domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Pre-engineered automatic extinguishing systems shall be tested in accordance with UL 300A *as listed in rule 1301:7-7-80 of the Administrative Code* and listed and labeled for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.~~ Cooktops and ranges installed in the following occupancies shall be protected in accordance with Section 904.14.1.

1. In Group I-1 occupancies where domestic cooking facilities are installed in accordance with Section 420.9 of the *building code*.
2. In Group I-2 occupancies where domestic cooking facilities are installed in accordance with Section 407.2.7 of the *building code*.
3. In Group R-2 college dormitories where domestic cooking facilities are installed in accordance with Section 420.11 of the *building code*.

904.14.1 Protection from fire. Cooktops and ranges shall be protected in accordance with Section 904.14.1.1 or 904.14.1.2.

904.14.1.1 Automatic fire-extinguishing system. The domestic recirculating or exterior vented cooking hood provided over the cooktop or range shall be equipped with an approved automatic fire-extinguishing system complying with the following:

1. The automatic fire-extinguishing system shall be of a type recognized for protection of domestic cooking equipment. Preengineered automatic fire-extinguishing

systems shall be listed and labeled in accordance with UL 300A and installed in accordance with the manufacturer's instructions.

2. Manual actuation of the fire-extinguishing system shall be provided in accordance with Section 904.13.1.

3. Interconnection of the fuel and electric power supply shall be in accordance with Section 904.13.2.

904.14.1.2 Ignition prevention. Cooktops and ranges shall include burners that have been tested and listed to prevent ignition of cooking oil with burners turned on to their maximum heat settings and allowed to operate for 30 minutes.

~~(a) **904.13.1 Manual system operation and interconnection.** Manual actuation and system interconnection for the hood suppression system shall be in accordance with *paragraphs* (D)(12)(a)(904.12.1) and (D)(12)(b)(904.12.2) *of this rule*, respectively.~~

~~(b) **904.13.2 Portable fire extinguishers for domestic cooking equipment in Group I-2 Condition 1.** A portable fire extinguisher complying with *paragraph* (F)(906) *of this rule* shall be installed within a 30-foot (9144 mm) distance of travel from domestic cooking appliances.~~

~~(14) **904.14 Aerosol fire extinguishing systems.** Aerosol fire extinguishing systems shall be installed, periodically inspected, tested and maintained in accordance with *paragraphs* (A)(901) and (D)(4)(904.4) *of this rule*, NFPA 2010 *as listed in rule 1301:7-7-80 of the Administrative Code*, and in accordance with their listing.~~

~~Such devices and appurtenances shall be listed and installed in compliance with manufacturer's instructions.~~

~~(a) **904.14.1 Maintenance.** Not less than semiannually, an inspection shall be conducted by a trained person to assess whether the system is in working order. Not less than annually, a certified fire suppression contractor having knowledge of and training in the installation, operation and maintenance of the specific fire-extinguishing system shall inspect, test, service and maintain such system in accordance with this *paragraph* and the manufacturer's specifications and servicing manuals.~~

Section 905 Standpipe systems

905.1 General. Standpipe systems shall be provided in new buildings and structures in accordance with Sections 905.2 through ~~905.10~~ 905.11. In buildings used for high-piled combustible storage, fire protection shall be in accordance with Chapter 32.

905.2 Installation standard. Standpipe systems shall be installed in accordance with this section and NFPA 14. Fire department connections for standpipe systems shall be in accordance with Section 912.

905.3 Required installations. Standpipe systems shall be installed where required by Sections 905.3.1 through 905.3.8. *Where these systems are installed, the hose connections shall be installed in the locations indicated in Sections 905.4, 905.5 and 905.6.* Standpipe systems are allowed to be combined with automatic sprinkler systems.

Note: for copyright claim information, please see the notice on the last page of this rule.

Exception: Standpipe systems are not required in Group R-3 occupancies.

905.3.1 Height. Class III standpipe systems shall be installed throughout buildings where any of the following conditions exist:

1. Four or more stories are above or below grade plane.

2. ~~t~~The floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of the fire department vehicle access.~~, or where~~

~~1.~~3. ~~t~~The floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.

Exceptions:

1. Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

~~1.~~2. Class I standpipes are allowed in Group B and E occupancies.

~~2.~~3. Class I ~~manual~~ standpipes are allowed in ~~open~~ parking garages ~~where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access~~.

~~3. Class I manual dry standpipes are allowed in open parking garages that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with *paragraph* (E)(5)(905.5) *of this rule*.~~

4. Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.

~~4.~~5. Class I standpipes are allowed in buildings where occupant-use hose lines will not be utilized by trained personnel or the fire department.

~~5.~~6. In determining the lowest level of fire department vehicle access, it shall not be required to consider either of the following:

~~5~~6.1 Recessed loading docks for four vehicles or less.

~~5~~6.2 Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

7. Class I manual standpipes are allowed in open parking garages where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.

8. Class I manual dry standpipes are allowed in open parking garages that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.

Note: for copyright claim information, please see the notice on the last page of this rule.

905.3.2 Group A. Class I automatic wet standpipes shall be provided in nonsprinklered Group A buildings having an occupant load exceeding 1,000 persons.

Exceptions:

1. Open-air-seating spaces without enclosed spaces.

2. Class I automatic dry and semiautomatic dry standpipes or manual wet standpipes are allowed in buildings that are not high-rise buildings.

905.3.3 Covered and open mall buildings. Covered mall and open mall buildings shall be equipped throughout with a standpipe system where required by Section 905.3.1. Mall buildings not required to be equipped with a standpipe system by Section 905.3.1 shall be equipped with Class I hose connections connected to the automatic sprinkler system sized to deliver water at 250 gallons per minute (946.4 L/min) at the ~~most~~ hydraulically most remote hose connection while concurrently supplying the automatic sprinkler system demand. The standpipe system shall be designed not to exceed a 50 pounds per square inch (psi) (345 kPa) residual pressure loss with a flow of 250 gallons per minute (946.4 L/min) from the fire department connection to the hydraulically most remote hose connection. Hose connections shall be provided at each of the following locations:

1. Within the mall at the entrance to each exit passageway or corridor.

2. At each floor-level landing within interior exit stairways opening directly on the mall.

3. At exterior public entrances to the mall of a covered mall building.

4. At public entrances at the perimeter line of an open mall building.

5. At other locations as necessary so that the distance to reach all portions of a tenant space does not exceed 200 feet (60 960 mm) from a hose connection.

905.3.4 Stages. Stages greater than 1,000 square feet (93 m^2) in area shall be equipped with a Class III wet standpipe system with 1½-inch and 2½-inch (38 mm and 64 mm) hose connections on each side of the stage.

Exception: Where the building or area is equipped throughout with an automatic sprinkler system, a 1½ inch (38 mm) hose connection shall be installed in accordance with NFPA 13 or in accordance with NFPA 14 for Class II or III standpipes.

905.3.4.1 Hose and cabinet. The 1½-inch (38 mm) hose connections shall be equipped with sufficient lengths of 1½-inch (38 mm) hose to provide fire protection for the stage area. Hose connections shall be equipped with an approved adjustable fog nozzle and be mounted in a cabinet or on a rack.

905.3.5 Underground buildings. Underground buildings shall be equipped throughout with a Class I automatic wet or manual wet standpipe system.

905.3.6 Helistops and heliports. Buildings with a rooftop helistop or heliport shall be equipped with a Class I or III standpipe system extended to the roof level on which the helistop or heliport is located in accordance with Section 2007.5.

Note: for copyright claim information, please see the notice on the last page of this rule.

905.3.7 Marinas and boatyards. Standpipes in marinas and boatyards shall comply with Chapter 36.

905.3.8 ~~Rooftop gardens and l~~Landscaped roofs. Buildings or structures that have ~~rooftop gardens or~~ landscaped roofs and that are equipped with a standpipe system shall have the standpipe system extended to the roof level on which the ~~rooftop garden or~~ landscaped roof is located.

905.4 Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required interior exit stairway, a hose connection shall be provided for each story above ~~or~~and below grade plane. Hose connections shall be located at ~~an intermediate~~the main floor landing ~~between stories~~, unless otherwise approved by the fire code official *and in accordance with the building code*.

   Exception: A single hose connection shall be permitted to be installed in the open corridor or open breezeway between open stairs that are not greater than 75 feet (22 860 mm) apart.

2. On each side of the wall adjacent to the exit opening of a horizontal exit.

   Exception: Where floor areas adjacent to a horizontal exit are reachable from an interior exit stairway hose connection by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the horizontal exit.

3. In every exit passageway, at the entrance from the exit passageway to other areas of a building.

   Exception: Where floor areas adjacent to an exit passageway are reachable from an interior exit stairway hose connection by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the entrance from the exit passageway to other areas of the building.

4. In covered mall buildings, adjacent to each exterior public entrance to the mall and adjacent to each entrance from an exit passageway or exit corridor to the mall. In open mall buildings, adjacent to each public entrance to the mall at the perimeter line and adjacent to each entrance from an exit passageway or exit corridor to the mall.

5. Where the roof has a slope less than ~~four~~4 units vertical in 12 units horizontal (33.3-per cent slope), a hose connection shall be located to serve the roof or at the highest landing of an interior exit stairway with access to the roof provided in accordance with Section 1011.12.

6. Where the most remote portion of a nonsprinklered floor or story is more than 150 feet (45 720 mm) from a hose connection or the most remote portion of a sprinklered floor or story is more than 200 feet (60 960 mm) from a hose connection, the fire code official is authorized to require that additional hose connections be provided in approved locations.

Note: for copyright claim information, please see the notice on the last page of this rule.

905.4.1 Protection. Risers and laterals of Class I standpipe systems not located within an interior exit stairway shall be protected by a degree of fire resistance equal to that required for vertical enclosures in the building in which they are located.

Exception: In buildings equipped throughout with an approved automatic sprinkler system, laterals that are not located within an interior exit stairway are not required to be enclosed within fire-resistance-rated construction.

905.4.2 Interconnection. In buildings where more than one standpipe is provided, the standpipes shall be interconnected in accordance with NFPA 14.

905.5 Location of Class II standpipe hose connections. Class II standpipe hose connections shall be ~~accessible and shall be~~ located so that all portions of the building are within 30 feet (9144 mm) of a nozzle attached to 100 feet (30 480 mm) of hose. Class II standpipe hose connections shall be located where they will have ready access.

905.5.1 Groups A-1 and A-2. In Group A-1 and A-2 occupancies with occupant loads of more than 1,000, hose connections shall be located on each side of any stage, on each side of the rear of the auditorium, on each side of the balcony and on each tier of dressing rooms.

905.5.2 Protection. Fire-resistance-rated protection of risers and laterals of Class II standpipe systems is not required.

905.5.3 Class II system 1-inch hose. A minimum 1-inch (25 mm) hose shall be allowed to be used for hose stations in light-hazard occupancies where investigated and listed for this service and where approved by the fire code official *pursuant to Section 901.1. At locations or in structures not regulated by the building code, the 1-inch (25 mm) hose shall be approved by the fire code official prior to system installation.*

905.6 Location of Class III standpipe hose connections. Class III standpipe systems shall have hose connections located as required for Class I standpipes in Section 905.4 and shall have Class II hose connections as required in Section 905.5.

905.6.1 Protection. Risers and laterals ~~for~~ of Class III standpipe systems shall be protected as required for Class I systems in accordance with Section 905.4.1.

905.6.2 Interconnection. In buildings where more than one Class III standpipe is provided, the standpipes shall be interconnected in accordance with NFPA 14.

905.7 Cabinets. Cabinets containing fire-fighting equipment, such as standpipes, fire hose, fire extinguishers or fire department valves, shall not be blocked from use or obscured from view.

905.7.1 Cabinet equipment identification. Cabinets shall be identified in an approved manner by a permanently attached sign with letters not less than 2 inches (51 mm) high in a color that contrasts with the background color, indicating the equipment contained therein.

Exceptions:

1. Doors not large enough to accommodate a written sign shall be marked with a permanently attached pictogram of the equipment contained therein.

Note: for copyright claim information, please see the notice on the last page of this rule.

2. Doors that have either an approved visual identification clear glass panel or a complete glass door panel are not required to be marked.

905.7.2 Locking cabinet doors. Cabinets shall be unlocked.

Exceptions:

1. Visual identification panels of glass or other approved transparent frangible material that is easily broken and allows access.

2. Approved locking arrangements.

3. Group I-3 occupancies.

905.8 Dry standpipes. Dry standpipes shall not be installed.

Exception: Where subject to freezing and in accordance with NFPA 14.

905.9 Valve supervision. Valves controlling water supplies shall be supervised in the open position so that a change in the normal position of the valve will generate a supervisory signal at the supervising station required by Section 903.4. Where a fire alarm system is provided, a signal shall be transmitted to the control unit.

Exceptions:

1. Valves to underground key or hub valves in roadway boxes provided *by the municipality or public utility* do not require supervision.

2. Valves locked in the normal position and inspected as provided in this code in buildings not equipped with a fire alarm system.

905.10 During construction. Standpipe systems required during construction and demolition operations shall be provided in accordance with Section 3313.

905.11 Locking standpipe outlet caps. The fire code official is authorized to require locking caps on the outlets on standpipes where the responding fire department carries key wrenches for the removal that are compatible with locking FDC connection caps.

~~905.11~~905.12 **Existing buildings.** Where required in Chapter 11, existing structures shall be equipped with standpipes installed in accordance with Section 905.

Section 906 Portable fire extinguishers

906.1 Where required. Portable fire extinguishers shall be installed in all of the following locations:

1. In new and existing Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.

Exceptions:

1. In Group R-2 occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each dwelling unit is provided with a portable fire extinguisher having a minimum rating of 1-A:10-B:C.

2. In Group E occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each classroom is provided with a portable fire extinguisher having a minimum rating of 2-A:20-B:C.

3. In storage areas of Group S occupancies *where the building or area is equipped throughout with an automatic sprinkler system and* where forklift, powered industrial truck or powered cart operators are the primary occupants, fixed extinguishers, as specified in NFPA 10, shall not be required where in accordance with all of the following:

3.1. Use of vehicle-mounted extinguishers shall be approved by the fire code official.

3.2. Each vehicle shall be equipped with a 10-pound, 40A-80B:C extinguisher affixed to the vehicle using a mounting bracket approved by the extinguisher manufacturer or the fire code official for vehicular use.

3.3 Not less than two spare extinguishers of equal or greater rating shall be available on-site to replace a discharged extinguisher.

3.4. Vehicle operators shall be trained in the proper operation, use and inspection of extinguishers.

3.5. Inspections of vehicle-mounted extinguishers shall be performed daily.

2. Within 30 feet (9144 mm) distance of travel from commercial cooking *appliances and domestic cooking appliances in* Group I-1; *Group I-2 nursing homes*; and R-2 college dormitory occupancies.

3. In areas where flammable or combustible liquids are stored, used or dispensed.

4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section ~~3315.1~~ 3316.1.

5. Where required by the sections indicated in Table 906.1.

6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official *and in accordance with the building code*.

Exception: Portable fire extinguishers are not required at normally unmanned Group U occupancy buildings or structures where a portable fire extinguisher suitable to the hazard of the location is provided on the vehicle of visiting personnel.

Table 906.1
Additional required portable fire extinguishers

~~Paragraph~~Section	Subject

Note: for copyright claim information, please see the notice on the last page of this rule.

303.5	Asphalt kettles
307.5	Open burning
308.1.3	Open flames-torches
309.4	Powered industrial trucks
1204.10	Portable generator
2005.2	Aircraft towing vehicles
2005.3	Aircraft welding apparatus
2005.4	Aircraft fuel-servicing tank vehicles
2005.5	Aircraft hydrant fuel-servicing vehicles
2005.6	Aircraft fuel-dispensing stations
2007.7	Heliports and helistops
2108.4	Dry cleaning plants
2305.5	Motor fuel-dispensing facilities
2310.6.4	Marine motor fuel-dispensing facilities
2311.6	Repair garages
2404.4.1	Spray-finishing operations
2405.4.2	Dip-tank operations
2406.4.2	Powder-coating areas
~~2804.2~~ 2804.3	Lumberyards/woodworking facilities
2808.8	Recycling facilities
2809.5	Exterior lumber storage
2903.5	Organic-coating areas
3006.3	Industrial ovens
~~3104.12~~ 3107.9	Tents and membrane structures
3206.10	High-piled storage
~~3315.1~~ 3316.1	Buildings under construction or demolition
~~3317.3~~ 3318.3	Roofing operations
3408.2	Tire rebuilding/storage
3504.2.6	Welding and other hot work
3604.4	Marinas
3703.6	Combustible fibers
5703.2.1	Flammable and combustible liquids, general
5704.3.3.1	Indoor storage of flammable and combustible liquids
5704.3.7.5.2	Liquid storage rooms for flammable and combustible liquids
5705.4.9	Solvent distillation units
5706.2.7	Farms and construction sites-flammable and combustible liquids storage
5706.4.10.1	Bulk plants and terminals for flammable and combustible liquids
5706.5.4.5	Commercial, industrial, governmental or manufacturing establishments-fuel dispensing
5706.6.4	Tank vehicles for flammable and combustible liquids
5906.5.7	Flammable solids
6108.2	LP-gas

906.2 General requirements. Portable fire extinguishers shall be selected, installed and maintained in accordance with this section and NFPA 10.

Exceptions:

Note: for copyright claim information, please see the notice on the last page of this rule.

1. The distance of travel to reach an extinguisher shall not apply to the spectator seating portions of Group A-5 occupancies.

2. Thirty-day inspections shall not be required and maintenance shall be allowed to be once every 3 years for dry-chemical or halogenated agent portable fire extinguishers that are supervised by a listed and approved electronic monitoring device, provided that all of the following conditions are met:

   2.1 Electronic monitoring shall confirm that extinguishers are properly positioned, properly charged and unobstructed.

   2.2 Loss of power or circuit continuity to the electronic monitoring device shall initiate a trouble signal.

   2.3 The extinguishers shall be installed inside of a building or cabinet in a noncorrosive environment.

   2.4 Electronic monitoring devices and supervisory circuits shall be tested every 3 years when extinguisher maintenance is performed.

   2.5 A written log of required hydrostatic test dates for extinguishers shall be maintained by the owner to verify that hydrostatic tests are conducted at the frequency required by NFPA 10.

3. In Group I-3, portable fire extinguishers shall be permitted to be located at staff locations.

906.2.1 Certification of service personnel for portable fire extinguishers. Service personnel providing or conducting maintenance on portable fire extinguishers shall possess a valid certificate issued by an approved governmental agency, or other approved organization for the type of work performed.

906.3 Size and distribution. The size and distribution of portable fire extinguishers shall be in accordance with Sections 906.3.1 through 906.3.4.

~~(a) **906.3.1 Class A fire hazards.** The minimum sizes and distribution of P~~portable ~~fire extinguishers for occupancies that involve primarily Class A fire hazards, the minimum sizes and distribution shall comply with Table 906.3(1) *of this rule*.~~

Table 906.3 (1)
Fire extinguishers for Class A fire hazards

	Light (low) hazard occupancy	Ordinary (moderate) hazard occupancy	Extra (high) hazard occupancy
Minimum-rated single extinguisher	2-A[c]	2-A	4-A[a]
Maximum floor area per unit of A	3,000 square feet	1,500 square feet	1,000 square feet
Maximum floor area for extinguisher[b]	11,250 square feet	11,250 square feet	11,250 square feet

Note: for copyright claim information, please see the notice on the last page of this rule.

Maximum distance of travel to extinguisher	75 feet	75 feet	75 feet

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2, 1 gallon = 3.785 L.

a. Two 2½-gallon water-type extinguishers shall be deemed the equivalent of one 4-A rated extinguisher.
b. Annex E.3.3 of NFPA 10 provides more details concerning application of the maximum floor area criteria.
c. Two water-type extinguishers each with a 1-A rating shall be deemed the equivalent of one 2-A rated extinguisher for Light (Low) Hazard Occupancies.

Table 906.3(2)[a]
Fire extinguishers for ~~F~~flammable or combustible liquids with depths of less than or equal to 0.25-inch

Type of hazard	Basic minimum extinguisher rating	Maximum distance of travel to extinguishers (feet)
Light (Low)	5-B 10-B	30 50
Ordinary (Moderate)	10-B 20-B	30 50
Extra (High)	40-B 80-B	30 50

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. For requirements on water-soluble flammable liquids and alternative sizing criteria, see Section 5.5 of NFPA 10.

906.3.1 Class A fire hazards. The minimum sizes and distribution of portable fire extinguishers for occupancies that involve primarily Class A fire hazards shall comply with Table 906.3(1).

906.3.2 Class B fire hazards. Portable fire extinguishers for occupancies involving flammable or combustible liquids with depths ~~of~~ less than or equal to 0.25-inch (6.4 mm) shall be selected and placed in accordance with Table 906.3(2).

Portable fire extinguishers for occupancies involving flammable or combustible liquids with a depth of greater than 0.25-inch (6.4 mm) shall be selected and placed in accordance with NFPA 10.

906.3.3 Class C fire hazards. Portable fire extinguishers for Class C fire hazards shall be selected and placed on the basis of the anticipated Class A or B hazard.

906.3.4 Class D fire hazards. Portable fire extinguishers for occupancies involving combustible metals shall be selected and placed in accordance with NFPA 10.

906.4 Cooking ~~grease~~equipment fires. Fire extinguishers provided for the protection of cooking ~~grease fires~~equipment shall be of an approved type compatible with the automatic fire-extinguishing system agent ~~and in accordance with *paragraph* (D)(12)(e)(904.12.5) *of this rule*~~. Cooking equipment involving solid fuels or vegetable or animal oils and fats shall be protected by a Class K-rated portable extinguisher in accordance with Sections 906.1, Item 2, 906.4.1 and 906.4.2 as applicable.

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~~904.12.5.1~~906.4.1 Portable fire extinguishers for solid fuel cooking appliances. Solid fuel cooking appliances, whether or not under a hood, with fireboxes 5 cubic feet (0.14m^3) or less in volume shall have a minimum 2.5-gallon (9 L) or two 1.5-gallon (6 L) Class K wet-chemical portable fire extinguishers located in accordance with ~~*paragraph* (D)(12)(e)(904.12.5)(F)(1)(~~Section 906.1~~) *of this rule*~~.

~~904.12.5.2~~906.4.2 Class K portable fire extinguishers for deep fat fryers. ~~When~~Where hazard areas include deep fat fryers, listed Class K portable fire extinguishers shall be provided as follows:

1. For up to four fryers having a maximum cooking medium capacity of 80 pounds (36.3 kg) each: ~~O~~one Class K portable fire extinguisher of a minimum 1.5~~-~~gallon (6 L) capacity.

2. For every additional group of four fryers having a maximum cooking medium capacity of 80 pounds (36.3 kg) each: one additional Class K portable fire extinguisher of a minimum 1.5~~-~~gallon (6 L) capacity shall be provided.

3. For individual fryers exceeding 6 square feet (0.55 m^2) in surface area: Class K portable fire extinguishers shall be installed in accordance with the extinguisher manufacturer's recommendations.

906.5 Conspicuous location. Portable fire extinguishers shall be located in conspicuous locations where they will ~~be readily accessible~~have ready access and be immediately available for use. These locations shall be along normal paths of travel, unless the fire code official determines *and in accordance with the building code* that the hazard posed indicates the need for placement away from normal paths of travel.

906.6 Unobstructed and unobscured. Portable fire extinguishers shall not be obstructed or obscured from view. In rooms or areas in which visual obstruction cannot be completely avoided, means shall be provided to indicate the locations of extinguishers.

906.7 Hangars and brackets. Hand-held portable fire extinguishers, not housed in cabinets, shall be installed on the hangers or brackets supplied. Hangers or brackets shall be securely anchored to the mounting surface in accordance with the manufacturer's installation instructions.

906.8 Cabinets. Cabinets used to house portable fire extinguishers shall not be locked.

Exceptions:

1. Where portable fire extinguishers subject to malicious use or damage are provided with a means of ready access.

2. In Group I-3 occupancies and in mental health areas in Group I-2 occupancies, access to portable fire extinguishers shall be permitted to be locked or to be located in staff locations provided that the staff has keys.

906.9 Extinguisher installation. The installation of portable fire extinguishers shall be in accordance with Sections 906.9.1 through 906.9.3.

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906.9.1 Extinguishers weighing 40 pounds or less. Portable fire extinguishers having a gross weight not exceeding 40 pounds (18 kg) shall be installed so that their tops are not more than 5 feet (1524 mm) above the floor.

906.9.2 Extinguishers weighing more than 40 pounds. Hand-held portable fire extinguishers having a gross weight exceeding 40 pounds (18 kg) shall be installed so that their tops are not more than 3.5 feet (1067 mm) above the floor.

906.9.3 Floor clearance. The clearance between the floor and the bottom of installed hand-held portable fire extinguishers shall be not less than 4 inches (102 mm).

906.10 Wheeled units. Wheeled fire extinguishers shall be conspicuously located in a designated location.

Section 907 Fire alarm and detection systems

907.1 General. This section covers the application, installation, performance and maintenance of fire alarm systems and their components in new and existing buildings and structures. The requirements of Section 907.2 are applicable to new buildings and structures. *The requirements for fire alarm and detection systems in new buildings contained in this rule are subject to and do not supersede or otherwise conflict with the requirements of Section 104.2.1. At locations or in structures not regulated by the building code as listed in rule 1301:7-7-80 of the Administrative Code, the fire alarm and detection system shall be approved by the fire code official prior to system installation.* The requirements of Section 907.9 are applicable to existing buildings and structures.

907.1.1 Construction documents. Construction documents for fire alarm systems shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code, the *building code*, and relevant laws, ordinances, rules and regulations, as determined by the fire code official *and in accordance with the building code*.

907.1.2 Fire alarm shop drawings. Shop drawings for fire alarm systems shall be prepared in accordance with NFPA 72 and submitted for review and approval prior to system installation~~., and shall include, but not be limited to, all of the following where applicable to the system being installed:~~

~~(i) A floor plan which indicates the use of all rooms.~~

~~(ii) Locations of alarm initiating devices.~~

~~(iii) Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.~~

~~(iv) Design minimum audibility level for occupant notification.~~

~~(v) Location of fire alarm control unit, transponders and notification power supplies.~~

~~(vi) Annunciators.~~

~~(vii)Power connection.~~

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~~(viii) Battery calculations.~~

~~(ix) Conductor type and sizes.~~

~~(x) Voltage drop calculations.~~

~~(xi) Manufacturers' data sheets indicating model numbers and listing information for equipment, devices and materials.~~

~~(xii)Details of ceiling height and construction.~~

~~(xiii) The interface of fire safety control functions.~~

~~(xiv) Classification of the supervising station.~~

907.1.3 Equipment. Systems and components shall be listed and approved for the purpose for which they are installed.

907.2 Where required-new buildings and structures. An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.23 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

Not fewer than one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or waterflow detection devices. Where other sections of this code allow elimination of ~~the~~ fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

Exceptions:

1. The manual fire alarm box is not required for fire alarm systems dedicated to elevator recall control and supervisory service.

2. The manual fire alarm box is not required for Group R-2 occupancies unless required by the fire code official *and in accordance with the building code* to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. *The fire code official shall provide notice to the building official when the manual fire alarm box is required.* Where provided, the manual fire alarm box shall not be located in an area that is ~~accessible~~open to the public.

907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more, or where the Group A occupant load is more than 100 persons above or below the lowest level of exit discharge. Group A occupancies not separated from one another in accordance with Section 707.3.10 of the *building code* shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

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Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.1.1 System initiation ~~of~~in Group A occupancies with an occupant load of 1,000 or more. Activation of the fire alarm in Group A occupancies with an ~~occu pant~~*occupant* load of 1,000 or more shall initiate a signal using an emergency voice/alarm communications system in accordance with Section 907.5.2.2.

Exception: Where approved, the prerecorded announcement is allowed to be manually deactivated for a period of time, not to exceed 3 minutes, for the sole purpose of allowing a live voice announcement from an approved, constantly attended location.

907.2.1.2 Emergency voice/alarm communication system captions. Stadiums, arenas and grandstands required to caption audible public announcements shall be in accordance with Section 907.5.2.2.4.

907.2.2 Group B. A manual fire alarm system, which activates the occupant notification system in accordance with Section 907.5, shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.

2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.

3. The fire area contains an ambulatory care facility.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.2.1 Ambulatory care facilities. Fire areas containing ambulatory care facilities shall be provided with an electronically supervised automatic smoke detection system installed within the ambulatory care facility and in public use areas outside of tenant spaces, including public corridors and elevator lobbies.

Exception: Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 provided that the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.3 Group E. A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. ~~When~~Where automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

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1. A manual fire alarm system ~~is~~ shall not be required in Group E occupancies with an occupant load of 50 or less.

2. Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.

3. Manual fire alarm boxes ~~are~~shall not be required in Group E occupancies where all of the following apply:

   3.1 Interior corridors are protected by smoke detectors.

   3.2 Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.

   3.3 Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.

   3.4. Manual activation is provided from a normally occupied location.

4. Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:

   4.1 The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

   4.2 The emergency voice/alarm communication system will activate on sprinkler water flow.

   4.3 Manual activation is provided from a normally occupied location.

907.2.4 Group F. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group F occupancies where both of the following conditions exist:

1. The Group F occupancy is two or more stories in height.

2. The Group F occupancy has a combined occupant load of 500 or more above or below the lowest level of exit discharge.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.5 Group H. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group H-5 occupancies and in occupancies used for the manufacture of organic coatings. An automatic smoke detection

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system shall be installed for highly toxic gases, organic peroxides and oxidizers in accordance with Chapters 60, 62 and 63, respectively.

907.2.6 Group I. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group I occupancies. An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be provided in accordance with Sections 907.2.6.1, 907.2.6.2 and 907.2.6.3.3.

Exceptions:

1. Manual fire alarm boxes in sleeping units of Group I-1 and I-2 occupancies shall not be required at exits if located at all care providers' control stations or other constantly attended staff locations, provided that such manual fire alarm boxes ~~stations~~ are visible and ~~continuously accessible~~provided with ready access, and the distances of travel required in Section 907.4.2.1 are not exceeded.

2. Occupant notification systems are not required to be activated where private mode signaling installed in accordance with NFPA 72 is approved by the fire code official *and in accordance with the building code* and staff evacuation responsibilities are included in the fire safety and evacuation plan required by Section 404.

907.2.6.1 Group I-1. An automatic smoke detection system shall be installed in corridors, waiting areas open to corridors and habitable spaces other than sleeping units and kitchens. The system shall be activated in accordance with Section 907.5.

Exceptions:

1. For Group I-1, Condition 1 occupancies, smoke detection in habitable spaces is not required where the facility is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

2. Smoke detection is not required for exterior balconies.

907.2.6.1.1 Smoke alarms. Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.11.

907.2.6.2 Group I-2. An automatic smoke detection system shall be installed in corridors in Group I-2, Condition 1 facilities and spaces permitted to be open to the corridors by Section 407.2 of the *building code*. The system shall be activated in accordance with Section 907.4. Group I-2, Condition 2 occupancies shall be equipped with an automatic smoke detection system as required in Section 407 of the *building code*.

Exceptions:

1. Corridor smoke detection is not required in smoke compartments that contain sleeping units where such units are provided with smoke detectors that comply with UL 268. Such detectors shall provide a visual display on the corridor side of each sleeping unit and shall provide an audible and visual alarm at the care providers' station attending each unit.

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2. Corridor smoke detection is not required in smoke compartments that contain sleeping units where sleeping unit doors are equipped with automatic door-closing devices with integral smoke detectors on the unit sides installed in accordance with their listing, provided that the integral detectors perform the required alerting function.

907.2.6.3 Group I-3 occupancies. Group I-3 occupancies shall be equipped with a manual fire alarm system and automatic smoke detection system installed for alerting staff.

907.2.6.3.1 System initiation. Actuation of an automatic fire-extinguishing system, automatic sprinkler system, a manual fire alarm box or a fire detector shall initiate an approved fire alarm signal that automatically notifies staff.

907.2.6.3.2 Manual fire alarm boxes. Manual fire alarm boxes are not required to be located in accordance with Section 907.4.2 where the fire alarm boxes are provided at staffattended locations having direct supervision over areas where manual fire alarm boxes have been omitted.

907.2.6.3.2.1 Manual fire alarms boxes in detainee areas. Manual fire alarm boxes are allowed to be locked in areas occupied by detainees, provided that staff members are present within the subject area and have keys readily available to operate the manual fire alarm boxes.

907.2.6.3.3 Automatic smoke detection system. An automatic smoke detection system shall be installed throughout resident housing areas, including sleeping units and contiguous day rooms, group activity spaces and other common spaces normally ~~accessible~~ open to residents.

Exceptions:

1. Other approved smoke detection arrangements providing equivalent protection, including, but not limited to, placing detectors in exhaust ducts from cells or behind protective guards listed for the purpose, are allowed ~~when~~where necessary to prevent damage or tampering.

2. Sleeping units in Use Conditions 2 and 3 as described in Section 308 of the *building code*.

3. Smoke detectors are not required in sleeping units with four or fewer occupants in smoke compartments that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

907.2.7 Group M. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group M occupancies where one of the following conditions exists:

1. The combined Group M occupant load of all floors is 500 or more persons.

2. The Group M occupant load is more than 100 persons above or below the lowest level of exit discharge.

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Exceptions:

1. A manual fire alarm system is not required in covered or open mall buildings complying with Section 402 of the *building code*.

2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will automatically activate throughout the notification zones upon sprinkler water flow.

907.2.7.1 Occupant notification. During times that the building is occupied, the initiation of a signal from a manual fire alarm box or from a waterflow switch shall not be required to activate the alarm notification appliances when an alarm signal is activated at a constantly attended location from which evacuation instructions shall be initiated over an emergency voice/alarm communication system installed in accordance with Section 907.5.2.2.

907.2.8 Group R-1. Fire alarm systems and smoke alarms shall be installed in Group R-1 occupancies as required in Sections 907.2.8.1 through 907.2.8.3.

907.2.8.1 Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-1 occupancies.

Exceptions:

1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual sleeping units and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by not less than 1-hour fire partitions and each individual sleeping unit has an exit directly to a public way, egress court or yard.

2. Manual fire alarm boxes are not required throughout the building where all of the following conditions are met:

   2.1 The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

   2.2 The notification appliances will activate upon sprinkler water flow.

   2.3 Not fewer than one manual fire alarm box is installed at an approved location.

907.2.8.2 Automatic smoke detection system. An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be installed throughout all interior corridors serving sleeping units.

Exception: An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a

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means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

907.2.8.3 Smoke alarms. Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.11.

907.2.9 Group R-2. Fire alarm systems and smoke alarms shall be installed in Group R-2 occupancies as required in Sections 907.2.9.1 and 907.2.9.3.

907.2.9.1 Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-2 occupancies where any of the following conditions apply:

1. Any dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge.

2. Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit.

3. The building contains more than 16 dwelling units or sleeping units.

Exceptions:

1. A fire alarm system is not required in buildings not more than two stories in height where all dwelling units or sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by not less than 1-hour fire partitions and each dwelling unit or sleeping unit has an exit directly to a public way, egress court or yard.

2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and the occupant notification appliances will automatically activate throughout the notification zones upon a sprinkler water flow.

3. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1027.6 Exception 3.

907.2.9.2 Smoke alarms. Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.11.

907.2.9.3 Group R-2 college and university buildings. An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-2 occupancies *owned or* operated by a college or university for student or staff housing in all of the following locations:

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1. Common spaces outside of dwelling units and sleeping units.

2. Laundry rooms, mechanical equipment rooms and storage rooms.

3. All interior corridors serving sleeping units or dwelling units.

Exception: An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units or dwelling units and where each sleeping unit or dwelling unit either has a means of egress door opening directly to an exterior exit access that leads directly to an exit or a means of egress door opening directly to an exit.

Required smoke alarms in dwelling units and sleeping units in Group R-2 occupancies operated by a college or university for student or staff housing shall be interconnected with the fire alarm system in accordance with NFPA 72.

~~**907.2.10 Group R-4.** Fire alarm systems and smoke alarms shall be installed in Group R-4 occupancies as required in *paragraphs* (G)(2)(j)(i)(907.2.10.1) *to* (G)(2)(j)(iii)(907.2.10.3) *of this rule*.~~

~~**907.2.10.1 Manual fire alarm system.** A manual fire alarm system that activates the occupant notification system in accordance with *paragraph* (G)(5)(907.5) *of this rule* shall be installed in Group R-4 occupancies.~~

~~**Exceptions:**~~

~~1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual sleeping units and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by not less than 1-hour fire partitions and each individual sleeping unit has an exit directly to a public way, egress court or yard.~~

~~2. Manual fire alarm boxes are not required throughout the building where all of the following conditions are met:~~

~~2.1 The building is equipped throughout with an automatic sprinkler system installed in accordance with *paragraph* (C)(3)(a)(i)(903.3.1.1) or (C)(3)(a)(ii)(903.3.1.2) *of this rule*.~~

~~2.2 The notification appliances will activate upon sprinkler water flow.~~

~~2.3 Not fewer than one manual fire alarm box is installed at an approved location.~~

~~3. Manual fire alarm boxes in resident or patient sleeping areas shall not be required at exits where located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that the distances of travel required in *paragraph* (G)(4)(b)(i)(907.4.2.1) *of this rule* are not exceeded.~~

~~**907.2.10.2 Automatic smoke detection system.** An automatic smoke detection system that activates the occupant notification system in accordance with *paragraph* (G)(5)(907.5)~~

~~*of this rule* shall be installed in corridors, waiting areas open to corridors and habitable spaces other than sleeping units and kitchens.~~

~~**Exceptions:**~~

~~1. Smoke detection in habitable spaces is not required where the facility is equipped throughout with an automatic sprinkler system installed in accordance with *paragraph* (C)(3)(a)(i)(903.3.1.1) *of this rule*.~~

~~2. An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.~~

~~**907.2.10.3 Smoke alarms.** Single- and multiple-station smoke alarms shall be installed in accordance with *paragraph* (G)(2)(k)(907.2.11) *of this rule*.~~

907.2.10 Group S. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group S public- and self-storage occupancies three stories or greater in height for interior corridors and interior common areas. Visible notification appliances are not required within storage units.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.11 Single- and multiple-station smoke alarms. Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with Sections 907.2.11.1 through 907.2.11.~~6~~ 7 and NFPA 72.

907.2.11.1 Group R-1. Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.

2. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.

3. In each story within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

907.2.11.2 Groups R-2, R-3, R-4 and I-1. Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4 and I-1 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.

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2. In each room used for sleeping purposes.

3. In each story within a dwelling unit, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

907.2.11.3 Installation near cooking appliances. Smoke alarms shall not be installed in the following locations unless this would prevent placement of a smoke alarm in a location required by Section 907.2.11.1 or 907.2.11.2:

1. Ionization smoke alarms shall not be installed less than 20 feet (6096 mm) horizontally from a permanently installed cooking appliance.

2. Ionization smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking appliance.

3. Photoelectric smoke alarms shall not be installed less than 6 feet (1829 mm) horizontally from a permanently installed cooking appliance.

907.2.11.4 Installation near bathrooms. Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section 907.2.11.1 or 907.2.11.2.

907.2.11.5 Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling unit or sleeping unit in Group R or I-1 occupancies, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

907.2.11.6 Power source. In new construction, required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery back-up shall be connected to an emergency electrical system in accordance with Section ~~604~~ 1203. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

Exception: Smoke alarms are not required to be equipped with battery backup where they are connected to an emergency electrical system that complies with Section ~~604~~ *1203*.

907.2.11.7 Smoke detection system. Smoke detectors listed in accordance with UL 268 and provided as part of the building fire alarm system shall be an acceptable alternative to single- and multiple-station smoke alarms and shall comply with the following:

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1. The fire alarm system shall comply with all applicable requirements in Section 907.

2. Activation of a smoke detector in a dwelling unit or sleeping unit shall initiate alarm notification in the dwelling unit or sleeping unit in accordance with Section 907.5.2.

3. Activation of a smoke detector in a dwelling unit or sleeping unit shall not activate alarm notification appliances outside of the dwelling unit or sleeping unit, provided that a supervisory signal is generated and monitored in accordance with Section 907.6.6.

907.2.12 Special amusement buildings. An automatic smoke detection system shall be provided in special amusement buildings in accordance with Sections 907.2.12.1 through 907.2.12.3.

907.2.12.1 Alarm. Activation of any single smoke detector, the automatic sprinkler system or any other automatic fire detection device shall immediately activate an audible and visible alarm at the building at a constantly attended location from which emergency action can be initiated, including the capability of manual initiation of requirements in Section 907.2.12.2.

907.2.12.2 System response. The activation of two or more smoke detectors, a single smoke detector equipped with an alarm verification feature, the automatic sprinkler system or other approved fire detection device shall automatically do all of the following:

1. Cause illumination of the means of egress with light of not less than 1 footcandle (11 lux) at the walking surface level.

2. Stop any conflicting or confusing sounds and visual distractions.

3. Activate an approved directional exit marking that will become apparent in an emergency.

4. Activate a prerecorded message, audible throughout the special amusement building, instructing patrons to proceed to the nearest exit. Alarm signals used in conjunction with the prerecorded message shall produce a sound that is distinctive from other sounds used during normal operation.

907.2.12.3 Emergency voice/alarm communication system. An emergency voice/alarm communication system, which is ~~also~~ allowed to serve as a public address system, shall be installed in accordance with Section 907.5.2.2 and be audible throughout the entire special amusement building.

907.2.13 High-rise buildings. High-rise buildings shall be provided with an automatic smoke detection system in accordance with Section 907.2.13.1, a fire department communication system in accordance with Section 907.2.13.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Section 907.2.22 of this code and Section 412 of the *building code*.

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2. Open parking garages in accordance with Section 406.5 of the *building code*.

3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the *building code*.

4. Low-hazard special occupancies in accordance with Section 503.1.1 of the *building code*.

5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415 of the *building code*.

6. In Group I-1 and I-2 occupancies, the alarm shall sound at a constantly attended location and occupant notification shall be broadcast by the emergency voice/alarm communication system.

907.2.13.1 Automatic smoke detection. Automatic smoke detection in high-rise buildings shall be in accordance with Sections 907.2.13.1.1 and 907.2.13.1.2.

907.2.13.1.1 Area smoke detection. Area smoke detectors shall be provided in accordance with this section. Smoke detectors shall be connected to an automatic fire alarm system. The activation of any detector required by this section shall activate the emergency voice/alarm communication system in accordance with Section 907.5.2.2. In addition to smoke detectors required by Sections 907.2.1 through ~~907.2.10~~ 907.2.9 smoke detectors shall be located as follows:

1. In each mechanical equipment, electrical, transformer, telephone equipment or similar room that is not provided with sprinkler protection.

2. In each elevator machine room, machinery space, control room and control space and in elevator lobbies.

907.2.13.1.2 Duct smoke detection. Duct smoke detectors complying with Section ~~907.4.1~~ 907.3.1 shall be located as follows:

1. In the main return air and exhaust air plenum of each air-conditioning system having a capacity greater than 2,000 cubic feet per minute (cfm) (0.94 m^3/s). Such detectors shall be located in a serviceable area downstream of the last duct inlet.

2. At each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air-conditioning system. In Group R-1 and R-2 occupancies, a smoke detector is allowed to be used in each return air riser carrying not more than 5,000 cfm (2.4 m^3/s) and serving not more than 10 air-inlet openings.

907.2.13.2 Fire department communication system. Where a wired communication system is approved in lieu of ~~a~~an in-building, two-way emergency responder ~~radio~~communication coverage system in accordance with Section 510, the wired fire department communication system shall be designed and installed in accordance with NFPA 72 and shall operate between a fire command center complying with Section 508,

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elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside interior exit stairways. The fire department communication device shall be provided at each floor level within the interior exit stairway.

907.2.13.3 Multiple-channel voice evacuation. In buildings with an occupied floor more than 120 feet (36 576 mm) above the lowest level of fire department vehicle access, voice evacuation systems for high-rise buildings shall be multiple-channel systems.

907.2.14 Atriums connecting more than two stories. A fire alarm system shall be installed in occupancies with an atrium that connects more than two stories, with smoke detection in locations required by a rational analysis in Section 909.4 and in accordance with the system operation requirements in Section 909.17. The system shall be activated in accordance with Section 907.5. Such occupancies in Group A, E or M shall be provided with an emergency voice/alarm communication system complying with the requirements of Section 907.5.2.2.

907.2.15 High-piled combustible storage areas. An automatic smoke detection system shall be installed throughout high-piled combustible storage areas where required by Section 3206.5.

907.2.16 Aerosol storage uses. Aerosol ~~storage~~product rooms and general-purpose warehouses containing aerosol~~s~~ products shall be provided with an approved manual fire alarm system where required by this code.

907.2.17 Lumber, wood structural panel and veneer mills. Lumber, wood structural panel and veneer mills shall be provided with a manual fire alarm system.

907.2.18 Underground buildings with smoke control systems. Where a smoke control system is installed in an underground building in accordance with the *building code*, automatic smoke detectors shall be provided in accordance with Section 907.2.18.1.

907.2.18.1 Smoke detectors. Not fewer than one smoke detector listed for the intended purpose shall be installed in all of the following areas:

1. Mechanical equipment, electrical, transformer, telephone equipment, elevator machine or similar rooms.

2. Elevator lobbies.

3. The main return and exhaust air plenum of each air-conditioning system serving more than one story and located in a serviceable area downstream of the last duct inlet.

4. Each connection to a vertical duct or riser serving two or more floors from return air ducts or plenums of heating, ventilating and air-conditioning systems, except that in Group R occupancies, a listed smoke detector is allowed to be used in each return air riser carrying not more than 5,000 cfm (2.4 m^3/s) and serving not more than 10 air inlet openings.

907.2.18.2 Alarm required. Activation of the smoke control system shall activate an audible alarm at a constantly attended location.

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907.2.19 Deep underground buildings. Where the lowest level of a structure is more than 60 feet (18 288 mm) below the finished floor of the lowest level of exit discharge, the structure shall be equipped throughout with a manual fire alarm system, including an emergency voice/alarm communication system installed in accordance with Section 907.5.2.2.

907.2.20 Covered and open mall buildings. Where the total floor area exceeds 50,000 square feet (4645 m^2) within either a covered mall building or within the perimeter line of an open mall building, an emergency voice/alarm communication system shall be provided. Access to ~~E~~emergency voice/alarm communication systems serving a mall, required or otherwise, shall be ~~accessible to~~provided for the fire department. The system shall be provided in accordance with Section 907.5.2.2.

907.2.21 Residential aircraft hangars. Not fewer than one single-station smoke alarm shall be installed within a residential aircraft hangar as defined in Chapter 2 of the *building code* and shall be interconnected into the residential smoke alarm or other sounding device to provide an alarm that will be audible in all sleeping areas of the dwelling.

907.2.22 Airport traffic control towers. An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be provided in airport control towers in accordance with Sections 907.2.22.1 and 907.2.22.2.

Exception: Audible appliances shall not be installed within the control tower cab.

907.2.22.1 Airport traffic control towers with multiple exits and automatic sprinklers. Airport traffic control towers with multiple exits and equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall be provided with smoke detectors in all of the following locations:

1. Airport traffic control cab.
2. Electrical and mechanical equipment rooms.
3. Airport terminal radar and electronics rooms.
4. Outside each opening into interior exit stairways.
5. Along the single means of egress permitted from observation levels.
6. Outside each opening into the single means of egress permitted from observation levels.

907.2.22.2 Other airport traffic control towers. Airport traffic control towers with a single exit or where sprinklers are not installed throughout shall be provided with smoke detectors in all of the following locations:

1. Airport traffic control cab.
2. Electrical and mechanical equipment rooms.
3. Airport terminal radar and electronics rooms.

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4. Office spaces incidental to the tower operation.

5. Lounges for employees, including sanitary facilities.

6. Means of egress.

7. ~~Accessible u~~Utility shafts where access to smoke detectors can be provided.

907.2.23 ~~Battery rooms~~Energy storage systems. An automatic smoke detection system or radiant-energy detection system shall be installed in rooms, areas and walk-in units containing energy storage systems as required in Section 1206. ~~stationary storage battery systems with a liquid capacity of more than 50 gallons (189 L).~~

907.3 Fire safety functions. Automatic fire detectors utilized for the purpose of performing fire safety functions shall be connected to the building's fire alarm control unit where a fire alarm system is required by Section 907.2. Detectors shall, upon actuation, perform the intended function and activate the alarm notification appliances or activate a visible and audible supervisory signal at a constantly attended location. In buildings not equipped with a fire alarm system, the automatic fire detector shall be powered by normal electrical service and, upon actuation, perform the intended function. The detectors shall be located in accordance with NFPA 72.

907.3.1 Duct smoke detectors. Smoke detectors installed in ducts shall be listed for the air velocity, temperature and humidity present in the duct. Duct smoke detectors shall be connected to the building's fire alarm control unit ~~when~~ where a fire alarm system is required by Section 907.2. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location and shall perform the intended fire safety function in accordance with this code and the *mechanical code*. In facilities that are required to be monitored by a supervising station, duct smoke detectors shall report only as a supervisory signal and not as a fire alarm. They shall not be used as a substitute for required open area detection.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the building's alarm notification appliances.

2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

907.3.2 ~~Delayed egress locks~~Special locking systems. Where ~~delayed egress locks~~special locking systems are installed on means of egress doors in accordance with Section ~~1010.1.9.7~~ 1010.2.14 or 1010.2.13, an automatic ~~smoke or heat~~ detection system shall be installed as required by that section.

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 and NFPA 72.

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907.3.4 Wiring. The wiring to the auxiliary devices and equipment used to accomplish the ~~above~~ fire safety functions shall be monitored for integrity in accordance with NFPA 72.

907.4 Initiating devices. Where ~~manual or automatic alarm initiation is required as part of~~ a fire alarm system~~,~~ is required by another section of this code, occupant notification in accordance with Section 907.5 shall be initiated by one or more of the following. ~~i~~Initiating devices shall be installed in accordance with Sections 907.4.1 through 907.4.3.1.

1. Manual fire alarm boxes.
2. Automatic fire detectors.
3. Automatic sprinkler system waterflow devices.
4. Automatic fire-extinguishing systems.

907.4.1 Protection of fire alarm control unit. In areas that are not continuously occupied, a single smoke detector shall be provided at the location of each fire alarm control unit, notification appliance circuit power extenders and supervising station transmitting equipment.

Exception: Where ambient conditions prohibit installation of a smoke detector, a heat detector shall be permitted.

907.4.2 Manual fire alarm boxes. Where a manual fire alarm system is required by another section of this code, it shall be activated by fire alarm boxes installed in accordance with Sections 907.4.2.1 through 907.4.2.6.

907.4.2.1 Location. Manual fire alarm boxes shall be located not more than 5 feet (1524 mm) from the entrance to each exit. In buildings not protected by an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, additional manual fire alarm boxes shall be located so that the ~~exit access~~distance of travel ~~distance~~ to the nearest box does not exceed 200 feet (60 960 mm).

907.4.2.2 Height. The height of the manual fire alarm boxes shall be not less than 42 inches (1067 mm) and not more than 48 inches (1372 mm) measured vertically, from the floor level to the activating handle or lever of the box.

907.4.2.3 Color. Manual fire alarm boxes shall be red in color.

907.4.2.4 Signs. Where fire alarm systems are not monitored by ~~a~~ an approved supervising station in accordance with Section 907.6.6, an approved permanent sign shall be installed adjacent to each manual fire alarm box that reads: WHEN ALARM SOUNDS-CALL FIRE DEPARTMENT.

Exception: Where the manufacturer has permanently provided this information on the manual fire alarm box.

907.4.2.5 Protective covers. The fire code official is authorized to require the installation of listed manual fire alarm box protective covers to prevent malicious false alarms or to provide the manual fire alarm box with protection from physical damage *and in accordance with the building code*. The protective cover shall be transparent or red in color with a

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transparent face to permit visibility of the manual fire alarm box. Each cover shall include proper operating instructions. A protective cover that emits a local alarm signal shall not be installed unless approved. Protective covers shall not project more than that permitted by Section 1003.3.3.

907.4.2.6 Unobstructed and unobscured. Manual fire alarm boxes shall be ~~accessible~~provided with ready access, unobstructed, unobscured and visible at all times.

907.4.3 Automatic smoke detection. Where an automatic smoke detection system is required it shall utilize smoke detectors unless ambient conditions prohibit such an installation. In spaces where smoke detectors cannot be utilized due to ambient conditions, approved automatic heat detectors shall be permitted.

907.4.3.1 Automatic sprinkler system. For conditions other than specific fire safety functions noted in Section 907.3, in areas where ambient conditions prohibit the installation of smoke detectors, an automatic sprinkler system installed in such areas in accordance with Section 903.3.1.1 or 903.3.1.2 and that is connected to the fire alarm system shall be approved as automatic heat detection.

907.5 Occupant notification ~~systems~~. ~~A fire alarm system shall annunciate at the fire alarm control unit and shall initiate o~~Occupant notification ~~upon activation,~~ by fire alarms shall be in accordance with Sections 907.5.1 through 907.5.2.3.3. ~~Where a fire alarm system is required by another *paragraph* of this code, it shall be activated~~ Occupant notification by smoke alarms in Group R-1 and R-2 occupancies shall comply with Section 907.5.2.1.3.2.~~:~~

~~1. Automatic fire detectors.~~

~~2. Automatic sprinkler system waterflow devices.~~

~~3. Manual fire alarm boxes.~~

~~4. Automatic fire extinguishing systems.~~

~~**Exception:** Where notification systems are allowed elsewhere in this *paragraph* (G)(907) *of this rule* to annunciate at a constantly attended location.~~

907.5.1 Alarm activation and annunciation. Upon activation, fire alarm systems shall initiate occupant notification and shall annunciate at the fire alarm control unit, or where allowed elsewhere by Section 907, at a constantly attended location.

~~**907.5.1**~~**907.5.1.1 Presignal feature.** A ~~P~~presignal feature shall ~~not~~only be ~~installed unless~~provided where approved ~~by the fire code official and the fire department *and in accordance with the building code as listed in rule 1301:7-7-80 of the Administrative Code*~~. ~~Where a~~ The presignal ~~feature is provided, a signal~~ shall be annunciated at ~~a~~ an approved, constantly attended location, ~~approved by~~ having the ~~fire department *and in accordance with the building code as listed in rule 1301:7-7-80 of the Administrative Code*, so that~~ capability to activate the occupant notification ~~can be activated~~ system in the event of fire or other emergency.

907.5.2 Alarm notification appliances. Alarm notification appliances shall be provided and shall be listed for their purpose. *Audible and visual alarm notification appliances shall be*

located and installed in accordance with this section, accessibility requirements as set forth in Chapter 11 of the building code and NFPA 72.

907.5.2.1 Audible alarms. Audible alarm notification appliances shall be provided and emit a distinctive sound that is not to be used for any purpose other than that of a fire alarm.

Exceptions:

1. Audible alarm notification appliances are not required in critical care areas of Group I-2, Condition 2 occupancies that are in compliance with Section 907.2.6, Exception 2.

2. A visible alarm notification appliance installed in a nurses' control station or other continuously attended staff location in a Group I-2, Condition 2 suite shall be an acceptable alternative to the installation of audible alarm notification appliances throughout ~~the~~ a suite or unit in Group I-2, Condition 2 occupancies that are in compliance with Section 907.2.6, Exception 2.

3. Where provided, audible notification appliances located in each enclosed occupant evacuation elevator lobby in accordance with Section 3008.9.1 of the *building code* shall be connected to a separate notification zone for manual paging only.

907.5.2.1.1 Average sound pressure. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of not less than 60 seconds, whichever is greater, in every occupiable space within the building.

907.5.2.1.2 Maximum sound pressure. The ~~maximum~~ total sound pressure level ~~for~~ produced by combining the ambient sound pressure level with all audible ~~alarm~~ notification appliances operating shall ~~be~~ not exceed 110 dBA at the minimum hearing distance from the audible appliance. Where the average ambient noise is greater than ~~95~~105 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

907.5.2.1.3 Audible signal frequency in Group R-1 and R-2 sleeping rooms. Audible signal frequency in Group R-1 and R-2 occupancies shall be in accordance with Sections 907.5.2.1.3.1 and 907.5.2.1.3.2.

907.5.2.1.3.1 Fire alarm system signal. In sleeping rooms of Group R-1 and R-2 occupancies, the audible alarm activated by a fire alarm system shall be a 520-Hz low-frequency signal complying with NFPA 72.

907.5.2.1.3.2 Smoke alarm signal in sleeping rooms. In sleeping rooms of Group R-1 and R-2 occupancies that are required by Section 907.2.8 or 907.2.9 to have a fire alarm system, the audible alarm signal activated by single- or multiple-station smoke alarms in the dwelling unit or sleeping unit shall be a 520-Hz signal complying with NFPA 72.

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Where a sleeping room smoke alarm is unable to produce a 520-Hz signal, the 520 Hz alarm signal shall be provided by a listed notification appliance or a smoke detector with an integral 520-Hz sounder.

907.5.2.2 Emergency voice/alarm communication systems. Emergency voice/alarm communication systems required by this code shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler waterflow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving approved information and directions for a general or staged evacuation in accordance with the building's fire safety and evacuation plans required by Section 404. In high-rise buildings, the system shall operate on at least the alarming floor, the floor above and the floor below. Speakers shall be provided throughout the building by paging zones. At a minimum, paging zones shall be provided as follows:

1. Elevator groups.
2. Interior exit stairways.
3. Each floor.
4. Areas of refuge as defined in Chapter 2.

Exception: In Group I-1 and I-2 occupancies, the alarm shall sound in a constantly attended area and a general occupant notification shall be broadcast over the overhead page.

907.5.2.2.1 Manual override. A manual override for emergency voice communication shall be provided on a selective and all-call basis for all paging zones.

907.5.2.2.2 Live voice messages. The emergency voice/alarm communication system shall ~~also~~ have the capability to broadcast live voice messages by paging zones on a selective and all-call basis.

907.5.2.2.3 ~~Alternate~~ Alternative uses. The emergency voice/alarm communication system shall be allowed to be used for other announcements, provided that the manual fire alarm use takes precedence over any other use.

Exception: When the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, the building has a single manual fire alarm pull station located in a normally occupied and secured area, and the fire alarm system provides initiating device identification and annunciation in accordance with Section 907.6.3, other high priority urgent emergency messages relating to the safety and security of the building occupants are permitted to take precedence over a fire alarm message when consistent with message priority levels and broadcasts previously established in a building-specific, emergency response plan developed by the building owners, administrators, and first responders, and such plan is approved by the building and fire code officials. No such system shall disconnect or terminate the process to notify the fire department of any fire alarm activations.

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907.5.2.2.4 Emergency voice/alarm communication captions. Where stadiums, arenas and grandstands ~~are required to caption~~have 15,000 fixed seats or more and provide audible public announcements ~~in accordance with Section 1108.2.7.3 of the *building code as listed in rule 1301:7-7-80 of the Administrative Code*~~, the emergency/voice alarm communication system shall ~~be captioned.~~provide prerecorded or real-time captions. Prerecorded or live emergency captions shall be from an approved location constantly attended by personnel trained to respond to an emergency.

907.5.2.2.5 ~~Emergency~~Standby power. Emergency voice/alarm communications systems shall be provided with ~~emergency~~standby power in accordance with Section ~~604~~ 1203. ~~The system shall be capable of powering the required load for a duration of not less than 24 hours, as required in NFPA 72 *as listed in rule 1301:7-7-80 of the Administrative Code*.~~

907.5.2.3 Visible alarms. Visible alarm notification appliances shall be provided in accordance with Sections 907.5.2.3.1 through 907.5.2.3.3.

Exceptions:

1. Visible alarm notification appliances are not required in alterations, except where*, as part of the alteration, an existing notification appliance is relocated,* an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed.

2. Visible alarm notification appliances shall not be required in exits as defined in Chapter 2.

3. Visible alarm notification appliances shall not be required in elevator cars.

4. Visual alarm notification appliances are not required in critical care areas of Group I-2, Condition 2 occupancies that are in compliance with Section 907.2.6, Exception 2.

4.5. A visible alarm notification appliance installed in a nurses' control station or other continuously attended staff location in a Group I-2, Condition 2 suite shall be an acceptable alternative to the installation of visible alarm notification appliances throughout the suite or unit in Group I-2, Condition 2 occupancies that are in compliance with Section 907.2.6, Exception 2.

907.5.2.3.1 Public use areas and common use areas. Visible alarm notification appliances shall be provided in public use areas and common use areas.

Exception: Where employee work areas have audible alarm coverage, the notification appliance circuits serving the employee work areas shall be initially designed with not less than 20-per-cent spare capacity to account for the potential of adding visible notification appliances in the future to accommodate hearing impaired employee(s).

907.5.2.3.2 Groups I-1 and R-1. Habitable spaces in dwelling units and sleeping units in Group I-1 and R-1 ~~dwelling units or sleeping units~~occupancies in accordance with

Table 907.5.2.3.2 shall be provided with ~~a~~ visible alarm notification ~~appliance.~~. Visible alarms shall be activated by ~~both~~ the in-room smoke alarm and the building fire alarm system.

Table 907.5.2.3.2
Visible alarms

Number of sleeping units	Sleeping accommodations with visible alarms
2 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1,000	5% of total
1,001 and over	50 plus 3 for each 100 over 1,000

907.5.2.3.3 Group R-2. In Group R-2 occupancies required by Section 907 to have a fire alarm system, ~~all~~each story that contains dwelling units and sleeping units shall be provided with the capability to support future visible alarm notification appliances in accordance with Chapter ~~10~~11 of ICC A117.1. Such capability shall ~~be permitted to include the potential for future~~accommodate wired or wireless equipment.

~~interconnection of the building fire alarm system with the unit smoke alarms.~~.

907.5.2.3.3.1 Wired equipment. Where wired equipment is used to comply with the future capability required by Section 907.5.2.3.3, the system shall include one of the following capabilities:

1. The replacement of audible appliances with combination audible/visible appliances, or additional visible notification appliances.

2. The future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances.

3. For wired equipment, the fire alarm power supply and circuits shall have not less than 5-percent excess capacity to accommodate the future addition of visible alarm notification appliances, and a single access point to such circuits shall be available on every story. Such circuits shall not be required to be extended beyond a single access point on a story. The fire alarm system shop drawings required by Section 907.1.2 shall include the power supply and circuit documentation to accommodate the future addition of visible notification appliances.

907.6 Installation and monitoring. A fire alarm system shall be installed and monitored in accordance with Sections 907.6.1 through 907.6.6.2 and NFPA 72.

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907.6.1 Wiring. Wiring shall comply with the requirements of NFPA 70 and NFPA 72. Wireless protection systems utilizing radio-frequency transmitting devices shall comply with the special requirements for supervision of low-power wireless systems in NFPA 72.

907.6.2 Power supply. The primary and secondary power supply for the fire alarm system shall be provided in accordance with NFPA 72.

Exception: Backup power for single-station and multiple-station smoke alarms as required by Section 907.2.11.6.

907.6.3 Initiating device identification. The fire alarm system shall identify the specific initiating device address, location, device type, floor level where applicable and status including indication of normal, alarm, trouble and supervisory status, as appropriate.

Exceptions:

1. Fire alarm systems in single-story buildings less than 22,500 square feet (2090 m^2) in area.
2. Fire alarm systems that only include manual fire alarm boxes, waterflow initiating devices and not more than 10 additional alarm-initiating devices.
3. Special initiating devices that do not support individual device identification.
4. Fire alarm systems or devices that are replacing existing equipment.

907.6.3.1 Annunciation. The initiating device status shall be annunciated at an approved on-site location.

907.6.4 Zones. Each floor shall be zoned separately and a zone shall not exceed 22,500 square feet (2090 m^2). The length of any zone shall not exceed 300 feet (91 440 mm) in any direction.

Exception: Automatic sprinkler system zones shall not exceed the area permitted by NFPA 13.

907.6.4.1 Zoning indicator panel. A zoning indicator panel and the associated controls shall be provided in an approved location. The visual zone indication shall lock in until the system is reset and shall not be canceled by the operation of an audible alarm-silencing switch.

907.6.4.2 High-rise buildings. In high-rise buildings, a separate zone by floor shall be provided for each of the following types of alarm-initiating devices where provided:

1. Smoke detectors.

2. Sprinkler waterflow devices.

3. Manual fire alarm boxes.

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4. Other approved types of automatic fire ~~detection devices or suppression~~ protection systems.

907.6.5 Access. Access shall be provided to each fire alarm device and notification appliance for periodic inspection, maintenance and testing.

907.6.6 Monitoring. Fire alarm systems required by this chapter or by the *building code* shall be monitored by an approved supervising station in accordance with NFPA 72.

Exception: Monitoring by a supervising station is not required for:

1. Single- and multiple-station smoke alarms required by Section 907.2.11.

2. Smoke detectors in Group I-3 occupancies.

907.6.6.1 ~~Automatic telephone-dialing devices.~~ ~~Automatic telephone-dialing devices used to transmit an emergency alarm~~ **Transmission of alarm signals.** Transmission of alarm signals to a supervising station shall be in accordance with NFPA 72.

907.6.6.1.1 Transmission of information to dispatch centers. *Signal information shall be transmitted from the monitoring or supervising station to the appropriate 911 dispatching center in a manner approved by the authority having jurisdiction in consultation with any 911 center dispatching for that fire department and may only be transmitted in a manner that is compatible with the technology and capabilities of the dispatch center.*

907.6.6.2 MIY monitoring. Direct transmission of alarms associated with monitor it yourself (MIY) transmitters to a public safety answering point (PSAP) shall not be ~~connected to any fire department telephone number~~ permitted unless approved by the fire code official. *The fire code official shall notify the building code official of the certified building code department having jurisdiction of this approval.*

~~907.6.6.2~~**907.6.6.3 Termination of monitoring service.** Termination of fire alarm monitoring services shall be in accordance with Section 901.9.

907.7 Acceptance tests and completion. Upon completion of the installation, the fire alarm system and all fire alarm components shall be tested in accordance with NFPA 72 *and the building code. When required by the fire code official, all acceptance testing shall be conducted in the presence of the fire code official*.

907.7.1 Single- and multiple-station alarm devices. When the installation of the alarm devices is complete, each device and interconnecting wiring for multiple-station alarm devices shall be tested in accordance with the smoke alarm provisions of NFPA 72.

907.7.2 Record of completion. A record of completion in accordance with NFPA 72 verifying that the system has been installed and tested in accordance with the approved plans and specifications shall be provided.

907.7.3 Instructions. Operating, testing and maintenance instructions and record drawings (“as builts”) and equipment specifications shall be provided at an approved location.

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***907.7.4** Once acceptance testing is successfully completed and it is demonstrated that alarm signals are successfully relayed from the point of origin through each stage of the notification process through and including notification to the fire department, no component of the fire alarm system may be altered in any manner, including but not limited to the method in which the alarm signal is communicated to the monitoring or supervisory station and the method in which the alarm is relayed from the monitoring or supervisor station to any 911 dispatch center serving the particular jurisdiction, without written permission of the authority having jurisdiction.*

907.8 Inspection, testing and maintenance. The maintenance and testing schedules and procedures for fire alarm and fire detection systems shall be in accordance with Sections 907.8.1 through ~~907.8.5~~907.8.4 and NFPA 72. Records of inspection, testing and maintenance shall be maintained.

907.8.1 Maintenance required. Where required for compliance with the provisions of this code, devices, equipment, systems, conditions, arrangements, levels of protection or other features shall thereafter be continuously maintained in accordance with applicable NFPA requirements or as directed by the fire code official.

907.8.2 Testing. Testing shall be performed in accordance with the schedules in NFPA 72 or more frequently where required by the fire code official. Records of testing shall be maintained.

Exception: Devices or equipment that are inaccessible ~~for~~ because of safety considerations shall be tested during scheduled shutdowns where approved by the fire code official, but not less than every 18 months.

907.8.3 Smoke detector sensitivity. Smoke detector sensitivity shall be checked within one year after installation and every alternate year thereafter. After the second calibration test, where sensitivity tests indicate that the detector has remained within its listed and marked sensitivity range (or 4-per-cent obscuration light gray smoke, if not marked), the length of time between calibration tests shall be permitted to be extended to not more than ~~five~~5 years. Where the frequency is extended, records of detector-caused nuisance alarms and subsequent trends of these alarms shall be maintained. In zones or areas where nuisance alarms show any increase over the previous year, calibration tests shall be performed.

~~(d) **907.8.4 Sensitivity test method.** To verify that each smoke detector is within its listed and marked sensitivity range, it shall be tested using one of the following methods:~~

~~1. A calibrated test method.~~

~~2. The manufacturer's calibrated sensitivity test instrument.~~

~~3. Listed control equipment arranged for the purpose.~~

~~4. A smoke detector/control unit arrangement whereby the detector causes a signal at the control unit where the detector's sensitivity is outside its acceptable sensitivity range.~~

~~5. Another calibrated sensitivity test method acceptable to the fire code official.~~

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~~Detectors found to have a sensitivity outside the listed and marked sensitivity range shall be cleaned and recalibrated or replaced.~~

~~**Exceptions:**~~

~~1. Detectors listed as field adjustable shall be permitted to be either adjusted within the listed and marked sensitivity range and cleaned and recalibrated or they shall be replaced.~~

~~2. This requirement shall not apply to single-station smoke alarms.~~

~~(i) **907.8.4.1 Sensitivity testing device.** Smoke detector sensitivity shall not be tested or measured using a device that administers an unmeasured concentration of smoke or other aerosol into the detector.~~

~~907.8.5~~907.8.4 **Inspection, testing and maintenance.** The building owner shall be responsible to maintain the fire and life safety systems in an operable condition at all times. Service personnel shall meet the *certification requirements of this chapter as applicable and the* qualification requirements of NFPA 72 for inspection, testing and maintenance of such systems. Records of inspection, testing and maintenance shall be maintained.

907.9 Where required in existing buildings and structures. An approved fire alarm system shall be provided in existing buildings and structures where required in Chapter 11.

907.10 Smoke alarm maintenance. Smoke alarms shall be tested and maintained in accordance with the manufacturer's instructions. Smoke alarms shall be replaced when they fail to respond to operability tests, or when they exceed 10 years from the date of manufacture, unless an earlier replacement is specified in the manufacturer's published instructions.

Section 908 Emergency alarm systems

908.1 Group H occupancies. Emergency alarms for the detection and notification of an emergency condition in Group H occupancies shall be provided as required in Chapter 50.

908.2 Group H-5 occupancy. Emergency alarms for notification of an emergency condition in an HPM facility shall be provided as required in Section 2703.12. ~~A continuous gas detection system shall be provided for "HPM" gases in accordance with *paragraph* (C)(13)(2703.13) *of rule 1301:7-7-27 of the Administrative Code*.~~

~~**908.3 Highly toxic and toxic materials.** Where required by *paragraph* (D)(2)(b)(x)(6004.2.2.10) *of rule 1301:7-7-60 of the Administrative Code*, a gas detection system shall be provided for indoor storage and use of highly toxic and toxic compressed gases.~~

~~**908.4 Ozone gas-generator rooms.** A gas detection system shall be provided in ozone gas-generator rooms in accordance with *paragraph* (E)(3)(b)(6005.3.2) *of rule 1301:7-7-60 of the Administrative Code*.~~

~~**908.5 Repair garages.** A flammable-gas detection system shall be provided in repair garages for vehicles fueled by non-odorized gases in accordance with *paragraph* (K)(7)(b)(2311.7.2) *of rule 1301:7-7-23 of the Administrative Code*.~~

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~~**908.6 Refrigeration systems.** Refrigeration system machinery rooms shall be provided with a refrigerant detector in accordance with *paragraph* (F)(8)(606.8) *of rule 1301:7-7-06 of the Administrative Code*.~~

~~**908.7 Carbon dioxide (CO_2) systems.** Emergency alarm systems in accordance with *paragraph* (G)(5)(b)(5307.5.2) *of rule 1301:7-7-53 of the Administrative Code* shall be provided where required for compliance with *paragraph* (G)(5)(5307.5) *of rule 1301:7-7-53 of the Administrative Code*.~~

908.3 Fire alarm system interface. Where an emergency alarm system is interfaced with a building's fire alarm system, the signal produced at the fire alarm control unit shall be a supervisory signal.

Section 909 Smoke control systems

909.1 Scope and purpose. This section applies to mechanical or passive smoke control systems where they are required for new buildings or portions thereof by provisions of the *building code* or this code. The purpose of this section is to establish minimum requirements for the design, installation and acceptance testing of smoke control systems that are intended to provide a tenable environment for the evacuation or relocation of occupants. These provisions are not intended for the preservation of contents, the timely restoration of operations or for assistance in fire suppression or overhaul activities. Smoke control systems regulated by this section serve a different purpose than the smoke- and heat-~~venting~~removal provisions found in Section 910. Mechanical smoke control systems shall not be considered exhaust systems under Chapter 5 of the *mechanical code*.

909.2 General design requirements. Buildings, structures, or parts thereof required by the *building code* or this code to have a smoke control system or systems shall have such systems designed in accordance with the applicable requirements of Section 909 and the generally accepted and well-established principles of engineering relevant to the design. The construction documents shall include sufficient information and detail to describe adequately the elements of the design necessary for the proper implementation of the smoke control systems. These documents shall be accompanied with sufficient information and analysis to demonstrate compliance with these provisions.

909.3 Special inspection and test requirements. In addition to the ordinary inspection and test requirements that buildings, structures and parts thereof are required to undergo, smoke control systems subject to the provisions of Section 909 shall undergo special inspections and tests sufficient to verify the proper commissioning of the smoke control design in its final installed condition. The design submission accompanying the construction documents shall clearly detail procedures and methods to be used and the items subject to such inspections and tests. Such commissioning shall be in accordance with generally accepted engineering practice and, where possible, based on published standards for the particular testing involved. The special inspections and tests required by this section shall be conducted under the same terms as in Section 1704 of the *building code*.

909.4 Analysis. A rational analysis supporting the types of smoke control systems to be employed, the methods of their operations, the systems supporting them and the methods of construction to be utilized shall accompany the construction documents submission and include, but not be limited to, the items indicated in Sections 909.4.1 through 909.4.7.

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909.4.1 Stack effect. The system shall be designed such that the maximum probable normal or reverse stack effect will not adversely interfere with the system's capabilities. In determining the maximum probable stack effect, altitude, elevation, weather history and interior temperatures shall be used.

909.4.2 Temperature effect of fire. Buoyancy and expansion caused by the design fire in accordance with Section 909.9 shall be analyzed. The system shall be designed such that these effects do not adversely interfere with the system's capabilities.

909.4.3 Wind effect. The design shall consider the adverse effects of wind. Such consideration shall be consistent with the wind-loading provisions of the *building code*.

909.4.4 Systems. The design shall consider the effects of the heating, ventilating and air-conditioning (HVAC) systems on both smoke and fire transport. The analysis shall include all permutations of systems status. The design shall consider the effects of the fire on the heating, ventilating and air-conditioning systems.

909.4.5 Climate. The design shall consider the effects of low temperatures on systems, property and occupants. Air inlets and exhausts shall be located so as to prevent snow or ice blockage.

909.4.6 Duration of operation. All portions of active or engineered smoke control systems shall be capable of continued operation after detection of the fire event for a period of not less than either 20 minutes or 1.5 times the calculated egress time, whichever is greater.

909.4.7 Smoke control system interaction. The design shall consider the interaction effects of the operation of multiple smoke control systems for all design scenarios.

909.5 Smoke barrier construction. Smoke barriers required for passive smoke control and a smoke control system using the pressurization method shall comply with Section 709 of the *building code*. The maximum allowable leakage area shall be the aggregate area calculated using the following leakage area ratios:

1. Walls: $A/A_w = 0.00100$
2. Interior exit stairways and ramps and exit passageways: $A/A_w = 0.00035$
3. Enclosed exit access stairways and ramps and all other shafts: $A/A_w = 0.00150$
4. Floors and roofs: $A/A_F = 0.00050$

where:

A = Total leakage area, square feet (m^2).

A_F = Unit floor or roof area of barrier, square feet (m^2).

A_w = Unit wall area of barrier, square feet (m^2).

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The leakage area ratios shown do not include openings due to gaps around doors and operable windows. The total leakage area of the smoke barrier shall be determined in accordance with Section 909.5.1 and tested in accordance with Section 909.5.2.

909.5.1 Total leakage area. Total leakage area of the barrier is the product of the smoke barrier gross area multiplied by the allowable leakage area ratio, plus the area of other openings such as gaps around doors and operable windows.

909.5.2 Testing of leakage area. Compliance with the maximum total leakage area shall be determined by achieving the minimum air pressure difference across the barrier with the system in the smoke control mode for mechanical smoke control systems utilizing the pressurization method. Compliance with the maximum total leakage area of passive smoke control systems shall be verified through methods such as door fan testing or other methods, as approved by the fire code official *pursuant to Section 901.1. At locations or in structures not regulated by the building code, the test method shall be approved by the fire code official prior to system installation*.

909.5.3 Opening protection. Openings in smoke barriers shall be protected by automatic-closing devices actuated by the required controls for the mechanical smoke control system. Door openings shall be protected by fire door assemblies complying with Section 716~~.5.3~~ of the *building code*.

Exceptions:

1. Passive smoke control systems with automatic-closing devices actuated by spot-type smoke detectors listed for releasing service installed in accordance with Section 907.3.

2. Fixed openings between smoke zones that are protected utilizing the airflow method.

3. In Group I-1, Condition 2; Group I-2; and ambulatory care facilities, where a pair of opposite-swinging doors are installed across a corridor in accordance with Section 909.5.3.1, the doors shall not be required to be protected in accordance with Section 716 of the *building code*. The doors shall be close-fitting within operational tolerances and shall not have a center mullion or undercuts in excess of ¾-inch (19.1 mm) louvers or grilles. The doors shall have head and jamb stops and astragals or rabbets at meeting edges and, where permitted by the door manufacturer's listing, positive-latching devices are not required.

4. In Group I-2 and ambulatory care facilities, where such doors are special-purpose horizontal sliding, accordion or folding door assemblies installed in accordance with Section ~~1010.1.4.3~~ 1010.3.3 and are automatic closing by smoke detection in accordance with Section ~~716.5.9.3~~ 716.2.6.6 of the *building code*.

5. Group I-3.

6. Openings between smoke zones with clear ceiling heights of 14 feet (4267 mm) or greater and bank-down capacity of greater than 20 minutes as determined by the design fire size.

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909.5.3.1 Group I-1, Condition 2; Group I-2; and ambulatory care facilities. In Group I-1, Condition 2; Group I-2; and ambulatory care facilities, where doors are installed across a corridor, the doors shall be automatic closing by smoke detection in accordance with Section ~~716.5.9.3~~ 716.2.6.6 of the *building code* and shall have a vision panel with fire-protection-rated glazing materials in fire-protection-rated frames, the area of which shall not exceed that tested.

909.5.3.2 Ducts and air transfer openings. Ducts and air transfer openings are required to be protected with a minimum Class II, 250°F (121°C) smoke damper complying with Section 717 of the *building code*.

909.6 Pressurization method. The primary mechanical means of controlling smoke shall be by pressure differences across smoke barriers. Maintenance of a tenable environment is not required in the smoke-control zone of fire origin.

909.6.1 Minimum pressure difference. The ~~minimum~~ pressure difference across a smoke barrier used to separate smoke zones shall be not less than 0.05-inch water gage (0.0124 kPa) in fully sprinklered buildings.

In buildings ~~allowed~~permitted to be other than fully sprinklered, the smoke control system shall be designed to achieve pressure differences ~~at least~~not less than two times the maximum calculated pressure difference produced by the design fire.

909.6.2 Maximum pressure difference. The maximum air pressure difference across a smoke barrier shall be determined by required door-opening or closing forces. The actual force required to open exit doors when the system is in the smoke control mode shall be in accordance with Section 1010.1.3. Opening and closing forces for other doors shall be determined by standard engineering methods for the resolution of forces and reactions. The calculated force to set a side-hinged, swinging door in motion shall be determined by:

$F = F_{dc} + K(WA\Delta P)/2(W\text{-}d)$ **(Equation 9-1)**

where:

A = Door area, square feet (m^2).

d = Distance from door handle to latch edge of door, feet (m).

F = Total door opening force, pounds (N).

F_{dc} = Force required to overcome closing device, pounds (N).

K = Coefficient 5.2 (1.0).

W = Door width, feet (m).

ΔP = Design pressure difference, inches of water (Pa).

909.6.3 Pressurized stairways and elevator hoistways. Where stairways or elevator hoistways are pressurized, such pressurization systems shall comply with Section 909 as smoke control systems, in addition to the requirements of ~~*paragraph* (I)(21)(909.21) *of this*~~

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~~*rule* and Section 909.20 of the *building code as listed in rule 1301:7-7-80 of the Administrative Code*~~ Sections 909.20 and 909.21.

909.7 Airflow design method. Where approved by the fire code official *pursuant to Section 901.1,* smoke migration through openings fixed in a permanently open position, which are located between smoke control zones by the use of the airflow method, shall be permitted. The design airflow shall be in accordance with this section. Airflow shall be directed to limit smoke migration from the fire zone. The geometry of openings shall be considered to prevent flow reversal from turbulent effects. Smoke control systems using the airflow method shall be designed in accordance with NFPA 92. *At locations or in structures not regulated by the building code, airflow design method shall be approved by the fire code official prior to system installation*.

909.7.1 Prohibited conditions. This method shall not be employed where either the quantity of air or the velocity of the airflow will adversely affect other portions of the smoke control system, unduly intensify the fire, disrupt plume dynamics or interfere with exiting. ~~In no case shall a~~Airflow toward the fire shall not exceed 200 feet per minute (1.02 m/s). Where the calculated airflow exceeds this limit, the airflow method shall not be used.

909.8 Exhaust method. ~~When~~Where approved by the fire code official *pursuant to Section 901.1*, mechanical smoke control for large enclosed volumes, such as in atriums or malls, shall be permitted to utilize the exhaust method. Smoke control systems using the exhaust method shall be designed in accordance with NFPA 92. *At locations or in structures not regulated by the building code, the exhaust method shall be approved by the fire code official prior to system installation*.

909.8.1 Smoke layer. The height of the lowest horizontal surface of the smoke layer interface shall be maintained not less than 6 feet (1829 mm) above a walking surface that forms a portion of a required egress system within the smoke zone.

909.9 Design fire. The design fire shall be based on a rational analysis performed by the registered design professional and approved by the fire code official *pursuant to Section 901.1*. The design fire shall be based on the analysis in accordance with Section 909.4 and this section. *At locations or in structures not regulated by the building code, the design fire shall be approved by the fire code official prior to system installation*.

909.9.1 Factors considered. The engineering analysis shall include the characteristics of the fuel, fuel load, effects included by the fire and whether the fire is likely to be steady or unsteady.

909.9.2 Design fire fuel. Determination of the design fire shall include consideration of the type of fuel, fuel spacing and configuration.

909.9.3 Heat-release assumptions. The analysis shall make use of best available data from approved sources and shall not be based on excessively stringent limitations of combustible material.

909.9.4 Sprinkler effectiveness assumptions. A documented engineering analysis shall be provided for conditions that assume fire growth is halted at the time of sprinkler activation.

909.10 Equipment. Equipment including, but not limited to, fans, ducts, automatic dampers and balance dampers shall be suitable for their intended use, suitable for the probable exposure

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temperatures that the rational analysis indicates, and as approved by the fire code official *pursuant to Section 901.1. At locations or in structures not regulated by the building code, the equipment shall be approved by the fire code official prior to system installation*.

909.10.1 Exhaust fans. Components of exhaust fans shall be rated and certified by the manufacturer for the probable temperature rise to which the components will be exposed. This temperature rise shall be computed by:

$T_s = (Q_c/mc) + (T_a)$ **(Equation ~~9-39-2~~)**

where:

c = Specific heat of smoke at smoke layer temperature, Btu/lb°F· (kJ/kg ● K).

m = Exhaust rate, pounds per second (kg/s).

Q_c = Convective heat output of fire, Btu/s (kW).

T_a = Ambient temperature, °F (K).

T_s = Smoke temperature, °F (K).

Exception: Reduced T_s as calculated based on the assurance of adequate dilution air.

909.10.2 Ducts. Duct materials and joints shall be capable of withstanding the probable temperatures and pressures to which they are exposed as determined in accordance with Section 909.10.1. Ducts shall be constructed and supported in accordance with the *mechanical code*. Ducts shall be leak tested to 1.5 times the maximum design pressure in accordance with nationally accepted practices. Measured leakage shall not exceed 5 per-cent of design flow. Results of such testing shall be a part of the documentation procedure. Ducts shall be supported directly from fire-resistance-rated structural elements of the building by substantial, noncombustible supports.

Exception: Flexible connections, for the purpose of vibration isolation, complying with the *mechanical code* and that are constructed of approved fire-resistance-rated materials.

909.10.3 Equipment, inlets and outlets. Equipment shall be located so as to not expose uninvolved portions of the building to an additional fire hazard. Outside air inlets shall be located so as to minimize the potential for introducing smoke or flame into the building. Exhaust outlets shall be so located as to minimize reintroduction of smoke into the building and to limit exposure of the building or adjacent buildings to an additional fire hazard.

909.10.4 Automatic dampers. Automatic dampers, regardless of the purpose for which they are installed within the smoke control system, shall be listed and conform to the requirements of *Section 716.3 of the building code*.

909.10.5 Fans. In addition to other requirements, belt-driven fans shall have 1.5 times the number of belts required for the design duty with the minimum number of belts being two. Fans shall be selected for stable performance based on normal temperature and, where applicable, elevated temperature. Calculations and manufacturer's fan curves shall be part of the documentation procedures. Fans shall be supported and restrained by noncombustible

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devices in accordance with the structural design requirements of Chapter 16 of the *building code*.

Motors driving fans shall not be operated beyond their nameplate horsepower (kilowatts) as determined from measurement of actual current draw and shall have a minimum service factor of 1.15.

909.11 Standby power. Smoke control systems shall be provided with standby power in accordance with Section ~~604~~ 1203.

909.11.1 Equipment room. The standby power source and its transfer switches shall be in a room separate from the normal power transformers and switch gears and ventilated directly to and from the exterior. The room shall be enclosed with not less than 1-hour fire barriers constructed in accordance with Section 707 of the *building code* or horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both.

909.11.2 Power sources and power surges. Elements of the smoke control system relying on volatile memories or the like shall be supplied with uninterruptable power sources of sufficient duration to span 15-minute primary power interruption. Elements of the smoke control system susceptible to power surges shall be suitably protected by conditioners, suppressors or other approved means.

909.12 Detection and control systems. Fire detection systems providing control input or output signals to mechanical smoke control systems or elements thereof shall comply with the requirements of Section 907. Such systems shall be equipped with a control unit complying with UL 864 and listed as smoke control equipment.

909.12.1 Verification. Control systems for mechanical smoke control systems shall include provisions for verification. Verification shall include positive confirmation of actuation, testing, manual override and the presence of power downstream of all disconnects. A preprogrammed weekly test sequence shall report abnormal conditions audibly, visually and by printed report. The preprogrammed weekly test shall operate all devices, equipment and components used for smoke control.

Exception: Where verification of individual components tested through the preprogrammed weekly testing sequence will interfere with, and produce unwanted effects to, normal building operation, such individual components are permitted to be bypassed from the preprogrammed weekly testing, where approved by the fire code official and in accordance with both of the following:

1. Where the operation of components is bypassed from the preprogrammed weekly test, presence of power downstream of all disconnects shall be verified weekly by a listed control unit.

2. Testing of all components bypassed from the preprogrammed weekly test shall be in accordance with Section 909.20.6.

909.12.2 Wiring. In addition to meeting requirements of NFPA 70, all wiring, regardless of voltage, shall be fully enclosed within continuous raceways.

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909.12.3 Activation. Smoke control systems shall be activated in accordance with this section.

909.12.3.1 Pressurization, airflow or exhaust method. Mechanical smoke control systems using the pressurization, airflow or exhaust method shall have completely automatic control.

909.12.3.2 Passive method. Passive smoke control systems actuated by approved spot-type detectors listed for releasing service shall be permitted.

909.12.4 Automatic control. Where completely automatic control is required or used, the automatic-control sequences shall be initiated from an appropriately zoned automatic sprinkler system complying with Section 903.3.1.1, manual controls ~~that are readily accessible to~~provided with ready access for the fire department and any smoke detectors required by the engineering analysis.

909.13 Control air tubing. Control air tubing shall be of sufficient size to meet the required response times. Tubing shall be flushed clean and dry prior to final connections and shall be adequately supported and protected from damage. Tubing passing through concrete or masonry shall be sleeved and protected from abrasion and electrolytic action.

909.13.1 Materials. Control air tubing shall be hard drawn copper, Type L, ACR in accordance with ASTM B42, ASTM B43, ASTM B68/B68M, ASTM B88, ASTM B251 and ASTM B280. Fittings shall be wrought copper or brass, solder type, in accordance with ASME B16.18 or ASME B16.22. Changes in direction shall be made with appropriate tool bends. Brass compression-type fittings shall be used at final connection to devices; other joints shall be brazed using a BCuP5 brazing alloy with solidus above 1,100°F (593°C) and ~~liquid~~liquidus is below 1,500°F (816°C). Brazing flux shall be used on copper-to-brass joints only.

Exception: Nonmetallic tubing used within control panels and at the final connection to devices, provided that all of the following conditions are met:

1. Tubing shall comply with the requirements of Section 602.2.1.3 of the *mechanical code*.

2. Tubing and the connected device shall be completely enclosed ~~with~~within a galvanized or paint-grade steel enclosure having a minimum thickness of 0.0296-inch (0.7534 mm) (No. 22 gage). Entry to the enclosure shall be by copper tubing with a protective grommet of neoprene or Teflon or by suitable brass compression to male-barbed adapter.

3. Tubing shall be identified by appropriately documented coding.

4. Tubing shall be neatly tied and supported within the enclosure. Tubing bridging cabinets and doors or moveable devices shall be of sufficient length to avoid tension and excessive stress. Tubing shall be protected against abrasion. Tubing ~~serving~~connected to devices on doors shall be fastened along hinges.

909.13.2 Isolation from other functions. Control tubing serving other than smoke control functions shall be isolated by automatic isolation valves or shall be an independent system.

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909.13.3 Testing. Control air tubing shall be tested at three times the operating pressure for not less than 30 minutes without any noticeable loss in gauge pressure prior to final connection to devices.

909.14 Marking and identification. The detection and control systems shall be clearly marked at all junctions, accesses and terminations.

909.15 Control diagrams. Identical control diagrams showing all devices in the system and identifying their location and function shall be maintained current and kept on file with the fire code official, the fire department and in the fire command center in a format and manner approved by the fire ~~chief~~code official.

909.16 Fire fighter's smoke control panel. A fire fighter's smoke control panel for fire department emergency response purposes only shall be provided and shall include manual control or override of automatic control for mechanical smoke control systems. The panel shall be located in a fire command center complying with Section 508 in high-rise buildings or buildings with smoke-protected assembly seating. In all other buildings, the fire fighter's smoke control panel shall be installed in an approved location adjacent to the fire alarm control panel. The fire fighter's smoke control panel shall comply with Sections 909.16.1 through 909.16.3.

909.16.1 Smoke control systems. Fans within the building shall be shown on the fire fighter's control panel. A clear indication of the direction of airflow and the relationship of components shall be displayed. Status indicators shall be provided for all smoke control equipment, annunciated by fan and zone and by pilot-lamp-type indicators as follows:

1. Fans, dampers and other operating equipment in their normal status – WHITE.
2. Fans, dampers and other operating equipment in their off or closed status – RED.
3. Fans, dampers and other operating equipment in their on or open status – GREEN.
4. Fans, dampers and other operating equipment in a fault status – YELLOW/AMBER.

909.16.2 Smoke control panel. The fire fighter's control panel shall provide control capability over the complete smoke control system equipment within the building as follows:

1. ON-AUTO-OFF control over each individual piece of operating smoke control equipment that can ~~also~~ be controlled from other sources within the building. This includes stairway pressurization fans; smoke exhaust fans; supply, return and exhaust fans; elevator shaft fans; and other operating equipment used or intended for smoke control purposes.
2. OPEN-AUTO-CLOSE control over individual dampers relating to smoke control and that are ~~also~~ controlled from other sources within the building.
3. ON-OFF or OPEN-CLOSE control over smoke control and other critical equipment associated with a fire or smoke emergency and that can only be controlled from the fire fighter's control panel.

Exceptions:

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1. Complex systems, where approved, where the controls and indicators are combined to control and indicate all elements of a single smoke zone as a unit.

2. Complex systems, where approved, where the control is accomplished by computer interface using approved, plain English commands.

909.16.3 Control action and priorities. The fire fighter's control panel actions shall be as follows:

1. ON-OFF and OPEN-CLOSE control actions shall have the highest priority of any control point within the building. Once issued from the fire fighter's control panel, automatic or manual control from any other control point within the building shall not contradict the control action. Where automatic means are provided to interrupt normal, nonemergency equipment operation or produce a specific result to safeguard the building or equipment including, but not limited to, duct freezestats, duct smoke detectors, high-temperature cutouts, temperature-actuated linkage and similar devices, such means shall be capable of being overridden by the fire-fighter's control panel. The last control action as indicated by each fire fighter's control panel switch position shall prevail. Control actions shall not require the smoke control system to assume more than one configuration at any one time.

   Exception: Power disconnects required by NFPA 70.

2. Only the AUTO position of each three-position fire-fighter's control panel switch shall allow automatic or manual control action from other control points within the building. The AUTO position shall be the NORMAL, nonemergency, building control position. Where a fire fighter's control panel is in the AUTO position, the actual status of the device (on, off, open, closed) shall continue to be indicated by the status indicator described in Section 909.16.1. Where directed by an automatic signal to assume an emergency condition, the NORMAL position shall become the emergency condition for that device or group of devices within the zone. Control actions shall not require the smoke control system to assume more than one configuration at any one time.

909.17 System response time. Smoke-control system activation shall be initiated immediately after receipt of an appropriate automatic or manual activation command. Smoke control systems shall activate individual components (such as dampers and fans) in the sequence necessary to prevent physical damage to the fans, dampers, ducts and other equipment. For purposes of smoke control, the fire fighter's control panel response time shall be the same for automatic or manual smoke control action initiated from any other building control point. The total response time, including that necessary for detection, shutdown of operating equipment and smoke control system startup, shall allow for full operational mode to be achieved before the conditions in the space exceed the design smoke condition. Upon receipt of an alarm condition at the fire alarm control panel, fans, dampers and automatic doors shall have achieved their proper operating state and the final status shall be indicated at the smoke control panel within 90 seconds. The system response time for each component and their sequential relationships shall be detailed in the required rational analysis and verification of their installed condition reported in the required final report.

909.18 Acceptance testing. Devices, equipment, components and sequences shall be individually tested. These tests, in addition to those required by other provisions of this code, shall

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consist of determination of function, sequence and, where applicable, capacity of their installed condition.

909.18.1 Detection devices. Smoke or fire detectors that are a part of a smoke control system shall be tested in accordance with Chapter 9 in their installed condition. ~~When~~Where applicable, this testing shall include verification of airflow in both minimum and maximum conditions.

909.18.2 Ducts. Ducts that are part of a smoke control system shall be traversed using generally accepted practices to determine actual air quantities.

909.18.3 Dampers. Dampers shall be tested for function in their installed condition.

909.18.4 Inlets and outlets. Inlets and outlets shall be read using generally accepted practices to determine air quantities.

909.18.5 Fans. Fans shall be examined for correct rotation. Measurements of voltage, amperage, revolutions per minute and belt tension shall be made.

909.18.6 Smoke barriers. Measurements using inclined manometers or other approved calibrated measuring devices shall be made of the pressure differences across smoke barriers. Such measurements shall be conducted for each possible smoke control condition.

909.18.7 Controls. Each smoke zone equipped with an automatic-initiation device shall be put into operation by the actuation of one such device. Each additional device within the zone shall be verified to cause the same sequence without requiring the operation of fan motors in order to prevent damage. Control sequences shall be verified throughout the system, including verification of override from the fire fighter's control panel and simulation of standby power conditions.

909.18.8 Testing for smoke control. Smoke control systems shall be tested by a special inspector in accordance with Section ~~1705.18~~ 1705.19 of the *building code*.

909.18.8.1 Scope of testing. Testing shall be conducted in accordance with the following:

1. During erection of ductwork and prior to concealment for the purposes of leakage testing and recording of device location.

2. Prior to occupancy and after sufficient completion for the purposes of pressure-difference testing, flow measurements, and detection and control verification.

909.18.8.2 Qualifications. Approved agencies for smoke control testing shall have expertise in fire protection engineering, mechanical engineering and certification as air balancers.

909.18.8.3 Reports. A complete report of testing shall be prepared by the approved agency. The report shall include identification of all devices by manufacturer, nameplate data, design values, measured values and identification tag or mark. The report shall be reviewed by the responsible registered design professional and, when satisfied that the design intent has been achieved, the responsible registered design professional shall sign, seal and date the report.

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

909.18.9 Identification and documentation. Charts, drawings and other documents identifying and locating each component of the smoke control system, and describing their proper function and maintenance requirements, shall be maintained on file at the building as an attachment to the report required by Section 909.18.8.3. Devices shall have an approved identifying tag or mark on them consistent with the other required documentation and shall be dated indicating the last time they were successfully tested and by whom.

909.19 System acceptance. Buildings, or portions thereof, required by this code to comply with this section shall not be *occupied* until such time that the provisions of this section have been fully complied with and that the fire department has received satisfactory instruction on the operation, both automatic and manual, of the system and a written maintenance program complying with the requirements of Section ~~909.20.1~~ 909.22.1 has been submitted and approved by the fire code official.

Exception: In buildings of phased construction, a temporary certificate of occupancy, as approved by the *building* official *in accordance with the building code*, shall be allowed, provided that those portions of the building to be occupied meet the requirements of this section and that the remainder does not pose a significant hazard to the safety of the proposed occupants or adjacent buildings.

~~(20) **909.20 Maintenance.** Smoke control systems shall be maintained to ensure to a reasonable degree that the system is capable of controlling smoke for the duration required. The system shall be maintained in accordance with the manufacturer's instructions and *paragraphs* (I)(20)(a)(909.20.1) *to* (I)(20)(f)(909.20.6) *of this rule*.~~

~~(a) **909.20.1 Schedule.** A routine maintenance and operational testing program shall be initiated immediately after the smoke control system has passed the acceptance tests. A written schedule for routine maintenance and operational testing shall be established.~~

~~(b) **909.20.2 Records.** Records of smoke control system testing and maintenance shall be maintained. The record shall include the date of the maintenance, identification of the servicing personnel and notification of any unsatisfactory condition and the corrective action taken, including parts replaced.~~

~~(c) **909.20.3 Testing.** Operational testing of the smoke control system shall include all equipment such as initiating devices, fans, dampers, controls, doors and windows.~~

~~(d) **909.20.4 Dedicated smoke control systems.** Dedicated smoke control systems shall be operated for each control sequence semiannually. The system shall also be tested under standby power conditions.~~

~~(e) **909.20.5 Nondedicated smoke control systems.** Nondedicated smoke control systems shall be operated for each control sequence annually. The system shall be tested under standby power conditions.~~

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~~(f) **909.20.6 Components bypassing weekly test.** Where components of the smoke control system are bypassed by the preprogrammed weekly test required by *paragraph* (I)(12)(a)(909.12.1) *of this rule*, such components shall be tested semiannually. The system shall be tested under standby power conditions.~~

[BF] 909.20 Smokeproof enclosures. Where required by Section 1023.12, a smokeproof enclosure shall be constructed in accordance with this section. A smokeproof enclosure shall consist of an interior exit stairway or ramp that is enclosed in accordance with the applicable provisions of Section 1023 and an open exterior balcony or ventilated vestibule meeting the requirements of this section. Where access to the roof is required, such access shall be from the smokeproof enclosure where a smokeproof enclosure is required.

[BF] 909.20.1 Access. Access to the stairway or ramp shall be by way of a vestibule or an open exterior balcony. The minimum dimension of the vestibule shall be not less than the required width of the corridor leading to the vestibule but shall not have a width of less than 44 inches (1118 mm) and shall not have a length of less than 72 inches (1829 mm) in the direction of egress travel.

[BF] 909.20.2 Construction. The smokeproof enclosure shall be separated from the remainder of the building by not less than 2-hour fire barriers constructed in accordance with Section 707 of the *building code* or horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both. Openings are not permitted other than the required means of egress doors. The vestibule shall be separated from the stairway or ramp by not less than 2-hour fire barriers constructed in accordance with Section 707 of the *building code* or horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both. The open exterior balcony shall be constructed in accordance with the fire-resistance-rating requirements for floor assemblies.

[BF] 909.20.2.1 Door closers. Doors in a smokeproof enclosure shall be self-closing or automatic closing by actuation of a smoke detector in accordance with Section 716.2.6.6 of the *building code* and shall be installed at the floor-side entrance to the smokeproof enclosure. The actuation of the smoke detector on any door shall activate the closing devices on all doors in the smokeproof enclosure at all levels. Smoke detectors shall be installed in accordance with Section 907.3.

[BF] 909.20.3 Natural ventilation alternative. The provisions of Sections 909.20.3.1 through 909.20.3.3 shall apply to ventilation of smokeproof enclosures by natural means.

[BF] 909.20.3.1 Balcony doors. Where access to the stairway or ramp is by way of an open exterior balcony, the door assembly into the enclosure shall be a fire door assembly in accordance with Section 716 of the *building code*.

[BF] 909.20.3.2 Vestibule doors. Where access to the stairway or ramp is by way of a vestibule, the door assembly into the vestibule shall be a fire door assembly complying with Section 716 of the *building code*. The door assembly from the vestibule to the stairway shall have not less than a 20-minute fire protection rating complying with Section 716 of the *building code*.

[BF] 909.20.3.3 Vestibule ventilation. Each vestibule shall have a minimum net area of 16 square feet (1.5 m^2) of opening in a wall facing an outer court, yard or public way that is not less than 20 feet (6096 mm) in width.

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[BF] 909.20.4 Mechanical ventilation alternative. The provisions of Sections 909.20.4.1 through 909.20.4.4 shall apply to ventilation of smokeproof enclosures by mechanical means.

[BF] 909.20.4.1 Vestibule doors. The door assembly from the building into the vestibule shall be a fire door assembly complying with Section 716.2.2.1 of the *building code*. The door assembly from the vestibule to the stairway or ramp shall have not less than a 20-minute fire protection rating and shall meet the requirements for a smoke door assembly in accordance with Section 716.2.2.1 of the *building code*. The door shall be installed in accordance with NFPA 105.

[BF] 909.20.4.2 Vestibule ventilation. The vestibule shall be supplied with not less than one air change per minute and the exhaust shall be not less than 150 percent of supply. Supply air shall enter and exhaust air shall discharge from the vestibule through separate, tightly constructed ducts used only for that purpose. Supply air shall enter the vestibule within 6 inches (152 mm) of the floor level. The top of the exhaust register shall be located at the top of the smoke trap but not more than 6 inches (152 mm) down from the top of the trap and shall be entirely within the smoke trap area. Doors in the open position shall not obstruct duct openings. Duct openings with controlling dampers are permitted where necessary to meet the design requirements, but dampers are not otherwise required.

[BF] 909.20.4.2.1 Engineered ventilation system. Where a specially engineered system is used, the system shall exhaust a quantity of air equal to not less than 90 air changes per hour from any vestibule when in emergency operation mode and shall be sized to handle three vestibules simultaneously. Smoke detectors shall be located at the floor-side entrance to each vestibule and shall activate the system for the affected vestibule. Smoke detectors shall be installed in accordance with Section 907.3.

[BF] 909.20.4.3 Smoke trap. The vestibule ceiling shall be not less than 20 inches (508 mm) higher than the door opening into the vestibule to serve as a smoke and heat trap and to provide an upward-moving air column. The height shall not be decreased unless approved and justified by design and test.

[BF] 909.20.4.4 Stairway or ramp shaft air movement system. The stairway or ramp shaft shall be provided with a dampered relief opening and supplied with sufficient air to maintain a minimum positive pressure of 0.10 inch of water (25 Pa) in the shaft relative to the vestibule with all doors closed.

[BF] 909.20.5 Stairway and ramp pressurization alternative. Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the vestibule is not required, provided that each interior exit stairway or ramp is pressurized to not less than 0.10 inch of water (25 Pa) and not more than 0.35 inch of water (87 Pa) in the shaft relative to the building measured with all interior exit stairway and ramp doors closed under maximum anticipated conditions of stack effect and wind effect.

[BF] 909.20.6 Ventilating equipment. The activation of ventilating equipment required by the alternatives in Sections 909.20.4 and 909.20.5 shall be by smoke detectors installed at each floor level at an approved location at the entrance to the smokeproof enclosure. When the closing device for the stairway and ramp shaft and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the

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required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

[BF] 909.20.6.1 Ventilation systems. Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment, control wiring, power wiring and ductwork shall comply with one of the following:

1. Equipment, control wiring, power wiring and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 707 of the *building code* or horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both.

2. Equipment, control wiring, power wiring and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 707 of the *building code* or horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both.

3. Equipment, control wiring, power wiring and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by not less than 2-hour fire barriers constructed in accordance with Section 707 of the *building code* or horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both.

Exception: Control wiring and power wiring located outside of a 2-hour fire barrier construction shall be protected using any one of the following methods:

1. Cables used for survivability of required critical circuits shall be listed in accordance with UL 2196 and shall have a fire-resistance rating of not less than 2 hours.

2. Where encased with not less than 2 inches (51 mm) of concrete.

3. Electrical circuit protective systems shall have a fire-resistance rating of not less than 2 hours. Electrical circuit protective systems shall be installed in accordance with their listing requirements.

[BF] 909.20.6.2 Standby power. Mechanical vestibule and stairway and ramp shaft ventilation systems and automatic fire detection systems shall be provided with standby power in accordance with Section 1203.

[BF] 909.20.6.3 Acceptance and testing. Before the mechanical equipment is approved, the system shall be tested in the presence of the building official to confirm that the system is operating in compliance with these requirements.

[BF] 909.21 Elevator hoistway pressurization alternative. Where elevator hoistway pressurization is provided in lieu of required enclosed elevator lobbies, the pressurization system shall comply with Sections 909.21.1 through 909.21.11.

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[BF] 909.21.1 Pressurization requirements. Elevator hoistways shall be pressurized to maintain a minimum positive pressure of 0.10 inch of water (25 Pa) and a maximum positive pressure of 0.25 inch of water (67 Pa) with respect to adjacent occupied space on all floors. This pressure shall be measured at the midpoint of each hoistway door, with all elevator cars at the floor of recall and all hoistway doors on the floor of recall open and all other hoistway doors closed. The pressure differentials shall be measured between the hoistway and the adjacent elevator landing. The opening and closing of hoistway doors at each level must be demonstrated during this test. The supply air intake shall be from an outside, uncontaminated source located a minimum distance of 20 feet (6096 mm) from any air exhaust system or outlet.

Exceptions:

1. On floors containing only Group R occupancies, the pressure differential is permitted to be measured between the hoistway and a dwelling unit or sleeping unit.

2. Where an elevator opens into a lobby enclosed in accordance with Section 3007.6 or 3008.6 of the *building code*, the pressure differential is permitted to be measured between the hoistway and the space immediately outside the door(s) from the floor to the enclosed lobby.

3. The pressure differential is permitted to be measured relative to the outdoor atmosphere on floors other than the following:

   3.1 The fire floor.

   3.2 The two floors immediately below the fire floor.

   3.3 The floor immediately above the fire floor.

4. The minimum positive pressure of 0.10 inch of water (25 Pa) and a maximum positive pressure of 0.25 inch of water (67 Pa) with respect to occupied floors is not required at the floor of recall with the doors open.

[BF] 909.21.1.1 Use of ventilation systems. Ventilation systems, other than hoistway supply air systems, are permitted to be used to exhaust air from adjacent spaces on the fire floor, two floors immediately below and one floor immediately above the fire floor to the building's exterior where necessary to maintain positive pressure relationships as required in Section 909.21.1 during operation of the elevator shaft pressurization system.

[BF] 909.21.2 Rational analysis. A rational analysis complying with Section 909.4 shall be submitted with the construction documents.

[BF] 909.21.3 Ducts for system. Any duct system that is part of the pressurization system shall be protected with the same fire-resistance rating as required for the elevator shaft enclosure.

[BF] 909.21.4 Fan system. The fan system provided for the pressurization system shall be as required by Sections 909.21.4.1 through 909.21.4.4.

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[BF] 909.21.4.1 Fire resistance. Where located within the building, the fan system that provides the pressurization shall be protected with the same fire-resistance rating required for the elevator shaft enclosure.

[BF] 909.21.4.2 Smoke detection. The fan system shall be equipped with a smoke detector that will automatically shut down the fan system when smoke is detected within the system.

[BF] 909.21.4.3 Separate systems. A separate fan system shall be used for each elevator hoistway.

909.21.4.4 Fan capacity. The supply fan shall be either adjustable with a capacity of not less than 1,000 cfm (0.4719 m^3/s) per door, or that specified by a registered design professional to meet the requirements of a designed pressurization system.

[BF] 909.21.5 Standby power. The pressurization system shall be provided with standby power in accordance with Section ~~604~~ 1203.

[BF] 909.21.6 Activation of pressurization system. The elevator pressurization system shall be activated upon activation of either the building fire alarm system or the elevator lobby smoke detectors. Where both a building fire alarm system and elevator lobby smoke detectors are present, each shall be independently capable of activating the pressurization system.

[BF] 909.21.7 Testing. Testing for performance shall be required in accordance with Section 909.18.8. System acceptance shall be in accordance with Section 909.19.

[BF] 909.21.8 Marking and identification. Detection and control systems shall be marked in accordance with Section 909.14.

[BF] 909.21.9 Control diagrams. Control diagrams shall be provided in accordance with Section 909.15.

[BF] 909.21.10 Control panel. A control panel complying with Section 909.16 shall be provided.

[BF] 909.21.11 System response time. Hoistway pressurization systems shall comply with the requirements for smoke control system response time in Section 909.17.

~~909.20~~909.22 Maintenance. Smoke control systems shall be maintained to ensure to a reasonable degree that the system is capable of controlling smoke for the duration required. The system shall be maintained in accordance with the manufacturer's instructions and Sections ~~*paragraphs* (I)(20)(a)(909.20.1~~909.22.1~~) *to*~~through ~~(I)(20)(f)(909.20.6~~909.22.6~~) *of this rule*~~.

~~909.20.1~~909.22.1 Schedule. A routine maintenance and operational testing program shall be initiated immediately after the smoke control system has passed the acceptance tests. A written schedule for routine maintenance and operational testing shall be established.

~~909.20.2~~909.22.2 Records. Records of smoke control system testing and maintenance shall be maintained. The record shall include the date of the maintenance, identification of the servicing personnel and notification of any unsatisfactory condition and the corrective action taken, including parts replaced.

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~~909.20.3~~909.22.3 **Testing.** Operational testing of the smoke control system shall include all equipment such as initiating devices, fans, dampers, controls, doors and windows.

~~909.20.4~~909.22.4 **Dedicated smoke control systems.** Dedicated smoke control systems shall be operated for each control sequence semiannually. The system shall ~~also~~ be tested under standby power conditions.

~~909.20.5~~909.22.5 **Nondedicated smoke control systems.** Nondedicated smoke control systems shall be operated for each control sequence annually. The system shall be tested under standby power conditions.

~~909.20.6~~909.22.6 **Components bypassing weekly test.** Where components of the smoke control system are bypassed by the preprogrammed weekly test required by ~~*paragraph* (I)(12)(a)(~~Section 909.12.1~~) *of this rule*~~, such components shall be tested semiannually. The system shall be tested under standby power conditions.

Section 910 Smoke and heat removal

910.1 General. Where required by this code, smoke and heat vents or mechanical smoke removal systems shall conform to the requirements of this section.

910.2 Where required. Smoke and heat vents*, an approved mechanical smoke exhaust system, or an approved manually activated smoke exhaust system* shall be installed as required by Sections 910.2.1 and 910.2.2.

Exceptions:

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.

2. Smoke and heat removal shall not be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers.

3. Smoke and heat removal shall not be required in areas of buildings equipped with control mode special application sprinklers with a response time index of 50 (m ● S)$^{1/2}$ or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers.

910.2.1 Group F-1 or S-1. Smoke and heat vents installed in accordance with Section 910.3 or a mechanical smoke removal system installed in accordance with Section 910.4 shall be installed in buildings and portions thereof used as a Group F-1 or S-1 occupancy having more than 50,000 square feet (4645 m^2) of undivided area. In occupied portions of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.

Exception: Group S-1 aircraft repair hangars.

910.2.2 High-piled combustible storage. Smoke and heat removal required by Table 3206.2 for buildings and portions thereof containing high-piled combustible storage shall be installed in accordance with Section 910.3 in unsprinklered buildings. In buildings and portions thereof

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containing high-piled combustible storage equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a smoke and heat removal system shall be installed in accordance with Section 910.3 or 910.4. In occupied portions of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.

910.2.3 Exit access travel distance increase. *Buildings and portions thereof used as a Group F-1 or S-1 occupancy where the maximum exit travel distance is increased in accordance with Section 1016.3.*

910.3 Smoke and heat vents. The design and installation of smoke and heat vents shall be in accordance with Sections 910.3.1 through 910.3.3.

910.3.1 Listing and labeling. Smoke and heat vents shall be listed and labeled to indicate compliance with UL 793 or FM 4430.

910.3.2 Smoke and heat vent locations. Smoke and heat vents shall be located 20 feet (6096 mm) or more from adjacent lot lines and fire walls and 10 feet (3048 mm) or more from fire barriers. Vents shall be uniformly located within the roof in the areas of the building where the vents are required to be installed by Section 910.2 with consideration given to roof pitch, sprinkler location and structural members.

910.3.3 Smoke and heat vents area. The required aggregate area of smoke and heat vents shall be calculated as follows:

For buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1:

$A_{VR} = V/9000$ **(Equation ~~9-4~~9-3)**

where:

A_{VR} = The required aggregate vent area (ft^2).

V = Volume (ft^3) of the area that requires smoke removal.

For unsprinklered buildings:

$A_{VR} = A_{FA}/50$ **(Equation ~~9-5~~9-4)**

where:

A_{VR} = The required aggregate vent area (ft^2).

A_{FA} = The area of the floor in the area that requires smoke removal.

910.3.4 Vent operation. Smoke and heat vents shall be capable of being operated by approved automatic and manual means.

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910.3.5 Fusible link temperature rating. Where vents are installed in areas provided with automatic fire sprinklers and the vents operate by fusible link, the fusible link shall have a temperature rating of 360°F (182°C).

910.4 Mechanical smoke removal systems. Mechanical smoke removal systems shall be designed and installed in accordance with Sections 910.4.1 through 910.4.7.

910.4.1 Automatic sprinklers required. The building shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

910.4.2 Exhaust fan construction. Exhaust fans that are part of a mechanical smoke removal system shall be rated for operation at 221°F (105°C). Exhaust fan motors shall be located outside of the exhaust fan airstream.

910.4.3 System design criteria. The mechanical smoke removal system shall be sized to exhaust the building at a minimum rate of two air changes per hour based ~~upon~~ on the volume of the building or portion thereof without contents. The capacity of each exhaust fan shall not exceed 30,000 cubic feet per minute (14.2 m^3/s).

910.4.3.1 Makeup air. Makeup air openings shall be provided within 6 feet (1829 mm) of the floor level. Operation of makeup air openings shall be manual or automatic. The minimum gross area of makeup air inlets shall be 8 square feet per 1,000 cubic feet per minute (0.74 m^2 per 0.4719 m^3/s) of smoke exhaust.

910.4.4 Activation. The mechanical smoke removal system shall be activated by manual controls only.

910.4.5 Manual control location. Manual controls shall be located ~~so as~~where they are able to be ~~accessible to~~accessed by the fire service from an exterior door of the building and ~~protected against interior fire exposure~~ separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 707 of the *building code* or horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both.

910.4.6 Control wiring. Wiring for operation and control of mechanical smoke removal systems shall be connected ahead of the main disconnect in accordance with Section 701.12E of NFPA 70 and be protected against interior fire exposure to temperatures in excess of 1,000°F (538°C) for a period of not less than 15 minutes.

910.4.7 Controls. Where building air-handling and mechanical smoke removal systems are combined or where independent building air-handling systems are provided, fans shall automatically shut down in accordance with the *mechanical code*. The manual controls provided for the smoke removal system shall have the capability to override the automatic shutdown of fans that are part of the smoke removal system.

910.5 Maintenance and testing. ~~S~~Maintenance and testing of smoke and heat vents and mechanical smoke removal systems shall be ~~maintained in an operative condition~~ in accordance with Sections 910.5.1 and 910.5.2~~, respectively~~. A written record of inspection, testing and maintenance that includes the date, identification of personnel involved, any unsatisfactory result, corrective action taken and replaced parts shall be maintained on the premises.

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910.5.1 Smoke and heat vents. Smoke and heat vents shall be maintained in an operative condition. Inspection, testing and maintenance shall be in accordance with NFPA 204 ~~and *paragraph* (J)(5)(a)(i)(910.5.1.1) *of this rule*~~except as follows:

1. ~~**910.5.1.1 Fusible links.**~~ Mechanically operated smoke and heat vents shall be inspected annually and operationally tested not less than every 5 years.

2. Gravity dropout smoke and heat vents shall be inspected annually.

~~1.~~3. ~~Fusible links for smoke and heat vents shall be replaced whenever f~~Fused, damaged or painted fusible links shall be replaced.

910.5.2 Mechanical smoke removal systems. Mechanical smoke removal systems shall be maintained in accordance with NFPA 204 and the equipment manufacturer's ~~maintenance~~ instructions ~~and *paragraphs* (J)(5)(b)(i)(910.5.2.1) *to* (J)(5)(b)(iv)(910.5.2.4) *of this rule*~~except as follows:

1. ~~**910.5.2.1 Frequency.**~~ Systems shall be inspected and operationally tested ~~not less than once per year~~annually.

2. Testing shall include the operation of all system components, ~~including control elements~~ controls and ancillary equipment, such as makeup air openings.

~~(ii) **910.5.2.2 Testing.** Operational testing of the mechanical smoke removal system shall include all equipment such as fans, controls and make-up air openings.~~

~~1.~~3. ~~**910.5.2.3 Schedule.**~~ A written schedule for routine maintenance and operational testing ~~program~~ shall be ~~initiated and a written schedule for routine maintenance and operational testing shall be~~ established and testing shall be conducted in accordance with the schedule.

~~(iv) **910.5.2.4 Written record.** A written record of mechanical smoke exhaust system testing and maintenance shall be maintained on the premises. The written record shall include the date of the maintenance, identification of the servicing personnel and notification of an unsatisfactory condition and the corrective action taken, including parts replaced.~~

910.6 Manually activated smoke exhaust system. *A manually activated smoke exhaust system shall be an acceptable alternate to smoke and heat vents and to allow for the increased travel distance option provided in Section 1016.3.*

910.6.1 Location. *Exhaust fans shall be uniformly spaced throughout the Group F-1 or S-1 portion of the building.*

910.6.2 Size. *Fans shall have a maximum individual capacity of 50,000 cubic feet per minute (cfm) and provide a minimum of two air changes per hour.*

910.6.3 Operation. *Smoke exhaust fans shall be manually activated by individual manual controls.*

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910.6.4 Wiring and control. *Wiring for operation and control of smoke exhaust fans shall be connected ahead of the main disconnect and protected against exposure to temperatures in excess of 1000 degrees F (538 degrees C) for a period of not less than 15 minutes. Controls shall be located so as to be immediately accessible to the fire service from the exterior of the building and protected against interior fire exposure by not less than 1-hour fire barriers constructed in accordance with Section 707 of the building code or horizontal assemblies constructed in accordance with Section 711 of the building code, or both.*

910.6.5 Supply air. *Supply air for exhaust fans shall be provided at or near the floor level and shall be sized to provide a minimum of 50 percent of required exhaust. Supply air for exhaust fans shall be uniformly distributed around the periphery of the area served.*

910.6.6 Interlocks. *Combination comfort air-handling/manually activated smoke exhaust systems are permitted. In combination comfort air-handling/manually activated smoke exhaust systems or independent comfort air-handling systems, the comfort air-handling system fans shall be controlled to automatically shut down upon duct or area smoke detector activation or sprinkler system water flow as specified in the approved manually activated smoke exhaust system sequence of operation.*

Section 911 Explosion control

911.1 General. Explosion control shall be provided in the following locations:

1. Where a structure, room or space is occupied for purposes involving explosion hazards as identified in Table 911.1.

2. Where quantities of hazardous materials specified in Table 911.1 exceed the maximum allowable quantities in Table 5003.1.1(1).

Such areas shall be provided with explosion (deflagration) venting, explosion (deflagration) prevention systems or barricades in accordance with this section and NFPA 68, NFPA 69, or NFPA 495 as applicable. Deflagration venting shall not be utilized as a means to protect buildings from detonation hazards.

Table 911.1
Explosion control requirements[f]

Material	Class	Explosion control methods	
		Barricade construction	Explosion (deflagration) venting or explosion (deflagration) prevention systems
Hazard category			
Combustible dusts[a]	-----	Not required	Required
Cryogenic fluids	Flammable	Not required	Required
Explosives	Division 1.1 Division 1.2 Division 1.3	Required Required Not required	Not required Not required Required

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	Division 1.4 Division 1.5 Division 1.6	Not required Required Required	Required Not required Not required
Flammable gas	Gaseous Liquefied	Not required Not required	Required Required
Flammable liquids	IA[b] IB[c]	Not required Not required	Required Required
Organic peroxides	Unclassified detonable I	Required Required	Not permitted Not permitted
Oxidizer liquids and solids	4	Required	Not permitted
Pyrophoric	Gases	Not required	Required
Unstable (reactive)	4 3 detonable 3 nondetonable	Required Required Not required	Not permitted Not permitted Required
Water-reactive liquids and solids	3 2[e]	Not required Not required	Required Required
Special uses			
Acetylene generator rooms	-----	Not required	Required
Electrochemical energy storage systems[g]	----	Not required	Required
Energy storage systems[g]	----	Not required	Required
Grain processing	-----	Not required	Required
Liquefied petroleum gas distribution facilities	-----	Not required	Required
Where explosion hazards exist[d]	Detonation Deflagration	Required Not required	Not permitted Required

a. Combustible dusts ~~that are generated during manufacturing or processing.~~ where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 104.8.2. See definition of Combustible Dust in Chapter 2.
b. Storage or use.
c. In open use or dispensing.
d. Rooms containing dispensing and use of hazardous materials ~~when~~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.
e. A method of explosion control shall be provided ~~when~~ where Class 2 water-reactive materials can form potentially explosive mixtures.
f. Explosion venting is not required for Group H-5 Fabrication Areas complying with Chapter 27 and the *building code*.
g. Where explosion control is required in Section 1207.6.3.

911.2 Required deflagration venting. Areas that are required to be provided with deflagration venting shall comply with the following:

1. Walls, ceilings and roofs exposing surrounding areas shall be designed to resist a minimum internal pressure of 100 pounds per square foot (psf) (4788 Pa). The minimum internal design pressure shall ~~not~~ be not less than five times the maximum internal relief pressure specified in Item 5 of this section .

2. Deflagration venting shall be provided only in exterior walls and roofs.

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Exception: Where sufficient exterior wall and roof venting cannot be provided because of inadequate exterior wall or roof area, deflagration venting shall be allowed by specially designed shafts vented to the exterior of the building.

3. Deflagration venting shall be designed to prevent unacceptable structural damage. Where relieving a deflagration, vent closures shall not produce projectiles of sufficient velocity and mass to cause life threatening injuries to the occupants or other persons on the property or adjacent public ways.

4. The aggregate clear area of vents and venting devices shall be governed by the pressure resistance of the construction assemblies specified in ~~paragraph (K)(2)(a)(911.2.1)~~ Item 1 of this section and the maximum internal pressure allowed by ~~paragraph (K)(2)(e)(911.2.5)~~ Item 5 of this section.

5. Vents shall be designed to withstand loads in accordance with the *building code*. Vents shall consist of any one or any combination of the following to relieve at a maximum internal pressure of 20 pounds per square foot (958 Pa), but not less than the loads required by the *building code*.

   5.1 Exterior walls designed to release outward.

   5.2 Hatch covers.

   5.3 Outward swinging doors.

   5.4 Roofs designed to uplift.

   5.5 Venting devices listed for the purpose.

6. Vents designed to release from the exterior walls or roofs of the building when venting a deflagration shall discharge directly to the exterior of the building where an unoccupied space not less than 50 feet (15 240 mm) in width is provided between the exterior walls of the building and the lot line.

   Exception: Vents complying with ~~paragraph (K)(2)(g)(911.2.7)~~ Item 7 of this section.

7. Vents designed to remain attached to the building when venting a deflagration shall be so located that the discharge opening shall ~~not~~ be not less than 10 feet (3048 mm) vertically from window openings and exits in the building and 20 feet (6096 mm) horizontally from exits in the building, from window openings and exits in adjacent buildings on the same lot and from the lot line.

8. Discharge from vents shall not be into the interior of the building.

911.3 Explosion prevention systems. Explosion prevention systems shall be of an approved type and installed in accordance with the provisions of this code and NFPA 69.

911.4 Deflagration venting. Deflagration venting shall be of an approved type and installed in accordance with the provisions of this code and NFPA 68.

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~~911.4~~911.5 **Barricades.** Barricades shall be designed and installed in accordance with NFPA 495.

Section 912 Fire department connections

912.1 Installation. Fire department connections shall be installed in accordance with the NFPA standard applicable to the system design and shall comply with Sections 912.2 through 912.7.

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 twenty sprinklers.

912.2 Location. With respect to hydrants, driveways, *fire apparatus access roads, public roadways,* buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of fire department connections shall be approved by the fire *code official. After approving the location of the fire department connection(s), the fire code official shall submit this approval to the building code official of the certified building department having jurisdiction.*

912.2.1 Visible location. Fire department connections shall be located on the street side of buildings or facing approved fire apparatus access roads, fully visible and recognizable from the street, fire apparatus access road or nearest point of fire department vehicle access or as otherwise approved by the fire code official. *If the fire code official approves a fire department connection location that does not meet the above criteria, the fire code official shall provide this input to the building code official of the certified building department having jurisdiction.*

912.2.2 Existing buildings. On existing buildings, wherever the fire department connection is not visible to approaching fire apparatus, the fire department connection shall be indicated by an approved sign mounted on the street front or on the side of the building. Such sign shall have the letters “FDC” not less than 6 inches (152 mm) high and words in letters not less than 2 inches (51 mm) high or an arrow to indicate the location. Such signs shall be subject to the approval of the fire code official.

912.3 Fire hose threads. Fire hose threads used in connection with standpipe systems shall be approved and shall be compatible with fire department hose threads.

912.4 Access. Immediate access to fire department connections shall be maintained at all times and without obstruction by fences, bushes, trees, walls or any other fixed or moveable object. Access to fire department connections shall be approved by the fire code official.

Exception: Fences, where provided with an access gate equipped with a sign complying with the legend requirements of Section 912.5 and a means of emergency operation. The gate and the means of emergency operation shall be approved by the fire code official and maintained operational at all times.

912.4.1 Locking fire department connection caps. The fire code official is authorized to require locking caps on fire department connections for water-based fire protection systems where the responding fire department carries appropriate key wrenches for removal. *The fire*

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code official shall notify the building official of the requirement for locking fire department connection caps.

912.4.2 Clear space around connections. A working space of not less than 36 inches (914 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height shall be provided and maintained in front of and to the sides of wall-mounted fire department connections and around the circumference of free-standing fire department connections, except as otherwise required or approved by the fire code official. *The fire code official shall notify the building code official of the certified building department having jurisdiction of any conditions approved by the fire code official that exceed the minimum requirements contained in this section.*

912.4.3 Physical protection. Where fire department connections are subject to impact by a motor vehicle, vehicle impact protection shall be provided in accordance with Section 312.

912.5 Signs. A metal sign with raised letters ~~at least~~not less than 1 inch (25 mm) in size shall be mounted on all fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION or a combination thereof as applicable. Where the fire department connection does not serve the entire building, a sign shall be provided indicating the portions of the building served.

912.6 Backflow protection. The potable water supply to automatic sprinkler and standpipe systems shall be protected against backflow as required by the *plumbing code*.

912.7 Inspection, testing and maintenance. Fire department connections shall be periodically inspected, tested and maintained in accordance with NFPA 25. Records of inspection, testing and maintenance shall be maintained.

Section 913 Fire pumps

913.1 General. Where provided, fire pumps for fire protection systems shall be installed in accordance with this section and NFPA 20.

Exception: Pumps for automatic sprinkler systems installed in accordance with Section 903.3.1.3 or Section 2904 of the *residential code*.

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 or a low suction throttling valve to ensure that a minimum of 10 psi is maintained in the suction line while the pump is operating in accordance with rule 3745-95-07 of the Administrative Code.*

913.2 Protection against interruption of service. The fire pump, driver and controller shall be protected in accordance with NFPA 20 against possible interruption of service through damage caused by explosion, fire, flood, earthquake, rodents, insects, windstorm, freezing, vandalism and other adverse conditions.

913.2.1 Protection of fire pump rooms. Rooms where fire pumps are located shall be separated from all other areas of the building in accordance with Section 913.2.1 of the *building code*.

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913.2.2 Circuits supplying fire pumps. Cables used for survivability of circuits supplying fire pumps shall be protected using one of the following methods:

1. Cables used for survivability of required critical circuits shall be listed in accordance with UL 2196 and shall have a fire-resistance rating of not less than 1 hour.

2. Electrical circuit protective systems shall have a fire-resistance rating of not less than 1 hour. Electrical circuit protective systems shall be installed in accordance with their listing requirements.

3. Construction having a fire-resistance rating of not less than 1 hour.

4. The cable or raceway is encased in a minimum of 2 inches (51 mm) of concrete.

Exception: This section shall not apply to cables, or portions of cables, located within a fire pump room or generator room that is separated from the remainder of the occupancy with fire-resistance-rated construction.

913.3 Temperature of pump room. Suitable means shall be provided for maintaining the temperature of a pump room or pump house, where required, above 40°F (5°C).

913.3.1 Engine manufacturer's recommendation. Temperature of the pump room, pump house or area where engines are installed shall never be less than the minimum recommended by the engine manufacturer. The engine manufacturer's recommendations for oil heaters shall be followed.

913.4 Valve supervision. Where provided, the fire pump suction, discharge and bypass valves, and isolation valves on the backflow prevention device or assembly shall be supervised open by one of the following methods:

1. Central-station, proprietary or remote-station signaling service.

2. Local signaling service that will cause the sounding of an audible signal at a constantly attended location.

3. Locking valves open.

4. Sealing of valves and approved weekly recorded inspection where valves are located within fenced enclosures under the control of the owner.

913.4.1 Test outlet valve supervision. Fire pump test outlet valves shall be supervised in the closed position.

913.5 Testing and maintenance. Fire pumps shall be inspected, tested and maintained in accordance with the requirements of this section and NFPA 25. Records of inspection, testing and maintenance shall be maintained.

913.5.1 Acceptance test. Acceptance testing shall be done in accordance with the requirements of NFPA 20.

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913.5.2 Generator sets. Engine generator sets supplying emergency or standby power to fire pump assemblies shall be periodically tested in accordance with NFPA 110. *Written records of such tests shall meet the requirements of Section 604.4.2.* Records of testing shall be maintained.

913.5.3 Transfer switches. Automatic transfer switches shall be periodically tested in accordance with NFPA 110. *Written records of such tests shall meet the requirements of Section 604.4.2.* Records of testing shall be maintained.

913.5.4 Pump room environmental conditions. Tests of pump room environmental conditions, including heating, ventilation and illumination shall be made to ensure proper manual or automatic operation of the associated equipment.

Section 914 Fire protection based on special detailed requirements of use and occupancy

914.1 General. This section shall specify where fire protection systems are required based on the detailed requirements of use and occupancy of the *building code*.

914.2 Covered and open mall buildings. Covered and open mall buildings shall comply with Sections 914.2.1 through 914.2.4.

914.2.1 Automatic sprinkler system. Covered and open mall buildings and buildings connected shall be equipped throughout with an automatic sprinkler system in accordance with Section ~~903.1.1~~903.3.1.1, which shall comply with all of the following:

1. The automatic sprinkler system shall be complete and operative throughout occupied space in the mall building prior to occupancy of any of the tenant spaces. Unoccupied tenant spaces shall be similarly protected unless provided with approved alternative protection.

2. Sprinkler protection for the mall of a covered mall building shall be independent from that provided for tenant spaces or anchor buildings.

3. Sprinkler protection for the tenant spaces of an open mall building shall be independent from that provided for anchor buildings.

4. Sprinkler protection shall be provided beneath exterior circulation balconies located adjacent to an open mall.

5. Where tenant spaces are supplied by the same system, they shall be independently controlled.

Exception: An automatic sprinkler system shall not be required in spaces or areas of open parking garages separated from the covered or open mall in accordance with Section 402.4.2.3 of the *building code* and constructed in accordance with Section 406.5 of the *building code*.

914.2.2 Standpipe system. The covered and open mall building shall be equipped throughout with a standpipe system as required by Section 905.3.3.

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914.2.3 Emergency voice/alarm communication system. Where the total floor area exceeds 50,000 square feet (4645 m^2) within either a covered mall building or within the perimeter line of an open mall building, an emergency voice/alarm communication system shall be provided. Access to ~~E~~emergency voice/alarm communication systems serving a mall, required or otherwise, shall be ~~accessible to~~provided for the fire department. The system shall be provided in accordance with Section 907.5.2.2.

914.2.4 Fire department access to equipment. Rooms or areas containing controls for air-conditioning systems~~, automatic fire-extinguishing systems, automatic sprinkler systems or other detection, suppression or control elements~~ or fire protection systems shall be identified for use by the fire department.

914.3 High-rise buildings. High-rise buildings shall comply with Sections 914.3.1 through 914.3.7.

914.3.1 Automatic sprinkler system. Buildings and structures shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and a secondary water supply where required by Section ~~914.3.3~~ 914.3.2.

Exception: An automatic sprinkler system shall not be required in spaces or areas of

~~1. Open parking garages in accordance with Section 406.5 of the *building code* .~~

~~T~~telecommunications equipment buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped throughout with an automatic fire detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 707 of the *building code* or not less than 2-hour horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both.

914.3.1.1 Number of sprinkler risers and system design. Each sprinkler system zone in buildings that are more than 420 feet (128 m) in height shall be supplied by ~~a minimum of~~ not fewer than two risers. Each riser shall supply sprinklers on alternate floors. If more than two risers are provided for a zone, sprinklers on adjacent floors shall not be supplied from the same riser.

914.3.1.1.1 Riser location. Sprinkler risers shall be placed in interior exit stairways and ramps that are remotely located in accordance with Section 1007.

914.3.1.2 Water supply to required fire pumps. In all buildings that are more than 420 feet (128 m) in building height, and buildings of Type IVA and IVB construction that are more than 120 feet (36.6m) in building height, required fire pumps shall be supplied by connections to ~~no~~not fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided that the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through ~~no~~not fewer than one of the connections.

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914.3.2 Secondary water supply. An automatic secondary on-site water supply having a capacity not less than the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings assigned to Seismic Design Category C, D, E or F as determined by the *building code*. An additional fire pump shall not be required for the secondary water supply unless needed to provide the minimum design intake pressure at the suction side of the fire pump supplying the automatic sprinkler system. The secondary water supply shall have a duration of not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13.

~~**Exception:** Existing buildings.~~

914.3.3 Fire alarm system. A fire alarm system shall be provided in accordance with Section 907.2.13.

914.3.4 Automatic smoke detection. Smoke detection shall be provided in accordance with Section 907.2.13.1.

914.3.5 Emergency voice/alarm communication system. An emergency voice/alarm communication system shall be provided in accordance with Section 907.5.2.2.

914.3.6 Emergency responder ~~radio~~communication coverage. ~~Emergency~~ In-building, two-way emergency responder ~~radio~~communication coverage shall be provided in accordance with Section 510.

914.3.7 Fire command. A fire command center complying with Section 508 shall be provided in a location approved by the fire department.

914.4 Atriums. Atriums shall comply with Sections 914.4.1 and 914.4.2.

914.4.1 Automatic sprinkler system. An approved automatic sprinkler system shall be installed throughout the entire building.

Exceptions:

1. That area of a building adjacent to or above the atrium need not be sprinklered, provided that portion of the building is separated from the atrium portion by not less than a 2-hour fire barrier constructed in accordance with Section 707 of the *building code* or horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both.

2. Where the ceiling of the atrium is more than 55 feet (16 764 mm) above the floor, sprinkler protection at the ceiling of the atrium is not required.

914.4.2 Fire alarm system. A fire alarm system shall be provided where required by Section 907.2.14.

914.5 Underground buildings. Underground buildings shall comply with Sections 914.5.1 through 914.5.5.

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914.5.1 Automatic sprinkler system. The highest level of exit discharge serving the underground portions of the building and all levels below shall be equipped with an automatic sprinkler system installed in accordance with Section 903.3.1.1. Waterflow switches and control valves shall be supervised in accordance with Section 903.4.

914.5.2 Smoke control system. A smoke control system is required to control the migration of products of combustion in accordance with Section 909 and provisions of this section. Smoke control shall restrict movement of smoke to the general area of fire origin and maintain means of egress in a usable condition.

914.5.3 Compartment smoke control system. Where compartmentation is required by Section 405.4 of the *building code*, each compartment shall have an independent smoke control system. The system shall be automatically activated and capable of manual operation in accordance with Section 907.2.18.

914.5.4 Fire alarm system. A fire alarm system shall be provided where required by Sections 907.2.18 and 907.2.19.

914.5.5 Standpipe system. The underground building shall be provided throughout with a standpipe system in accordance with Section 905.

914.6 Stages. Stages shall comply with Sections 914.6.1 and 914.6.2.

914.6.1 Automatic sprinkler system. Stages shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1. Sprinklers shall be installed under the roof and gridiron and under all catwalks and galleries over the stage. Sprinklers shall be installed in dressing rooms, performer lounges, shops and storerooms accessory to such stages.

Exceptions:

1. Sprinklers are not required under stage areas less than 4 feet (1219 mm) in clear height utilized exclusively for storage of tables and chairs, provided that the concealed space is separated from the adjacent spaces by Type X gypsum board not less than 5/8-inch (15.9 mm) in thickness.

2. Sprinklers are not required for stages 1,000 square feet (93 m^2) or less in area and 50 feet (15 240 mm) or less in height where curtains, scenery or other combustible hangings are not retractable vertically. Combustible hangings shall be limited to a single main curtain, borders, legs and a single backdrop.

3. Sprinklers are not required within portable orchestra enclosures on stages.

914.6.2 Standpipe system. Standpipe systems shall be provided in accordance with Section 905.

914.7 Special amusement ~~buildings~~areas. Special amusement ~~buildings~~areas shall comply with Sections 914.7.1 and 914.7.2.

914.7.1 Automatic sprinkler system. Buildings containing ~~S~~special amusement ~~buildings~~areas shall be equipped throughout with an automatic sprinkler system in

accordance with Section 903.3.1.1. Where the special amusement ~~building~~area is temporary, *movable, or portable* the sprinkler water supply shall be of an approved temporary means.

Exception*s*:

1. Automatic sprinklers are not required where the total floor area of a temporary special amusement *occupancy* is less than 1,000 square feet (93 m^2) and the exit access travel distance from any point in the special amusement area to an exit is less than 50 feet (15 240 mm).

2. *Automatic fire sprinklers are not required where the total floor area of a temporary special amusement occupancy in an existing building is less than 5,000 square feet (93 m^2), the travel distance from any point to an exit is less than 50 feet (15,240 mm), and where, in the opinion of the fire code official, additional means have been provided to ensure an equivalent level of safety for all occupants during the hours that the special amusement building is operated and occupied. Such additional means may include, but not be limited to: fire watches, reduced occupant loads, additional means of egress, additional detection and portable fire extinguishers.*

914.7.2 Automatic smoke detection. Special amusement ~~buildings~~areas shall be equipped with an automatic smoke detection system in accordance with Section 907.2.12.

914.8 Aircraft-related occupancies. Aircraft-related occupancies shall comply with Sections 914.8.1 through 914.8.6.

914.8.1 Automatic smoke detection systems. Airport traffic control towers shall be provided with an automatic smoke detection system installed in accordance with Section 907.2.22.

914.8.2 Automatic sprinkler system for new airport traffic control towers. Where an occupied floor is located more than 35 feet (10 668 mm) above the lowest level of fire department vehicle access, new airport traffic control towers shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.

914.8.3 Fire suppression for aircraft hangars. Aircraft hangars shall be provided with a fire suppression system designed in accordance with NFPA 409, based on the classification for the hangar given in Table 914.8.3.

Exception: Where a fixed base operator has separate repair facilities on site, Group II hangars operated by a fixed base operator used for storage of transient aircraft only shall have a fire suppression system, but the system shall be exempt from foam requirements.

Table 914.8.3
Hangar fire suppression requirements[a,b,c]

Maximum single fire area, square feet ~~(m^2)~~	*Building code*- Type of construction								
	IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
>40,001	Group I	Group I	Group I	Group I	Group I	Group I	Group I	Group I	Group I

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40,000	Group II	Group II	Group II	Group II	Group II	Group II	Group II	Group II	Group II
30,000	Group III	Group II	Group II	Group II	Group II	Group II	Group II	Group II	Group II
20,000	Group III	Group III	Group II	Group II	Group II	Group II	Group II	Group II	Group II
15,000	Group III	Group III	Group III	Group II	Group III	Group II	Group III	Group II	Group II
12,000	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group II	Group II
8,000	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group II
5,000	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group III

For SI: 1 square foot = 0.0929 m^2, 1 foot = 304.8 mm.

a. Aircraft hangars with a door height greater than 28 feet shall be provided with fire suppression for a Group I hangar regardless of maximum fire area.
b. Groups shall be as classified in accordance with NFPA 409.
c. Membrane structures complying with Section 3102 of the *building code* shall be classified as a Group IV hangar.

914.8.3.1 Hazardous operations. Any Group III aircraft hangar ~~according to~~in accordance with Table 914.8.3 that contains hazardous operations including, but not limited to, the following shall be provided with a Group I or ~~Group~~ II fire suppression system in accordance with NFPA 409 as applicable:

1. Doping.
2. Hot ~~working~~ work including, but not limited to, welding, torch cutting and torch soldering.
3. Fuel transfer.
4. Fuel tank repair or maintenance not including defueled tanks in accordance with NFPA 409, inerted tanks or tanks that have never been fueled.
5. Spray finishing operations.
6. Total fuel capacity of all aircraft within the unsprinklered single fire area in excess of 1,600 gallons (6057 L).
7. Total fuel capacity of all aircraft within the maximum single fire area in excess of 7,500 gallons (28 390 L) for a hangar equipped throughout with an automatic ~~fire~~ sprinkler system installed in accordance with Section 903.3.1.1.

914.8.3.2 Separation of maximum single fire areas. Maximum single fire areas established in accordance with hangar classification and construction type in Table 914.8.3 shall be separated by 2-hour fire walls constructed in accordance with Section 706 of the *building code*. In determining the maximum single fire area as set forth in Table 914.8.3, ancillary uses that are separated from aircraft servicing areas by not less than a 1-hour fire barrier constructed in accordance with Section 707 of the *building code* shall not be included in the area.

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914.8.4 Finishing. The process of "doping," involving the use of a volatile flammable solvent, or of painting shall be carried on in a separate detached building equipped with automatic fire-extinguishing equipment in accordance with Section 903.

914.8.5 Residential aircraft hangar smoke alarms. Smoke alarms shall be provided within residential aircraft hangars in accordance with Section 907.2.21.

914.8.6 Aircraft paint hangar fire suppression. Aircraft paint hangars shall be provided with fire suppression as required by NFPA 409.

914.9 Application of flammable finishes. An automatic sprinkler system or fire-extinguishing system shall be provided in all spray~~, dip and immersing spaces and storage~~ rooms and spray booths, and shall be installed in accordance with Chapter 9.

914.10 Drying rooms. Drying rooms designed for high-hazard materials and processes, including special occupancies as provided for in Chapter 4 of the *building code*, shall be protected by an approved automatic fire-extinguishing system complying with the provisions of Chapter 9.

914.11 Ambulatory care facilities. Occupancies classified as ambulatory care facilities shall comply with Sections 914.11.1 through 914.11.3.

914.11.1 Automatic sprinkler systems. An automatic sprinkler system shall be provided for ambulatory care facilities in accordance with Section 903.2.2.

914.11.2 Manual fire alarm systems. A manual fire alarm system shall be provided for ambulatory care facilities in accordance with Section 907.2.2.

914.11.3 Fire alarm systems. An automatic smoke detection system shall be provided for ambulatory care facilities in accordance with Section 907.2.2.1.

Section 915 Carbon monoxide detection

915.1 General. Carbon monoxide detection shall be installed in new buildings in accordance with Sections 915.1.1 through 915.6. Carbon monoxide detection shall be installed in existing buildings in accordance with Section 1103.9.

915.1.1 Where required. Carbon monoxide detection shall be provided in Group I-1, I-2, I-4 and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 915.2 where any of the conditions in Sections 915.1.2 through 915.1.6 exist.

915.1.2 Fuel-burning appliances and fuel-burning fireplaces. Carbon monoxide detection shall be provided in dwelling units, sleeping units and classrooms that contain a fuel-burning appliance or a fuel-burning fireplace.

915.1.3 Fuel-burning ~~F~~forced-air furnaces. Carbon monoxide detection shall be provided in dwelling units, sleeping units and classrooms served by a fuel-burning, forced-air furnace.

Exception: Carbon monoxide detection shall not be required in dwelling units, sleeping units and classrooms where a carbon monoxide ~~detection~~detector is provided in the first

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room or area served by each main duct leaving the furnace, and the carbon monoxide alarm signals are automatically transmitted to an approved location.

915.1.4 Fuel-burning appliances outside of dwelling units, sleeping units and classrooms. Carbon monoxide detection shall be provided in dwelling units, sleeping units and classrooms located in buildings that contain fuel-burning appliances or fuel-burning fireplaces.

Exceptions:

1. Carbon monoxide detection shall not be required in dwelling units, sleeping units and classrooms ~~where there are no~~ without communicating openings between the fuel-burning appliance or fuel-burning fireplace and the dwelling unit, sleeping unit or classroom.

2. Carbon monoxide detection shall not be required in dwelling units, sleeping units and classrooms where a carbon monoxide ~~detection~~detector is provided in one of the following locations:

2.1. In an approved location between the fuel-burning appliance or fuel-burning fireplace and the dwelling unit, sleeping unit or classroom.

2.2. On the ceiling of the room containing the fuel-burning appliance or fuel-burning fireplace.

915.1.5 Private garages. Carbon monoxide detection shall be provided in dwelling units, sleeping units and classrooms in buildings with attached private garages.

Exceptions:

1. Carbon monoxide detection shall not be required ~~where there are no~~ in dwelling units, sleeping units and classrooms without communicating openings between the private garage and the dwelling unit, sleeping unit or classroom.

2. Carbon monoxide detection shall not be required in dwelling units, sleeping units and classrooms located more than one story above or below a private garage.

3. Carbon monoxide detection shall not be required where the private garage connects to the building through an open-ended corridor.

4. Where a carbon monoxide ~~detection~~detector is provided in an approved location between openings to a private garage and dwelling units, sleeping units or classrooms~~, carbon monoxide detection shall not be required in the dwelling units, sleeping units or classrooms~~.

915.1.6 Exempt garages. For determining compliance with Section 915.1.5, an open parking garage complying with Section 406.5 of the *building code* or an enclosed parking garage complying with Section 406.6 of the *building code* shall not be considered a private garage.

915.2 Locations. Where required by Section 915.1.1, carbon monoxide detection shall be installed in the locations specified in Sections 915.2.1 through 915.2.3.

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915.2.1 Dwelling units. Carbon monoxide detection shall be installed in dwelling units outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, carbon monoxide detection shall be installed within the bedroom.

915.2.2 Sleeping units. Carbon monoxide detection shall be installed in sleeping units.

Exception: Carbon monoxide detection shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of the sleeping unit where the sleeping unit or its attached bathroom does not contain a fuel-burning appliance and is not served by a forced air furnace.

915.2.3 Group E occupancies. Carbon monoxide ~~detection~~detectors shall be installed in classrooms in Group E occupancies. Carbon monoxide alarm signals shall be automatically transmitted to an on-site location that is staffed by school personnel.

Exception: Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies with an occupant load of 30 or less.

915.3 Carbon monoxide ~~D~~detection ~~equipment~~. Carbon monoxide detection required by Sections 915.1 through 915.2.3 shall be provided by carbon monoxide alarms complying with Section 915.4 or carbon monoxide detection systems complying with Section 915.5.

915.4 Carbon monoxide alarms. Carbon monoxide alarms shall comply with Sections 915.4.1 through ~~915.4.3~~ 915.4.4.

915.4.1 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.

Exception: Where installed in buildings without commercial power, battery-powered carbon monoxide alarms shall be an acceptable alternative.

915.4.2 Listings. Carbon monoxide alarms shall be listed in accordance with UL 2034.

915.4.3 Locations. Carbon monoxide alarms shall only be installed in dwelling units and in sleeping units. They shall not be installed in locations where the code requires carbon monoxide detectors to be used.

~~915.4.3~~915.4.4 Combination alarms. Combination carbon monoxide/smoke alarms shall be an acceptable alternative to carbon monoxide alarms. Combination carbon monoxide/smoke alarms shall be listed in accordance with UL ~~2034~~217 and UL ~~217~~2034.

915.5 Carbon monoxide detection systems. Carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide alarms and shall comply with Sections 915.5.1 through 915.5.3.

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915.5.1 General. Carbon monoxide detection systems shall comply with NFPA 720. Carbon monoxide detectors shall be listed in accordance with UL 2075.

915.5.2 Locations. Carbon monoxide detectors shall be installed in the locations specified in Section 915.2. These locations supersede the locations specified in NFPA 720.

915.5.3 Combination detectors. Combination carbon monoxide/smoke detectors installed in carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide detectors, provided that they are listed in accordance with UL ~~2075~~268 and UL ~~268~~2075.

915.6 Maintenance. Carbon monoxide alarms and carbon monoxide detection systems shall be maintained in accordance with NFPA 720. Carbon monoxide alarms and carbon monoxide detectors that become inoperable or begin producing end-of-life signals shall be replaced.

915.6.1 Enclosed parking garages. Carbon monoxide and nitrogen dioxide detectors installed in enclosed parking garages in accordance with Section 404.1 of the *mechanical code* shall be maintained in accordance with the manufacturer's instructions and their listing. Detectors that become inoperable or begin producing end-of-life signals shall be replaced.

Section 916 Gas detection systems

916.1 Gas detection systems. Gas detection systems required by this code shall comply with Sections 916.2 through 916.11.

916.2 Permits. Permits shall be required as set forth in *Chapter 1*.

916.2.1 Construction documents. Documentation of the gas detection system design and equipment to be used that demonstrates compliance with the requirements of this code shall be provided with the application for permit.

916.3 Equipment. Gas detection system equipment shall be designed for use with the gases being detected and shall be installed in accordance with manufacturer's instructions.

916.4 Power connections. Gas detection systems shall be permanently connected to the building electrical power supply or shall be permitted to be cord connected to an unswitched receptacle using an approved restraining means that secures the plug to the receptacle.

916.5 Emergency and standby power. Standby or emergency power shall be provided or the gas detection system shall initiate a trouble signal at an approved location if the power supply is interrupted.

916.6 Sensor locations. Sensors shall be installed in approved locations where leaking gases are expected to accumulate.

916.7 Gas sampling. Gas sampling shall be performed continuously. Sample analysis shall be processed immediately after sampling, except as follows:

1. For HPM gases, sample analysis shall be performed at intervals not exceeding 30 minutes.

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2. For toxic gases that are not HPM, sample analysis shall be performed at intervals not exceeding 5 minutes, in accordance with Section 6004.2.2.7.

3. Where a less frequent or delayed sampling interval is approved.

916.8 System activation. A gas detection alarm shall be initiated where any sensor detects a concentration of gas exceeding the following thresholds:

(a) For flammable gases, a gas concentration exceeding 25 percent of the lower flammability limit (LFL).

(b) For nonflammable gases, a gas concentration exceeding one-half of the IDLH, unless a different threshold is specified by the ~~*paragraph*~~section of this code requiring a gas detection system.

Upon activation of a gas detection alarm, alarm signals or other required responses shall be as specified by the section of this code requiring a gas detection system. Audible and visible alarm signals associated with a gas detection alarm shall be distinct from fire alarm and carbon monoxide alarm signals.

916.9 Signage. Signs shall be provided adjacent to gas detection system alarm signaling devices that advise occupants of the nature of the signals and actions to take in response to the signal.

916.10 Fire alarm system connections. Gas sensors and gas detection systems shall not be connected to fire alarm systems unless approved and connected in accordance with the fire alarm equipment manufacturer's instructions.

916.11 Inspection, testing and sensor calibration. Inspection and testing of gas detection systems shall be conducted not less than annually. Sensor calibration shall be confirmed at the time of sensor installation and calibration shall be performed at the frequency specified by the sensor manufacturer.

Section 917 Mass notification systems

917.1 College and university campuses. Prior to construction of a new building requiring a fire alarm system on a multiple-building college or university campus having a cumulative building occupant load of 1,000 or more, a mass notification risk analysis shall be conducted in accordance with NFPA 72. Where the risk analysis determines a need for mass notification, an approved mass notification system shall be provided in accordance with the findings of the risk analysis.

Section ~~916~~918 Fire protection and fire-fighting equipment certification

~~916.1~~918.1 No person shall sell, offer for sale, or use any fire protection or fire-fighting equipment which does not meet the minimum standards for such equipment as specified in this code.

~~916.2~~918.2 Certification required. Except for public and private mobile fire trucks, no person shall engage in the business of servicing, testing, repairing, or installing fire protection or fire-fighting equipment for profit without first being certified by the state fire marshal, as required by Section 3737.65 of the Revised Code and this code.

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~~916.3~~918.3 **Terms defined for this paragraph.** *The following words as used in Section 918 take on exclusive meanings as ~~used in this paragraph of this rule only~~follows.*

"Company." *Any individual, sole proprietorship, partnership, association, or corporation certified pursuant to this rule.*

"Company branch." *A separate but dependent office of a company certified pursuant to Section ~~916.18~~ 918.5 that operates at a different address than the company.*

"Provisional individual." *Any person enrolled in a bona fide apprenticeship training program registered with the apprenticeship council pursuant to Chapter 4139 of the Revised Code or with the bureau of apprenticeship and training of the United States department of labor.*

~~916.4~~918.4 **Individual and provisional individual certification.** *Upon satisfactory application and examination pursuant to Sections ~~916.6~~ 918.4.1 through 918.4.3 and Sections ~~916.7~~ 918.4.9 through 918.4.13, the state fire marshal may certify any individual or provisional individual to service, test, repair or install fire protection or fire-fighting equipment in the following categories:*

1. *Automatic sprinkler and standpipe systems;*

2. *Fire service mains and water tanks;*

   Exception: *Excavation and earth moving equipment operators are not required to be certified in this category provided the work they perform to meet the requirements of NFPA 22 and 24 is conducted under the direct supervision and active direction of an individual certified in this category ~~(~~who remains on site while the work is performed.~~)~~*

3. *Fire pumps;*

4. *Fire alarm and detection equipment;*

5. *Household fire warning equipment only;*

6. *Portable fire extinguishers;*

7. *Engineered extinguishing equipment other than water;*

8. *Pre-engineered extinguishing equipment other than water;*

9. *Fire pump diesel technician;*

10. *Aerosol extinguishing equipment; or*

11. *Such other categories as deemed necessary by the state fire marshal.*

~~916.5~~918.4.1 Application. *"Satisfactory application" includes~~,~~ but is not limited to~~:~~*

~~The~~the provision to the state fire marshal of all information requested by the state fire marshal or required by this ~~rule~~chapter~~:~~.

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~~1. The provision to the state fire marshal of documentation describing the applicant's recent work history relating to fire protection installer work or similar construction trade experience including, upon request of the state fire marshal, evidence that any work performed was completed with certified individuals and in compliance with applicable codes.~~

918.4.1.1 Reciprocal license. For an individual person applying for a reciprocal license in accordance with Chapter 4796 of the Revised Code, the provision to the state fire marshal of documentation demonstrating compliance with both Chapter 4796 of the Revised Code and all applicable provisions of Section 918 to the extent not otherwise addressed in Chapter 4796 of the Revised Code and any other documentation deemed necessary by the state fire marshal.

~~916.5.1~~*918.4.1.2 Engaging in unauthorized work. If the state fire marshal has obtained evidence that the applicant, within two years prior to the date of examination, engaged in unauthorized fire protection installer work, the state fire marshal may deny the application. If the state fire marshal has obtained evidence that a renewal applicant, within two years of the date of renewal application, has engaged in fire protection installer work performed in violation of the applicable codes, the state fire marshal may deny the renewal application.*

~~916.6~~*918.4.2 Training. Those seeking certification to work on a particular engineered or pre-engineered system must show at least one of the following:*

1. *Proof from the manufacturer of training or approval to work on the manufacturers engineered or pre-engineered system; or*

2. *Documentation demonstrating that the applicant has witnessed the ~~code~~ Ohio Fire Code compliant installation of ten engineered or pre-engineered systems within two years immediately prior to making application. The documentation shall include the Ohio license number of the individual performing ~~such~~ the installation, the type of system, and the date and the Ohio location of the installation.*

~~916.7~~*918.4.3 Testing Requirements. Except for provisional individuals, the state fire marshal shall require all applicants to obtain a passing grade of at least seventy per cent on a fire protection installer examination administered by the state fire marshal prior to certification. The state fire marshal may administer the examination by procuring or engaging a third party to provide testing services. Fees for the examination may be assessed.*

~~916.8~~*918.4.4 An individual may only work in those categories, as listed in Section 918.4, for which ~~he~~ the individual has been certified pursuant to Sections ~~916.4~~ 918.4.1 through 918.4.3.*

~~916.9~~*918.4.5 Company affiliation. An individual must be ~~a company~~ certified pursuant to Section ~~916.4~~ 918.4 and operate as a company or must be associated with a certified company when such individual engages in the business of servicing, testing, repairing or installing fire protection or fire-fighting equipment for profit including all individuals who work as a sole proprietor or in their individual name. Individuals engaging in such work using their personal name or working as a sole proprietor shall also be certified as a company in accordance with Section 918.5 in addition to maintaining their individual certification.*

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~~916.10~~918.4.6 Experience and education. *Individuals may only work on those particular engineered or pre-engineered systems for which the individual has recent experience or education to show competence and has provided documentation thereof to the state fire marshal. Individuals may only engage in the servicing, testing, or repairing of any fire protection or fire-fighting equipment if they are knowledgeable and experienced in the testing, maintenance and servicing requirements of the equipment and of the testing, service or maintenance methods of the equipment being worked on. Entities who engage persons to work on engineered or pre-engineered systems or to test, service, repair or provide maintenance on fire protection or fire-fighting equipment shall only engage competent and qualified individuals for work.*

~~916.11~~918.4.7 Certificate to be carried on person while engaging in work. *Every certified individual shall ~~carry~~ have the certificate issued pursuant to Section ~~916~~ 918.4 on their person or readily available in electronic format while engaging in the business of servicing, testing, repairing or installing fire protection or fire-fighting equipment for profit and produce the certificate for inspection upon request by the fire code official.*

~~916.12~~918.4.8 Supervision required. *A provisional individual must be supervised by a certified individual at all times such provisional individual is engaging in work requiring certification. The certified individual directly supervising the individual issued the provisional certificate shall only supervise one provisional certificate holder while engaging in work requiring certification. The certified individual directly supervising the provisional certificate holder shall possess a valid and current certificate for the certification category of the work being performed.*

~~916.13~~918.4.9 Forms for certification and renewal. *Applications for certification and renewals shall be made on forms provided by the state fire marshal. All applications and renewals shall be accompanied by the appropriate fee, to be made payable to "Treasurer, State of Ohio."*

~~916.14~~918.4.10 Application content. *Original application for certification and renewal of an individual or provisional individual shall, at a minimum, include the following:*

1. *Name of applicant and valid contact information including address, phone number, electronic mail address and, if applicable, facsimile number;*

2. *Categories for which applicant is seeking certification;*

~~3. If a non-resident of Ohio, an irrevocable consent to legal service in Ohio (needed for original application only);~~

~~4.~~3. *If for a provisional individual, a copy of the ~~indenture agreement~~individual's RAPIDS certificate (Registered Apprenticeship Partners Information Database System through the U.S. department of labor);*

~~5.~~4. ~~Documentation~~ *Upon request of the state fire marshal, documentation describing the applicant's recent work history relating to fire protection installer work or similar construction trade experience including evidence that any work performed was completed with certified individuals and in compliance with applicable codes; ~~and~~*

5. *All required fees; and*

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6. *Any other information requested by the state fire marshal.*

~~916.15~~918.4.11 Application fees. *Fees for an individual or provisional certification shall be as follows:*

1. *Original application of an individual or provisional individual shall be thirty-five dollars for each category for which certification is sought;*

2. *Renewal of an individual or provisional individual shall be forty dollars;*

3. *An application for a duplicate license shall be made in writing to the state fire marshal. The application for a duplicate license shall be accompanied by a ten-dollar fee.*

~~916.16~~918.4.12 Expiration of certification. *Applications for renewal must be received by the state fire marshal prior to the expiration date. Individual certification licenses and company certification of an individual operating alone expire in accordance with the following schedule:*

1. *Last name beginning with "a-g" on January second of each year;*

2. *Last name beginning with "h-m" on April first of each year;*

3. *Last name beginning with "n-s" on July first of each year;*

4. *Last name beginning with "t-z" on October first of each year.*

~~916.17~~918.4.13 Late application. *Upon expiration of certification, all applications for renewal will be considered as ~~a new~~an original application and the applicant shall be required to pass a fire protection installer examination administered by the state fire marshal prior to certification.*

Exception: The state fire marshal, in the state fire marshal's sole discretion, may grant a medical extension to the renewal application deadline for an applicant who demonstrates good cause, as determined by the state fire marshal, and provides supporting documentation as requested by the state fire marshal.

~~916.18~~918.5 Company certification. *Upon satisfactory application, the state fire marshal may certify any company to engage in the business of servicing, testing, repairing, and installing fire protection and fire-fighting equipment. A company certification authorizes a company to engage in fire protection installer work only for those fire protection installer categories for which its employees are certified pursuant to this chapter.*

~~916.19~~918.5.1 Application content. *Original and renewal application~~s~~ for certification ~~and~~or renewal of a company and any branches associated therewith shall, at a minimum, include the following as required by the state fire marshal:*

1. *Name of applicant;*

2. *The primary business address of the company;*

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3. Names of all persons responsible for the normal operations of the company (e.g., officers of the corporation, partners, etc.);

4. Proof of liability insurance or bonding in an amount of at least fifty thousand dollars for completion and/or performance purposes;

5. If a non-resident, an irrevocable consent to legal service in Ohio (needed for original application only); and

6. All required fees; and

~~6.~~7. Any other information requested by the state fire marshal.

918.5.1.1 Company name change. If a company name changes to something other than that which was filed with the state fire marshal pursuant to Section 918.5.1, the company shall file a name change form with the state fire marshal within 45 days of the date the name change became legally effective. A fee of twenty-five dollars shall be submitted with the form. A separate form and fee are not required for company branches.

~~916.20~~**918.5.2 Application fees.** Fees for a company certification shall be as follows:

1. Original application of a company: ~~shall be~~ two hundred dollars, except that an individual operating as a company shall be required to pay a fee of fifty dollars.

2. Renewal of a company: ~~shall be~~ one hundred fifty dollars, except that an individual operating as a company shall be required to pay a fee of twenty-five dollars. All renewal applications not submitted prior to the date of expiration~~,~~ shall pay ~~new~~ original application fees in accordance with Section ~~916.20~~ 918.5.2 Item 1.

3. A~~n a~~pplication for a duplicate license: ten dollars; such application shall be made in writing to the state fire marshal. ~~The application for a duplicate license shall be accompanied by a ten-dollar fee.~~

4. ~~The original application for a company branch certificate shall be made in writing to the state fire marshal. The a~~Application ~~fee~~ for ~~a~~ an original or renewal company branch certificate: ~~shall be~~ ten dollars per company branch certificate.

4.1 A company branch certificate status is contingent upon the status of the company and shall only operate if the company maintains a valid certificate.

4.2 ~~A branch is not required to pay renewal fees separate from the company.~~ A company branch certificate is ~~automatically~~ renewed upon the satisfactory and approved renewal of the company unless otherwise indicated in writing by the company.

4.3 The company is responsible for any fire protection installation or fire-fighting equipment business conducted out of or in association with a company branch.

~~916.21~~**918.5.3 Certification expiration.** All company certification licenses expire ~~June thirtieth~~July first of each year. Renewal shall be pursuant to standard renewal procedure. Upon expiration of certification, all applications for renewal received by the state fire marshal

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thereafter shall be considered as a new application and the company applicant shall pay new application fees in accordance with Section ~~916.20~~ 918.5.2 Item 1.

~~916.22~~918.6 Address and insurance information. *Any certified individual or certified company that changes its primary mailing address, including electronic mailing address, as previously filed with the state fire marshal or that experiences expiration of required insurance coverage, shall submit written notification of such change of address or insurance expiration to the state fire marshal within thirty days of the change of address or insurance expiration. A certified company or the company branch shall submit written notification to the state fire marshal of a company branch office's address change or closure within thirty days of such change or closure.*

~~916.23~~918.7 Denial, suspension or revocation of a certificate. *An application for any certificate issued pursuant to Section 918 may be denied, or a certificate issued pursuant to Section ~~916~~ 918 may be suspended or revoked, for cause by the state fire marshal. Denial, suspension or revocation for cause includes, but is not limited to, any of the following reasons:*

1. *For knowingly committing an act that violates any provision of the "Ohio Building Code," the "Ohio Fire Code," or the Revised Code;*
2. *For engaging in or permitting a person to engage in activity requiring certification, but for which activity the person is not certified;*
3. *For gross negligence or gross incompetence;*
4. *For knowingly making any misrepresentation or false promise, or for dishonest or illegal dealing;*
5. *For a continued course of misrepresentation or the making of false promises individually, through employees or agents, through advertising, or otherwise;*
6. *For failure to notify the state fire marshal of a change of primary mailing address;*
7. *In the case of a company, for failure to maintain the liability insurance or bonding in an amount of at least fifty thousand dollars for completion and/or performance purposes;*
8. *In the case of a provisional individual, for failure to complete the apprenticeship program or failure to maintain enrollment in the apprenticeship training program; or*
9. *In the case of a company, for failure to notify the state fire marshal upon expiration of the required insurance coverage or of any changes to the information required by Section ~~916.22~~ 918.6 or for failure to provide satisfactory evidence documenting such changes to the required information.*

~~916.24~~918.7.1 R.C. Chapter 119. *The state fire marshal shall comply with the provisions of Chapter 119. of the Revised Code whenever denying, suspending or revoking a certificate pursuant to Section ~~916.23~~ 918.7.*

~~16.25~~918.7.2 Company association. *No person who has been denied certification, or whose certification is under suspension or revocation pursuant to Section ~~916.23~~ 918.7, may be associated with any company certified pursuant to Section ~~916~~ 918.*

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918.7.3 Automatic denial for non-payment. An application for any certificate issued pursuant to Section 918 shall be automatically denied if an applicant fails to provide valid payment for any fee related to an application. If a certification is issued by the state fire marshal prior to the return and/or invalidation of a payment, including but not limited to return for insufficient funds, the certification application shall, IN ACCORDANCE WITH CHAPTER 119 OF THE REVISED CODE, be deemed denied as of the expiration date of the previous certification cycle and any certification that may have been issued shall be deemed null and void.

~~916.26~~918.7.4 No reapplication for two years. *If an application for certification is denied, or if a certification issued pursuant to Section ~~916~~ 918 is suspended or revoked, the company, company branch, or individual shall immediately cease engaging in the business of servicing, testing, repairing or installing fire protection or fire-fighting equipment for profit. If a certification is denied, suspended or revoked, that company or a company that had its certification denied, suspended or revoked, or an individual who had their certification denied, suspended or revoked, may not reapply for certification pursuant to Section ~~916~~ 918 until the suspension is lifted or until two years expire from the date of denial or revocation of certification.*

***Exception**: A company that had its certification denied or an individual who had their certification denied solely for failure to submit a complete application, may reapply for certification pursuant to Section ~~916~~ 918 without waiting for two years to expire from the date of denial of certification.*

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1301:7-7-23 Motor fuel-dispensing facilities and repair garages.

Section 2301 General

2301.1 Scope. Automotive motor fuel-dispensing facilities, marine motor fuel-dispensing facilities, fleet vehicle motor fuel-dispensing facilities, *service stations at bulk plants,* aircraft motor-vehicle fuel-dispensing facilities and repair garages shall be in accordance with this chapter*, NFPA 30, NFPA 30A*, the International Fuel Gas Code, the *building code*, and the *mechanical code*. Such operations shall include both those that are ~~accessible~~open to the public and private operations.

> ***2301.1.1.*** *Notwithstanding Sections 102.1 and 102.2 and unless otherwise noted in this rule, the provisions of this rule shall not apply to facilities, equipment, structures or installations existing or approved for construction or installation prior to the effective date of this rule, except in those cases where the fire code official demonstrates by a preponderance of the evidence that the existing facility, equipment, structure or installation creates a distinct hazard to life or adjacent property.*

2301.2 Permits. Permits shall be required as set forth in *Chapter 1. In accordance with Section 105.1.1, permits required for the installation, alteration, abandonment, removal or to place temporarily out of service a stationary flammable or combustible liquid storage tank shall be obtained from the fire marshal when such permits are required by this code and are not issued by another officer listed in Section 3737.14 of the Revised Code.*

> ***Exception:*** *A stationary flammable or combustible liquid storage tank with a capacity of 1,100 gallons or less utilized for agricultural purposes.*

2301.3 Construction documents. Construction documents shall be submitted for review and approval prior to the installation or construction of motor fuel-dispensing facilities*, service stations at bulk plants* and repair garages in accordance with Section ~~105.4~~ 106.1.

2301.4 Indoor motor fuel-dispensing facilities. Motor fuel-dispensing facilities located inside buildings shall comply with the *building code* and NFPA 30A.

> **2301.4.1 Protection of floor openings in indoor motor fuel-dispensing facilities.** Where motor fuel-dispensing facilities are located inside buildings and the dispensers are located above spaces within the building, openings beneath dispensers shall be sealed to prevent the flow of leaked fuel to lower building spaces.

2301.5 Electrical. Electrical wiring and equipment shall be suitable for the locations in which they are installed and shall comply with Section ~~605~~ 603, NFPA 30A and NFPA 70.

2301.6 Heat-producing appliances. Heat-producing appliances shall be suitable for the locations in which they are installed and shall comply with NFPA 30A and the International Fuel Gas Code or the *mechanical code*.

Section 2302 Definitions

2302.1 Definitions. The following terms are defined in Chapter 2:

> **Aircraft motor-vehicle fuel-dispensing facility.**

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Alcohol-blended fuels.

Automotive motor fuel-dispensing facility.

Dispensing device, overhead type.

Fleet vehicle motor fuel-dispensing facility.

Liquefied natural gas (LNG).

Marine motor fuel-dispensing facility.

Motor fuel-dispensing facility.

Repair garage.

Self-service motor fuel-dispensing facility.

2302.2 "Approved" as used in Chapter 23. *As used in this rule and notwithstanding the definition as set forth in Chapter 2, the term "approved", unless otherwise further specified or defined in this rule, means: listed, labeled or tested for the specified purpose and documented in research reports from an authoritative source listed in Section 118.2, or otherwise acceptable to the fire code official.*

Section 2303 Location of dispensing devices

2303.1 Location of dispensing devices. Dispensing devices shall be located as follows:

1. Ten feet (3048 mm) or more from lot lines.
2. Ten feet (3048 mm) or more from buildings having combustible exterior wall surfaces or buildings having noncombustible exterior wall surfaces that are not part of a 1-hour fire-resistance-rated assembly or buildings having combustible overhangs.

   Exception: Canopies constructed in accordance with the *building code* providing weather protection for the fuel islands.
3. Such that all portions of the vehicle being fueled will be on the premises of the motor fuel-dispensing facility.
4. Such that the nozzle, ~~when~~ where the hose is fully extended, will not reach within 5 feet (1524 mm) of building openings.
5. Twenty feet (6096 mm) or more from fixed sources of ignition.
6. Such that fuel dispensing is in view of the attendant at attended self-service motor fuel-dispensing facilities, as required by Section 2304.2.4.

2303.2 Emergency disconnect switches. An approved~~, clearly identified and readily accessible~~ emergency disconnect switch shall be provided at an approved location to stop the transfer of fuel to the fuel dispensers in the event of a fuel spill or other emergency. The emergency disconnect

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switch for exterior fuel dispensers shall be provided with ready access and shall be located *outside and* within 100 feet (30 480 mm) of, but not less than 20 feet (6096 mm) from, the fuel dispensers. For interior fuel-dispensing operations, the emergency disconnect switch shall be provided with ready access and be installed at an approved location. *Emergency disconnect switches* shall be distinctly labeled as: EMERGENCY FUEL SHUTOFF. Signs shall be provided in approved locations.

2303.2.1 Height. The height of the emergency disconnect switch shall be not less than 42 inches (1067 mm) and not more than 48 inches (1219 mm) measured vertically, from the floor level to the activating button.

Section 2304 Dispensing operations

2304.1 Supervision of dispensing. The dispensing of fuel at motor fuel-dispensing facilities shall be conducted by a qualified attendant or shall be under the supervision of a qualified attendant at all times or shall be in accordance with Section 2304.3.

2304.2 Attended self-service motor fuel-dispensing facilities. Attended self-service motor fuel-dispensing facilities shall comply with Sections 2304.2.1 through 2304.2.11*, NFPA 30A as listed in division (A) of Section 3741.14 of the Revised Code, and the Occupational Safety and Health Act of 1970 and any amendments thereto or standards as may be adopted by the state fire marshal pursuant to division (B) of Section 3741.14 of the Revised Code*. Attended self-service motor fuel-dispensing facilities shall have not less than one qualified attendant on duty while the facility is open for business. The attendant's primary function shall be to supervise, observe and control the dispensing of fuel. The attendant shall prevent the dispensing of fuel into containers that do not comply with Section 2304.4.1, control sources of ignition, give immediate attention to accidental spills or releases, and be prepared to use fire extinguishers.

2304.2.1 Special-type dispensers. *Special*-dispensing devices and systems such as, but not limited to, card- or coin-operated and remote-preset types, are allowed at *attended self-service* motor fuel-dispensing facilities provided that there is not less than one qualified attendant on duty while the facility is open to the public. Remote preset-type devices shall be set in the "off" position while not in use so that the dispenser cannot be activated without the knowledge of the attendant.

2304.2.2 Emergency controls. *Emergency* controls shall be provided in accordance with Section 2303.2.

2304.2.3 Operating instructions. *Signs providing* dispenser operating instructions shall be conspicuously posted in approved locations on every dispenser.

2304.2.4 Obstructions to view. ~~Dispensing devices shall be in clear view of the~~ The attendant shall have a direct line of sight to observe fuel-dispensing operations at all times. Obstructions shall not be placed between the dispensing area and the attendant.

Exception: Video monitoring systems shall be permitted to supplement direct line of sight supervision where approved by the fire code official.

2304.2.5 Communications. The attendant shall be able to communicate with persons in the dispensing area at all times. *A telephone or other* approved method of communicating with the fire department shall be provided for the attendant.

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2304.2.6 Smoking prohibited. *Gasoline and other flammable or combustible liquids shall be dispensed only by a person who is not smoking or vaping. Smoking and vaping shall be prohibited in the dispensing area.*

2304.2.7 Signage. *A sign in block letters at least four inches in height shall be conspicuously displayed on each gasoline pump island where self-service is offered stating that it is a self-service island.*

2304.2.8 Signage material. *All signs required by Sections 2304.2.3, 2304.2.7 and 2304.3.5 shall be constructed of rigid, weather-resistant material.*

2304.2.9 Attendant training. *It shall be the responsibility of the operator of the motor fuel dispensing facility to see that all attendant employees are properly trained in handling emergencies of a flammable fuel type.*

2304.2.10 Codes and standards. *It shall be the responsibility of the operator of the motor fuel dispensing facility to see that all attendant employees read and be familiar with applicable codes and standards.*

2304.2.11 Dispensing devices. *Existing listed or labeled dispensing devices shall be permitted to be modified provided that the modifications made are "Listed by Report" by an approved testing laboratory or as otherwise approved by the fire code official. Modification proposals shall contain a description of the component parts used in the modification and the recommended methods of installation on specific dispensing devices. Modification proposals shall be made available to the fire code official upon request.*

2304.3 Unattended self-service motor fuel-dispensing facilities. Unattended self-service motor fuel-dispensing facilities shall comply with Sections 2304.3.1 through 2304.3.~~7~~13*, NFPA 30A as listed in division* (A) *of Section 3741.14 of the Revised Code and the Occupational Safety and Health Act of 1970 and any amendments thereto or standards as may be adopted by the state fire marshal pursuant to division* (B) *of Section 3741.14 of the Revised Code. This section shall not apply to an unattended fleet vehicle motor fuel dispensing facility.*

2304.3.1 General. Where approved, unattended self-service motor fuel-dispensing facilities are allowed. As a condition of approval, the owner or operator shall provide, and be accountable for, daily site visits, regular equipment inspection and maintenance.

2304.3.2 Dispensers. Dispensing devices shall comply with Section 2306.7. *Only card operated dispensing devices approved by authoritative sources listed in rule 1301:7-7-01 of the Administrative Code shall be used.* Dispensing devices operated by the insertion of coins or currency shall not be used unless approved. *Approved key- or card-operated dispensing devices may be activated by the customer with the use of an authorized key or card.*

2304.3.3 Emergency controls. *Emergency* controls shall be provided in accordance with Section 2303.2. Emergency controls shall be of a type that is only manually resettable.

2304.3.4 Operating instructions. Dispenser operating instructions shall be conspicuously posted in approved locations on every dispenser and shall indicate the location of the emergency controls required by Section 2304.3.3.

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2304.3.5 Emergency procedures. An approved emergency procedures sign, in addition to the signs required by Section 2305.6, shall be posted in a conspicuous location and shall read:

IN CASE OF FIRE, SPILL OR RELEASE

1. USE EMERGENCY PUMP SHUTOFF

2. REPORT THE ACCIDENT!

FIRE DEPARTMENT TELEPHONE NO._____

FACILITY ADDRESS_____

2304.3.6 Communications. A telephone not requiring a coin to operate or other approved, clearly identified means to notify the fire department shall be provided on the site in a location approved by the fire code official.

2304.3.7 Quantity limits. Dispensing equipment used at unsupervised locations shall comply with one of the following:

1. Dispensing devices shall be programmed or set to limit uninterrupted fuel delivery to 25 gallons (95 L) and require a manual action to resume delivery.

2. The amount of fuel being dispensed shall be limited *to an approved* quantity by a preprogrammed card.

Exception: *This section shall not apply to fixed dispensing equipment at an unsupervised location at an airport that is used to dispense fuel directly into the fuel tank of an aircraft.*

2304.3.8 Spill containment. *Containment of small spills shall be controlled by grading the pavement away from the building and scoring the pavement or may be done by the use of an oil/water separator.*

2304.3.9 Dispensing devices. *Existing listed or labeled dispensing devices shall be permitted to be modified provided that the modifications made are "Listed by Report" by an approved testing laboratory or as otherwise approved by the fire code official. Modification proposals shall contain a description of the component parts used in the modification and the recommended methods of installation on specific dispensing devices. Modification proposals shall be made available to the fire code official upon request.*

2304.3.10 Smoking prohibited. *Gasoline and other flammable or combustible liquids shall be dispensed only by a person who is not smoking. Smoking shall be prohibited in the dispensing area.*

2304.3.11 Required fire protection. *In addition to fire protection equipment otherwise required by this code, an unattended motor fuel-dispensing facility shall also include automatic fixed suppression systems, and automatic fire detection, and transmission of an alarm to an off-site approved supervising station in accordance with Section 903.4.1.*

Exceptions:

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1. That portion of an unattended motor fuel-dispensing facility that is exclusively used to dispense fuel directly from fixed dispensing equipment into the fuel tank of aircraft shall not be required to have an automatic fixed suppression or automatic fire detection system.

2. That portion of an unattended motor fuel-dispensing facility that is exclusively used to dispense fuel directly from fixed dispensing equipment into the fuel tank of aircraft shall not be required to have transmission of an alarm to an off-site approved supervising station provided that the facility installs a telephone line or call box that complies with all of the following:

2.1 An operational and fully functioning telephone or call box shall be not less than 20 feet but not more than 100 feet from each dispensing location;

2.2 Each telephone or call box shall either provide a direct line to an off-site approved supervising station or to an approved emergency response authority;

2.3 Each telephone or call box shall be properly and conspicuously identified;

2.4 Each telephone or call box shall not require a coin or other form of payment to operate; and

2.5 The telephone or call box shall be installed at a location that complies with the above and that is approved by the fire code official.

***2304.3.11.1 Compressed natural gas facilities.** The requirement for an automatic fixed suppression system shall not apply to that portion of an unattended, open to the public motor fuel-dispensing facility where CNG is dispensed if all of the following apply:*

1. *The fueling areas where CNG is dispensed is equipped with a fire detection device(s) that is directly tied to the emergency shut down system; and*
2. *Upon activation of the emergency shut down system, operation of all CNG dispensers will automatically shut down and all CNG will automatically be isolated away from the dispensing area; and*
3. *Upon activation of the emergency shut down system, a notification system will automatically trigger notification to the fire department; and*
4. *No liquid fuels are being dispensed under the same canopy where CNG is being dispensed.*

***2304.3.12 Signage.** Signs shall be provided in accordance with Sections 2304.2.3, 2304.2.7 and 2304.3.5.*

***2304.3.13 Signage material.** All signs required by Section 2304.3.12 shall be constructed of rigid, weather-resistant material.*

2304.4 Dispensing into portable containers. The dispensing of flammable or combustible liquids into portable containers shall comply with Sections 2304.4.1 through 2304.4.3.

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2304.4.1 Approved containers required. Class I, II and IIIA liquids shall not be dispensed into a portable container unless such container *is properly constructed of metal or other material* approved *by the fire code official*, does not exceed a 6-gallon (22.7 L) capacity and has a tight closure with a screwed or spring-loaded cover so designed that the contents can be dispensed without spilling. Liquids shall not be dispensed into portable or cargo tanks.

2304.4.2 Nozzle operation. A hose nozzle valve used for dispensing Class I liquids into a portable container shall be in compliance with Section 2306.7.6. *No person shall utilize the automatic latch-open device during the dispensing operation.*

2304.4.3 Location of containers being filled. Portable containers shall not be filled while located inside the trunk, passenger compartment or truck bed of a vehicle.

Section 2305 Operational requirements

2305.1 Tank filling operations for Class I, II or III liquids. Delivery operations to tanks for Class I, II or III liquids shall comply with Sections 2305.1.1 through 2305.1.3 and the applicable requirements of Chapter 57.

2305.1.1 Delivery vehicle location. Where liquid delivery to above-ground storage tanks is accomplished by positive-pressure operation, tank vehicles shall be positioned not less than 25 feet (7620 mm) from tanks receiving Class I liquids and 15 feet (4572 mm) from tanks receiving Class II and IIIA liquids, measured from the tank to the nearest unloading valve on the tank vehicle.

2305.1.2 Tank capacity calculation. The driver, operator or attendant of a tank vehicle shall, before making delivery to a tank, determine the unfilled, available capacity of such tank *in accordance with accepted industry practices*.

2305.1.3 Tank fill connections. Delivery of flammable liquids to tanks more than 1,000 gallons (3785 L) in capacity shall be made by means of approved liquid- and vapor-tight connections between the delivery hose and tank fill pipe. Where tanks are equipped with any type of vapor recovery system, all connections required to be made for the safe and proper functioning of the particular vapor recovery process shall be made. Such connections shall be made liquid and vapor tight and remain connected throughout the unloading process. Vapors shall not be discharged at grade level during delivery.

2305.2 Equipment maintenance and inspection. Motor fuel-dispensing facility equipment shall be maintained in proper working order at all times in accordance with Sections 2305.2.1 through 2305.2.5.

2305.2.1 Inspections. Flammable and combustible liquid fuel-dispensing and containment equipment shall be periodically inspected where required by the fire code official to verify that the equipment is in proper working order and not subject to leakage. Records of inspections shall be maintained *in accordance with Section 109.3*.

2305.2.2 Repairs and service. The fire code official is authorized to require damaged or unsafe containment and dispensing equipment to be repaired or serviced in an approved manner.

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2305.2.3 Dispensing devices. Where maintenance to Class I liquid dispensing devices becomes necessary and such maintenance could allow the accidental release or ignition of liquid, the following precautions shall be taken before such maintenance is begun:

1. Only persons knowledgeable in performing the required maintenance shall perform the work.

2. Electrical power to the dispensing device and pump serving the dispenser shall be shut off at the main electrical disconnect panel.

3. The emergency shutoff valve at the dispenser, where installed, shall be closed.

4. Vehicle traffic and unauthorized persons shall be prevented from coming within 12 feet (3658 mm) of the dispensing device.

2305.2.4 Emergency shutoff valves. Automatic emergency shutoff valves required by Section 2306.7.4 shall be checked not less than once per year by manually tripping the hold-open linkage.

2305.2.5 Leak detectors. Leak detection devices required by Section 2306.7.7.1 shall be checked and tested not less than annually in accordance with the manufacturer's specifications to ensure proper installation and operation.

2305.3 Spill control. Provisions shall be made to prevent liquids spilled during dispensing operations from flowing into buildings. Acceptable methods include, but shall not be limited to, grading driveways, raising doorsills or other approved means.

2305.4 Sources of ignition. Smoking and open flames shall be prohibited in areas where fuel is dispensed. The engines of vehicles being fueled shall be shut off during fueling. Electrical equipment shall be in accordance with NFPA 70.

2305.5 Fire extinguishers. *Portable* fire extinguishers complying with Section 906 with a minimum rating of 2-A:20-B:C shall be provided and located such that an extinguisher is not more than 75 feet (22 860 mm) from pumps, dispensers or storage tank fill-pipe openings.

2305.6 Warning signs. *As required by Section 3741.14 of the Revised Code,* warning signs ~~*bearing the following words in block letters*~~ shall be conspicuously posted *on each gasoline pump island where self-service is offered* and shall state the following, *with at a minimum the capitalized words below being in block letters*:

1. ~~STOP ENGINE~~NO SMOKING *OR VAPING*

2. ~~*NO SMOKING*~~*STOP ENGINE*

3. *Discharge your static electricity before fueling by touching a metal surface away from the nozzle.*

4. *To prevent static charge, do not reenter your vehicle while gasoline is pumping.*

5. *If a fire starts, do not remove nozzle-back away immediately.*

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~~3.~~6. WARNING—IT IS UNLAWFUL AND DANGEROUS TO DISPENSE GASOLINE INTO UNAPPROVED CONTAINERS

7. No filling of portable containers in or on a motor vehicle. Place container on ground before filling.

~~4.~~8. PERSONS USING DISPENSERS WITH HOLD-OPEN LATCHES MUST REMAIN AT THE REFUELING POINT DURING REFUELING

~~Such signs shall also state:~~

~~5.1. Discharge your static electricity before fueling by touching a metal surface away from the nozzle.~~

~~6.1. To prevent static charge, do not reenter your vehicle while gasoline is pumping.~~

~~7.1. If a fire starts, do not remove nozzle back away immediately.~~

~~8.1. No filling of portable containers in or on a motor vehicle. Place container on ground before filling.~~

Exception: *Signs installed at dispensers prior to ~~July 1, 2018~~January 31, 2025, containing language that is substantially similar to items 1 through 8 of this section shall be deemed as compliant with this ~~code~~section.*

2305.7 Control of brush and debris. Fenced and diked areas surrounding above-ground tanks shall be kept free from vegetation, debris and other material that is not necessary to the proper operation of the tank and piping system.

Weeds, grass, brush, trash and other combustible materials shall be kept not less than 10 feet (3048 mm) from fuel-handling equipment.

Section 2306 Flammable and combustible liquid motor fuel-dispensing facilities

2306.1 General. Storage of flammable and combustible liquids shall be in accordance with Chapter 57 and Sections 2306.2 through 2306.6.3.

2306.2 Method of storage. *Storage of* Class I, II and III~~A~~ *flammable or combustible liquids* at motor fuel-dispensing facilities *to which the public does not have access*, shall be *stored in aboveground tanks in accordance with Sections 2306.2.2 through 2306.2.6, or stored in underground tanks in accordance with either Chapter 1301:7-9 of the Administrative Code as required or, when not so required, stored in accordance with Section 2306.2.1.*

At motor fuel-dispensing facilities to which the public has access the only approved method of storage shall be in underground tanks in accordance with Chapter 1301:7-9 of the Administrative Code.

Exception: *Where approved by the fire code ~~official in accordance with paragraph (J)(1)(2310.1) of this rule~~, the approved method of storage of Class I, II and IIIA flammable or combustible liquids at marine motor fuel-dispensing facilities to which the public has access shall not be required to have an underground tank as long as the approved aboveground tank*

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is in accordance with Sections ~~2306.2.1~~ 2306.2.2 through 2306.2.6. and in accordance with Section 2310.1.

2306.2.1 Underground tanks. Underground tanks for the storage of Class I, II and IIIA liquid ~~motor~~ fuels shall comply with Chapter 57.

2306.2.1.1 Inventory control for underground tanks. Accurate daily inventory records shall be maintained and reconciled on underground fuel storage tanks for indication of possible leakage from tanks and piping. The records shall include records for each product showing daily reconciliation between sales, use, receipts and inventory on hand. Where there is more than one system consisting of tanks serving separate pumps or dispensers for a product, the reconciliation shall be ascertained separately for each tank system. A consistent or accidental loss of product shall be immediately reported to the fire code official.

2306.2.2 Above-ground tanks located inside buildings. Above-ground tanks for the storage of Class I, II and IIIA liquid fuels are allowed to be located in buildings. Such tanks shall be located in special enclosures complying with Section 2306.2.6, in a liquid storage room or a liquid storage warehouse complying with Chapter 57, or shall be listed and labeled as protected above-ground tanks in accordance with UL 2085.

2306.2.3 Above-ground tanks located ~~outside~~outdoors, above grade. Above-ground tanks shall not be used for the storage of Class I, II or III ~~motor~~ liquid motor fuels except as provided. *Existing aboveground tank installations, even if previously approved, that are determined to constitute a hazard by the fire code official shall not be continued in service. Unsafe tanks shall be removed as required by the fire code official and in accordance with this code.*

1. Above-ground tanks used for ~~outside~~outdoor, above-grade storage of Class I liquids shall be listed and labeled as protected above-ground tanks in accordance with UL 2085 and shall be in accordance with Chapter 57. Such tanks shall be located in accordance with Table 2306.2.3.

   Exception: *An aboveground tank approved by an authoritative source listed in Chapter 1 as a fire-resistant tank may be utilized in lieu of a protected tank when installed in accordance with Table 2306.2.3.*

2. Above-ground tanks used for ~~outside~~outdoor, above-grade storage of Class II or IIIA liquids shall be listed and labeled as protected above-ground tanks in accordance with UL 2085 and shall be installed in accordance with Chapter 57. Tank locations shall be in accordance with Table 2306.2.3.

   Exception: Other above-ground tanks that comply with Chapter 57 where approved by the fire code official.

3. Tanks containing fuels shall not exceed 12,000 gallons (45 420 L) in individual capacity or 48,000 gallons (181 680 L) in aggregate capacity. Installations with the maximum allowable aggregate capacity shall be separated from other such installations by not less than 100 feet (30 480 mm).

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4. Tanks located at *areas used for agricultural purposes and* construction projects shall comply with Section 5706.2.

5. Above-ground tanks used for ~~outside~~outdoor above-grade storage of Class IIIB liquid motor fuel shall be listed and labeled in accordance with UL 142 or listed and labeled as protected above-ground tanks in accordance with UL 2085 and shall be installed in accordance with Chapter 57. Tank locations shall be in accordance with Table 2306.2.3.

Table 2306.2.3
Minimum separation requirements for above-ground tanks

~~Class of liquid and t~~Tank type	Individual tank capacity (gallons)	Minimum distance from nearest important building on same property (feet)	Minimum distance from nearest fuel dispenser (feet)	Minimum distance from lot line that is or can be built on, including the opposite side of a public way (feet)	Minimum distance from nearest side of any public way (feet)	Minimum distance between tanks (feet)
~~Class I p~~Protected above ground tanks~~b~~[d]	Less than or equal to 6,000	5	25[a,c]	15	5	3
	Greater than 6,000	15	25[a,c]	25	15	3
~~Class II and III protected above-ground tanks~~	~~Same as Class I~~	~~Same as Class I~~	~~Same as Class I[c]~~	~~Same as Class I~~	~~Same as Class I~~	~~Same as Class I~~
Tanks in vaults	0-20,000	0[b]	0	0[b]	0	Separate compartment required for each tank
Other tanks	All	50	50	100	50	3

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L.

a. At fleet vehicle motor fuel-dispensing facilities, ~~no~~ a minimum separation distance is not required.

b. ~~*A fire-resistant tank may be utilized in lieu of a protected tank when approved by the fire code official and installed in accordance with the distance requirements of NFPA 30A.*~~ *Underground vaults shall be located such that they will not be subject to loading from nearby structures, or they shall be designed to accommodate applied loads from existing or future structures that can be built nearby.*

c. For Class IIIB liquids in protected above-ground tanks, a minimum separation distance is not required.

d. A fire-resistant tank may be utilized in lieu of a protected tank when approved by the fire code official and installed in accordance with the distance requirements of NFPA 30A

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2306.2.4 Above-ground tanks located in above-grade vaults or below-grade vaults. Above-ground tanks used for storage of Class I, II or IIIA liquid motor fuels are allowed to be installed in vaults located above grade or below grade in accordance with Section 5704.2.8 and shall comply with Sections 2306.2.4.1 and 2306.2.4.2. Tanks in above-grade vaults shall also comply with Table 2306.2.3.

2306.2.4.1 Tank capacity limits. Tanks storing Class I and Class II liquids at an individual site shall be limited to a maximum individual capacity of 15,000 gallons (~~56 776~~56 775 L) and an aggregate capacity of 48,000 gallons (181 680 L).

2306.2.4.2 Fleet vehicle motor fuel-dispensing facilities. Tanks storing Class II and Class IIIA liquids at a fleet vehicle motor fuel-dispensing facility shall be limited to a maximum individual ~~fueling~~ capacity of 20,000 gallons (75 700 L) and an aggregate capacity of 80,000 gallons (302 800 L).

2306.2.5 Portable tanks. Where approved by the fire code official, portable tanks are allowed to be temporarily used in conjunction with the dispensing of Class I, II or III liquids into the fuel tanks of motor vehicles or motorized equipment on premises not normally ~~accessible~~open to the public. The approval shall include a definite time limit.

2306.2.6 Special enclosures. Where installation of tanks in accordance with Section 5704.2.11 is impractical, or because of property or building limitations, tanks for liquid fuels are allowed to be installed in buildings in special enclosures in accordance with all of the following:

1. The special enclosure shall be liquid tight and vapor tight.
2. The special enclosure shall not contain backfill.
3. Sides, top and bottom of the special enclosure shall be of reinforced concrete not less than 6 inches (152 mm) thick, with openings for inspection through the top only.
4. Tank connections shall be piped or closed such that neither vapors nor liquid can escape into the enclosed space between the special enclosure and any tanks inside the special enclosure.
5. Means shall be provided whereby portable equipment can be employed to discharge to the outside any vapors that might accumulate inside the special enclosure should leakage occur.
6. Tanks containing Class I, II or IIIA liquids inside a special enclosure shall not exceed 6,000 gallons (22 710 L) in individual capacity or 18,000 gallons (68 130 L) in aggregate capacity.
7. Each tank within special enclosures shall be surrounded by a clear space of not less than 3 feet (910 mm) to allow for maintenance and inspection.

2306.3 Security. Above-ground tanks for the storage of liquid motor fuels shall be safeguarded from public access or unauthorized entry. *Tanks shall be enclosed with a chain link fence at least 6 feet (1.8 m) high. The fence shall be separated from the tanks by at least 3 feet (0.9 m) and shall have a gate that is secured against unauthorized entry.*

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Exceptions:

1. Fueling facilities that are located on a property that has a perimeter security fence.

2. Tanks that are enclosed in vaults.

2306.4 Physical protection. Guard posts complying with Section 312 or other approved means shall be provided to protect above-ground tanks against impact by a motor vehicle unless the tank is listed as a protected above-ground tank with vehicle impact protection.

2306.5 Secondary containment. Above-ground tanks shall be provided with drainage control or diking in accordance with Chapter 57. Drainage control and diking is not required for listed secondary containment tanks. Secondary containment systems shall be monitored either visually or automatically. Enclosed secondary containment systems shall be provided with emergency venting in accordance with Section 2306.6.2.5.

2306.6 Piping, valves, fittings and ancillary equipment for use with flammable or combustible liquids. The design, fabrication, assembly, testing and inspection of piping, valves, fittings and ancillary equipment for use with flammable or combustible liquids shall be in accordance with Chapter 57 and Sections 2306.6.1 through 2306.6.3.

2306.6.1 Protection from damage. Piping shall be located such that it is protected from physical damage.

2306.6.2 Piping, valves, fittings and ancillary equipment for above-ground tanks for Class I, II and III liquids. Piping, valves, fittings and ancillary equipment for above-ground tanks storing Class I, II and III liquids shall comply with Sections 2306.6.2.1 through 2306.6.2.6.

2306.6.2.1 Tank openings. Tank openings for above-ground tanks shall be through the top only.

2306.6.2.2 Fill-pipe connections. The fill pipe for above-ground tanks shall be provided with a means for making a direct connection to the tank vehicle's fuel-delivery hose so that the delivery of fuel is not exposed to the open air during the filling operation. Where any portion of the fill pipe exterior to the tank extends below the level of the top of the tank, a check valve shall be installed in the fill pipe not more than 12 inches (305 mm) from the fill-hose connection.

2306.6.2.3 Overfill protection. Overfill protection shall be provided for above-ground flammable and combustible liquid storage tanks in accordance with Sections 5704.2.7.5.8 and ~~5704.2.9.7.6~~5704.2.9.7.5.

2306.6.2.4 Siphon prevention. An approved anti-siphon method shall be provided in the piping system to prevent flow of liquid by siphon action.

2306.6.2.5 Emergency relief venting. Above-ground storage tanks, tank compartments and enclosed secondary containment spaces shall be provided with emergency relief venting in accordance with Chapter 57.

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2306.6.2.6 Spill containers. A spill container having a capacity of not less than 5 gallons (19 L) shall be provided for each fill connection. For tanks with a top fill connection, spill containers shall be noncombustible and shall be fixed to the tank and equipped with a manual drain valve that drains into the primary tank. For tanks with a remote fill connection, a portable spill container is allowed.

2306.6.3 Piping, valves, fittings and ancillary equipment for underground tanks. Piping, valves, fittings and ancillary equipment for underground tanks shall comply with Chapter 57 and NFPA 30A.

2306.7 Fuel-dispensing systems for flammable or combustible liquids. The design, fabrication and installation of fuel-dispensing systems for flammable or combustible liquid fuels shall be in accordance with Sections 2306.7.1 through 2306.7.9.2.4. ~~*Fuel-dispensing systems for a*~~*A*lcohol blended ~~fuels~~ fuel-dispening systems shall also comply with Section 2306.8.

2306.7.1 Listed equipment. Electrical equipment, dispensers, hose, nozzles and submersible or subsurface pumps used in fuel-dispensing systems shall be listed.

2306.7.2 Fixed pumps required. Class I and II liquids shall be transferred from tanks by means of fixed pumps designed and equipped to allow control of the flow and prevent leakage or accidental discharge.

2306.7.3 Mounting of dispensers. Dispensing devices, except those installed on top of a protected above-ground tank that qualifies as vehicle-impact resistant, shall be protected against physical damage by mounting on a concrete island 6 inches (152 mm) or more in height, or shall be protected in accordance with Section 312. Dispensing devices shall be installed and securely fastened to their mounting surface in accordance with the dispenser manufacturer's instructions. Dispensing devices installed indoors shall be located in an approved position where they cannot be struck by an out-of-control vehicle descending a ramp or other slope.

2306.7.3.1 Additional impact protection. The fire code official is authorized to require additional impact protection in accordance with Section 312 where dispensing devices are located in areas near parking areas, multiple dispensing devices, highway on- and off-ramps, and other areas where there is a higher potential for vehicle impacts.

2306.7.4 Dispenser emergency shutoff valve. An approved automatic emergency shutoff valve designed to close in the event of a fire or impact shall be properly installed in the liquid supply line at the base of each dispenser supplied by a remote pump. The valve shall be installed so that the shear groove is flush with or within ½ inch (12.7 mm) of the top of the concrete dispenser island and there is clearance provided for maintenance purposes around the valve body and operating parts. The valve shall be installed at the liquid supply line inlet of each overhead-type dispenser. Where installed, a vapor return line located inside the dispenser housing shall have a shear section or approved flexible connector for the liquid supply line emergency shutoff valve to function. Emergency shutoff valves shall be installed and maintained in accordance with the manufacturer's instructions, tested at the time of initial installation and not less than yearly thereafter in accordance with Section 2305.2.4.

***2306.7.4.1** As the effective date of this Chapter, for tank systems regulated under 1301:7-9 of the Ohio Administrative Code, manifolding of existing product piping under a*

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dispenser and above the shear valve, impact valve or fire valve, is prohibited. This does not apply to dispenser blending devices above the shear valve, impact valve or fire valve.

2306.7.5 Dispenser hose. Dispenser hoses shall be not more than 18 feet (5486 mm) in length unless otherwise approved. Dispenser hoses shall be approved. When not in use, hoses shall be reeled, racked or otherwise protected from damage.

2306.7.5.1 Emergency breakaway devices. Dispenser hoses for Class I and II liquids shall be equipped with a listed emergency breakaway device designed to retain liquid on both sides of a breakaway point. Such devices shall be installed and maintained in accordance with the manufacturer's instructions. Where hoses are attached to hose-retrieving mechanisms, the emergency breakaway device shall be located between the hose nozzle and the point of attachment of the hose-retrieval mechanism to the hose.

2306.7.6 Fuel delivery nozzles. A listed automatic-closing-type hose nozzle valve with or without a latch-open device shall be provided on island-type dispensers used for dispensing Class I, II or III liquids.

Overhead-type dispensing units shall be provided with a listed automatic-closing-type hose nozzle valve without a latch-open device.

Exception: A listed automatic-closing-type hose nozzle valve with latch-open device is allowed to be used on overhead-type dispensing units where the design of the system is such that the hose nozzle valve will close automatically in the event the valve is released from a fill opening or upon impact with a driveway.

2306.7.6.1 Special requirements for nozzles. Where dispensing of Class I, II or III~~A~~ liquids is performed, a listed automatic-closing-type hose nozzle valve shall be used incorporating *one* of the following features:

1. The hose nozzle valve shall be equipped with an integral latch-open device.

2. Where the flow of product is normally controlled by devices or equipment other than the hose nozzle valve, the hose nozzle valve shall not be capable of being opened unless the delivery hose is pressurized. If pressure to the hose is lost, the nozzle shall close automatically.

   Exception: Vapor recovery nozzles incorporating insertion interlock devices designed to achieve shutoff on disconnect from the vehicle fill pipe.

3. The hose nozzle shall be designed such that the nozzle is retained in the fill pipe during the filling operation.

4. The system shall include listed equipment with a feature that causes or requires the closing of the hose nozzle valve before the product flow can be resumed or before the hose nozzle valve can be replaced in its normal position in the dispenser.

2306.7.7 Remote pumping systems. Remote pumping systems for liquid fuels shall comply with Sections 2306.7.7.1 and 2306.7.7.2.

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2306.7.7.1 Leak detection. Where remote pumps are used to supply fuel dispensers, each pump shall have installed on the discharge side a listed leak detection device that will detect a leak in the piping and provide an indication *to alert the operator of the presence of a leak*. A leak detection device is not required if the piping from the pump discharge to under the dispenser is above ground and visible.

2306.7.7.2 Location. Remote pumps installed above grade, outside of buildings, shall be located not less than 10 feet (3048 mm) from lines of adjoining property that can be built ~~upon~~ on and not less than 5 feet (1524 mm) from any building opening. Where an outside pump location is impractical, pumps are permitted to be installed inside buildings as provided for dispensers in Section 2301.4 and Chapter 57. Pumps shall be substantially anchored and protected against physical damage.

2306.7.8 Gravity and pressure dispensing. Flammable liquids shall not be dispensed by gravity from tanks, drums, barrels or similar containers. Flammable or combustible liquids shall not be dispensed by a device operating through pressure within a storage tank, drum or container.

2306.7.9 Vapor-recovery and vapor-processing systems. Vapor-recovery and vapor-processing systems shall be in accordance with Sections 2306.7.9.1 through 2306.7.9.2.4.

2306.7.9.1 Vapor-*recovery* systems. *Vapor recovery systems are systems designed to capture and retain, without processing, vapors displaced during transfer or filling operations. Vapor-recovery* systems shall comply with Sections 2306.7.9.1.1 through 2306.7.9.1.5.

2306.7.9.1.1 Dispensing devices. Dispensing devices incorporating provisions for vapor recovery shall be listed and labeled. Where existing listed or labeled dispensing devices are modified for vapor recovery, such modifications shall be listed by report by a nationally recognized testing laboratory *or by an authoritative source listed in Chapter 1*. The listing by report shall contain a description of the component parts used in the modification and recommended method of installation on specific dispensers. Such report shall be made available on request of the fire code official.

2306.7.9.1.2 Vapor-return line closeoff. *A means* shall be provided to *prevent the discharge of* vapor from dispensers when the product is not being dispensed.

2306.7.9.1.3 Piping. Piping in vapor-*recovery* systems shall be in accordance with *Section* 5703.6. Nonmetallic piping shall be installed in accordance with the manufacturer's *installation* instructions.

Vent piping shall be in accordance with Sections 5703.6 and 5704.2. Vapor return piping shall be installed in a manner that drains back to the tank, without sags or traps in which liquid can become trapped. If necessary, because of grade, condensate tanks are allowed in vapor return piping. Condensate tanks shall be designed and installed so that they can be drained without opening.

2306.7.9.1.4 Flexible joints and shear joints. Flexible joints shall be installed in accordance with Section 5703.6.9.

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An approved shear joint shall be rigidly mounted and connected by a union in the vapor return piping at the base of each dispensing device. The shear joint shall be mounted flush with the top of the surface on which the dispenser is mounted.

2306.7.9.1.5 Testing. Vapor return lines and vent piping shall be tested in accordance with Section 5703.6.3.

2306.7.9.2 Vapor-processing systems. *Vapor processing systems are designed to capture and process vapors displaced during transfer or filling operations by use of mechanical or chemical means.* Vapor-processing systems shall comply with Sections 2306.7.9.2.1 through 2306.7.9.2.4.

2306.7.9.2.1 Equipment. Equipment in vapor-processing systems, including hose nozzle valves, vapor pumps, flame arresters, fire checks or systems for prevention of flame propagation, controls and vapor-processing equipment, shall be individually listed for the intended use in a specified manner.

Vapor-processing systems that introduce air into the underground piping or storage tanks shall be provided with equipment for prevention of flame propagation that has been tested and listed as suitable for the intended use.

2306.7.9.2.2 Location. Vapor-processing equipment shall be located at or above grade. Sources of ignition shall be located not less than *20* feet (*6096* mm) from fuel-transfer areas and not less than 18 inches (457 mm) above tank fill openings and tops of dispenser islands. Vapor-processing units shall be located not less than 10 feet (3048 mm) from the nearest building or lot line of a property that can be built ~~upon~~on.

Exception: Where the required distances to buildings, lot lines or fuel-transfer areas cannot be obtained, means shall be provided to protect equipment against fire exposure. Acceptable means shall include but not be limited to either of the following:

1. Approved protective enclosures, which extend not less than 18 inches (457 mm) above the equipment, constructed of fire-resistant or noncombustible materials.

2. Fire protection using an approved water-spray system.

2306.7.9.2.2.1 Distance from dispensing devices. Vapor-processing equipment shall be located not less than 20 feet (6096 mm) from dispensing devices.

2306.7.9.2.2.2 Physical protection. Vapor-processing equipment shall be protected against physical damage by guardrails, curbs, protective enclosures or fencing. Where approved protective enclosures are used, approved means shall be provided to ventilate the volume within the enclosure to prevent pocketing of flammable vapors.

2306.7.9.2.2.3 Downslopes. Where a downslope exists toward the location of the vapor-processing unit from a fuel-transfer area, the fire code official is authorized to require additional separation by distance and height.

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2306.7.9.2.3 Installation. Vapor-processing units shall be securely mounted on concrete, masonry or structural steel supports on concrete or other noncombustible foundations. Vapor-processing equipment is allowed to be installed on roofs ~~when~~ where approved.

2306.7.9.2.4 Piping. Piping *for vapor-processing systems* shall be in accordance with Section 5703.6.

2306.8 Alcohol-blended ~~Fuel~~fuel-dispensing *~~systems for alcohol blended fuels~~operations*. The design, fabrication and installation of alcohol-blended fuel-dispensing systems *~~for alcohol blended fuels~~* shall be in accordance with Section 2306.7 and Sections 2306.8.1 through ~~*2306.8.5*~~ 2306.8.6.

2306.8.1 Listed equipment. Dispensers shall be listed in accordance with UL 87A. Hoses, nozzles, breakaway fittings, swivels, flexible connectors or dispenser emergency shutoff valves, vapor recovery systems, leak detection devices and pumps used in alcohol-blended fuel-dispensing systems shall be listed for the specific purpose *and approved as that term is defined in this chapter*.

2306.8.2 Compatibility. Dispensers shall be used only with the fuels for which they have been listed and ~~which~~that are marked on the product. Field-installed components including hose assemblies, breakaway fittings, swivel connectors and hose nozzle valves shall be provided in accordance with the listing and the marking on the unit. *Existing dispensers may be modified to meet compatibility requirements in accordance with Section 2304.3.9.*

2306.8.3. *Deleted.*

***~~2306.8.3~~* 2306.8.4 Facility identification.** Facilities dispensing alcohol-blended fuels shall be identified by *marking the fill pipes in accordance with API 1637 or* an approved means.

***~~2306.8.4~~* 2306.8.5 Marking.** *As approved by the state fire marshal d*ispensers shall be marked to identify the types of alcohol blended fuels to be dispensed.

***~~2306.8.5~~* 2306.8.6 Maintenance and inspection.** Equipment shall be maintained and inspected in accordance with Section 2305.2.

Section 2307 Liquefied petroleum gas motor fuel-dispensing facilities

2307.1 General. Motor fuel-dispensing facilities for liquefied petroleum gas (LP-gas) fuel shall be in accordance with this section and Chapter 61.

2307.2 Approvals. Storage vessels and equipment used for the storage or dispensing of LP-gas shall be approved or listed in accordance with Sections 2307.2.1 and 2307.2.2.

2307.2.1 Approved equipment. Containers, pressure relief devices (including pressure relief valves), pressure regulators and piping for LP-gas shall be approved.

2307.2.2 Listed equipment. Hoses, hose connections, vehicle fuel connections, dispensers, LP-gas pumps and electrical equipment used for LP-gas shall be listed.

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2307.3 Attendants. Motor fuel-dispensing operations for LP-gas shall be conducted by qualified attendants or in accordance with Section 2307.7 by persons trained in the proper handling of LP-gas.

2307.4 Location of dispensing operations and equipment. The point of transfer for LP-gas dispensing operations shall be separated from buildings and other exposures in accordance with the following:

1. Not less than 25 feet (7620 mm) from buildings where the exterior wall is not part of a fire-resistance-rated assembly having a rating of 1 hour or greater.

2. Not less than 25 feet (7620 mm) from combustible overhangs on buildings, measured from a vertical line dropped from the face of the overhang at a point nearest the point of transfer.

3. Not less than 25 feet (7620 mm) from the lot line of property that can be built ~~upon~~on.

4. Not less than 25 feet (7620 mm) from the centerline of the nearest mainline railroad track.

5. Not less than 10 feet (3048 mm) from public streets, highways, thoroughfares, sidewalks and driveways.

6. Not less than 10 feet (3048 mm) from buildings where the exterior wall is part of a fire-resistance-rated assembly having a rating of 1 hour or greater.

Exception: The point of transfer for LP-gas dispensing operations need not be separated from canopies that are constructed in accordance with the *building code* and that provide weather protection for the dispensing equipment.

LP-gas containers shall be located in accordance with Chapter 61. LP-gas storage and dispensing equipment shall be located outdoors.

2307.5 Additional requirements for LP-gas dispensers and equipment. LP-gas dispensers and related equipment shall comply with the following provisions.

1. Pumps shall be fixed in place and shall be designed to allow control of the flow and to prevent leakage and accidental discharge.

2. Dispensing devices installed within 10 feet (3048 mm) of where vehicle traffic occurs shall be protected against physical damage by mounting on a concrete island 6 inches (152 mm) or more in height, or shall be protected in accordance with Section 312.

3. Dispensing devices shall be securely fastened to their mounting surface in accordance with the dispenser manufacturer's instructions.

2307.6 Installation of LP-gas dispensing devices and equipment. The installation and operation of LP-gas dispensing systems shall be in accordance with Sections 2307.6.1 through 2307.6.4 and Chapter 61. LP-gas dispensers and dispensing stations shall be installed in accordance with the manufacturer's specifications and their listing.

2307.6.1 Product control valves. The dispenser system piping shall be protected from uncontrolled discharge in accordance with the following:

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1. Where mounted on a concrete base, a means shall be provided and installed within ½ inch (12.7 mm) of the top of the concrete base that will prevent flow from the supply piping in the event that the dispenser is displaced from its mounting.

2. A manual shutoff valve and an excess flow-control check valve shall be located in the liquid line between the pump and the dispenser inlet where the dispensing device is installed at a remote location and is not part of a complete storage and dispensing unit mounted on a common base.

3. An excess flow-control check valve or an emergency shutoff valve shall be installed in or on the dispenser at the point at which the dispenser hose is connected to the liquid piping.

4. A listed automatic-closing type hose nozzle valve with or without a latch-open device shall be provided on island-type dispensers.

2307.6.2 Hoses. Hoses and piping for the dispensing of LP-gas shall be provided with hydrostatic relief valves. The hose length shall not exceed 18 feet (5486 mm). An approved method shall be provided to protect the hose against mechanical damage.

2307.6.3 Emergency breakaway devices. Dispenser hoses shall be equipped with a listed emergency breakaway device designed to retain liquid on both sides of the breakaway point. Where hoses are attached to hose-retrieving mechanisms, the emergency breakaway device shall be located such that the breakaway device activates to protect the dispenser from being displaced.

2307.6.4 Vehicle impact protection. Where installed within 10 feet of vehicle traffic, LP-gas storage containers, pumps and dispensers shall be protected in accordance with Section 2307.5, Item 2.

2307.7 Public fueling of motor vehicles. Self-service LP-gas dispensing systems, including key, code and card lock dispensing systems, shall be limited to the filling of permanently mounted containers providing fuel to the LP-gas powered vehicle.

The requirements for self-service LP-gas dispensing systems shall be in accordance with the following:

1. The arrangement and operation of the transfer of product into a vehicle shall be in accordance with this section and Chapter 61.

2. The system shall be provided with an emergency shutoff switch located within 100 feet (30 480 mm) of, but not less than 20 feet (6096 mm) from, dispensers.

3. The owner of the LP-gas motor fuel-dispensing facility or the owner's designee shall provide for the safe operation of the system and the training of users.

4. The dispenser and hose-end valve shall release not more than ⅛ fluid ounce (4 cc) of liquid to the atmosphere upon breaking the connection with the fill valve on the vehicle.

5. Portable fire extinguishers shall be provided in accordance with Section 2305.5.

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6. Warning signs shall be provided in accordance with Section 2305.6.

7. The area around the dispenser shall be maintained in accordance with Section 2305.7.

2307.8 Overfilling. LP-gas containers shall not be filled with LP-gas in excess of the volume determined using the fixed maximum liquid level gauge installed on the container, the volume determined by the overfilling prevention device installed on the container or the weight determined by the required percentage of the water capacity marked on the container.

Section 2308 Compressed natural gas motor fuel-dispensing facilities

2308.1 General. Motor fuel-dispensing facilities for compressed natural gas (CNG) fuel shall be in accordance with this section, Chapter 53 and Section 413 of the International Fuel Gas Code.

2308.2 Approvals. Storage vessels and equipment used for the storage, compression or dispensing of CNG shall be approved or listed in accordance with Sections 2308.2.1 through ~~2308.2.2~~2308.2.4.

2308.2.1 Approved equipment. Containers, compressors, pressure relief devices (including pressure relief valves), and pressure regulators and piping used for CNG shall be approved.

2308.2.2 Listed equipment. Hoses, hose connections, dispensers~~, gas detection systems~~ and electrical equipment used for CNG shall be listed. Vehicle-fueling connections shall be listed and labeled.

2308.2.3 Residential fueling appliance (RFA). Residential fueling appliances shall be listed and installed in accordance with the installation requirements of CSA/ANSI NGV 5.1, manufacturer's installation instructions and Section 413 of the International Fuel Gas Code. The capacity of an RFA shall not exceed 5 cubic feet per minute (0.14 m^3/min) of natural gas.

2308.2.4 Vehicle fueling appliance (VFA). Nonresidential fueling appliances shall be listed and installed in accordance with the installation requirements of CSA/ANSI NGV 5.2, manufacturer's installation instructions and the requirements of Section 413 of the International Fuel Gas Code for VFAs. The capacity of the VFA shall not exceed 10 cubic feet per minute (0.28 m^3/min) of natural gas.

2308.3 Location of dispensing operations and equipment. Compression, storage and dispensing equipment shall be located above ground, ~~outside~~outdoors.

Exceptions:

1. Compression, storage or dispensing equipment shall be allowed in buildings of noncombustible construction, as set forth in the *building code*, that are unenclosed for three-quarters or more of the perimeter.

2. Compression, storage and dispensing equipment shall be allowed indoors or in vaults in accordance with Chapter 53.

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2308.3.1 Location on property. In addition to the requirements of Section 2303.1, compression, storage and dispensing equipment not located in vaults complying with Chapter 53 shall be installed as follows:

1. Not beneath power lines.

2. Ten feet (3048 mm) or more from the nearest building or lot line that could be built on, public street, sidewalk or source of ignition.

   Exception: Dispensing equipment need not be separated from canopies that are constructed in accordance with the *building code* and that provide weather protection for the dispensing equipment.

3. Twenty-five feet (7620 mm) or more from the nearest rail of any railroad track and 50 feet (15 240 mm) or more from the nearest rail of any railroad main track or any railroad or transit line where power for train propulsion is provided by an outside electrical source, such as third rail or overhead catenary.

4. Fifty feet (15 240 mm) or more from the vertical plane below the nearest overhead wire of a trolley bus line.

2308.4 Private fueling of motor vehicles. Self-service CNG-dispensing systems, including key, code and card lock dispensing systems, shall be limited to the filling of permanently mounted fuel containers on CNG-powered vehicles.

In addition to the requirements in Section 2305, the owner of a self-service CNG motor fuel-dispensing facility shall ensure the safe operation of the system and the training of users.

2308.5 Pressure regulators. Pressure regulators shall be designed and installed or protected so that their operation will not be affected by the elements (freezing rain, sleet, snow or ice), mud or debris. The protection is allowed to be an integral part of the regulator.

2308.6 Valves. Gas piping to equipment shall be provided with a remote, ~~readily accessible~~ manual shutoff valve that is provided with ready access.

2308.7 Emergency shutdown control. An emergency shutdown control shall be located within 75 feet (22 860 mm) of, but not less than 25 feet (7620 mm) from, dispensers and shall also be provided in the compressor area. Upon activation, the emergency shutdown system shall automatically shut off the power supply to the compressor and close valves between the main gas supply and the compressor and between the storage containers and dispensers.

2308.8 Discharge of CNG from motor vehicle fuel storage containers. The discharge of CNG from motor vehicle fuel cylinders for the purposes of maintenance, cylinder certification, calibration of dispensers or other activities shall be in accordance with Sections 2308.8.1 through 2308.8.1.2.6.

2308.8.1 Methods of discharge. The discharge of CNG from motor vehicle fuel cylinders shall be accomplished through a closed transfer system in accordance with Section 2308.8.1.1 or an approved method of atmospheric venting in accordance with Section 2308.8.1.2.

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2308.8.1.1 Closed transfer system. A documented procedure that explains the logical sequence for discharging the cylinder shall be provided to the fire code official for review and approval. The procedure shall include what actions the operator will take in the event of a low-pressure or high-pressure natural gas release during the discharging activity. A drawing illustrating the arrangement of piping, regulators and equipment settings shall be provided to the fire code official for review and approval. The drawing shall illustrate the piping and regulator arrangement and shall be shown in spatial relation to the location of the compressor, storage vessels and emergency shutdown devices.

2308.8.1.2 Atmospheric venting. Atmospheric venting of CNG shall comply with Sections 2308.8.1.2.1 through 2308.8.1.2.6.

2308.8.1.2.1 Plans and specifications. A drawing illustrating the location of the vessel support, piping, the method of grounding and bonding, and other requirements specified herein shall be provided to the fire code official for review and approval.

2308.8.1.2.2 Cylinder stability. A method of rigidly supporting the vessel during the venting of CNG shall be provided. The selected method shall provide not less than two points of support and shall prevent the horizontal and lateral movement of the vessel. The system shall be designed to prevent the movement of the vessel based on the highest gas-release velocity through valve orifices at the vessel's rated pressure and volume. The structure or appurtenance shall be constructed of noncombustible materials.

2308.8.1.2.3 Separation. The structure or appurtenance used for stabilizing the cylinder shall be separated from the site equipment, features and exposures and shall be located in accordance with Table 2308.8.1.2.3.

Table 2308.8.1.2.3
Separation distance for atmospheric venting of CNG

Equipment or feature	Minimum separation (feet)
Buildings	25
Building openings	25
CNG compressor and storage vessels	25
CNG dispensers	25
Lot lines	15
Public ways	15
Vehicles	25

For SI: 1 foot = 304.8 mm.

2308.8.1.2.4 Grounding and bonding. The structure or appurtenance used for supporting the cylinder shall be grounded in accordance with NFPA 70. The cylinder valve shall be bonded prior to the commencement of venting operations.

2308.8.1.2.5 Vent tube. A vent tube that will divert the gas flow to the atmosphere shall be installed on the cylinder prior to commencement of the venting and purging operation. The vent tube shall be constructed of pipe or tubing materials approved for use with CNG in accordance with Chapter 53.

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The vent tube shall be capable of dispersing the gas not less than 10 feet (3048 mm) above grade level. The vent tube shall not be provided with a rain cap or other feature that would limit or obstruct the gas flow.

At the connection fitting of the vent tube and the CNG cylinder, a listed bidirectional detonation flame arrester shall be provided.

2308.8.1.2.6 Signage. "No Smoking" signs complying with Section 310 shall be posted within 10 feet (3048 mm) of the cylinder support structure or appurtenance. *Signs that read* "Cylinder Shall Be Bonded" shall be posted on the cylinder support structure or appurtenance.

Section 2309 Hydrogen motor fuel-dispensing and generation facilities

2309.1 General. Hydrogen motor fuel-dispensing and generation facilities shall be in accordance with this section, Chapter 58 and NFPA 2. Where a fuel-dispensing facility includes a repair garage, the repair operation shall comply with Section 2311.

2309.2 Equipment. Equipment used for the generation, compression, storage or dispensing of hydrogen shall be designed for the specific application in accordance with Sections 2309.2.1 through 2309.2.3.

2309.2.1 Approved equipment. Cylinders, containers and tanks; pressure relief devices, including pressure valves; hydrogen vaporizers; pressure regulators; and piping used for gaseous hydrogen systems shall be designed and constructed in accordance with Chapters 53, 55 and 58.

2309.2.2 Listed or approved equipment. Hoses, hose connections, compressors, hydrogen generators, dispensers, ~~detection systems~~ motor-fueling connections and electrical equipment used for hydrogen shall be listed ~~or approved for use with hydrogen. Hydrogen motor-fueling connections shall be listed and labeled~~ or approved for use with hydrogen.

2309.2.3 Electrical equipment. Electrical installations shall be in accordance with NFPA 70.

2309.3 Location on property. In addition to the requirements of Section 2303.1, dispensing equipment shall be located in accordance with Sections 2309.3.1 through ~~2309.3.3~~2309.3.2.

2309.3.1 Location of ~~dispensing~~ operations and equipment. Generation, compression, storage and dispensing equipment shall be located in accordance with Sections 2309.3.1.1 through 2309.3.1.5.5.

2309.3.1.1 Outdoors. Generation, compression, or storage equipment shall be allowed outdoors in accordance with Chapter 58 and NFPA 2.

2309.3.1.2 Indoors. Generation, compression, storage and dispensing equipment shall be located in indoor rooms or areas constructed in accordance with the requirements of the *building code*, the International Fuel Gas Code, the *mechanical code* and NFPA 2.

2309.3.1.2.1 Maintenance. Gaseous hydrogen systems and detection devices shall be maintained in accordance with the manufacturer's instructions.

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2309.3.1.2.2 Smoking. Smoking shall be prohibited in hydrogen cutoff rooms. “No Smoking” signs shall be provided at all entrances to hydrogen fuel gas rooms.

2309.3.1.2.3 Ignition source control. Open flames, flame-producing devices and other sources of ignition shall be controlled in accordance with Chapter 58.

2309.3.1.2.4 Housekeeping. Hydrogen fuel gas rooms shall be kept free from combustible debris and storage.

2309.3.1.3 Gaseous hydrogen storage. Storage of gaseous hydrogen shall be in accordance with Chapters 53 and 58.

2309.3.1.4 Liquefied hydrogen storage. Storage of liquefied hydrogen shall be in accordance with Chapters 55 and 58.

2309.3.1.5 Canopy tops. Gaseous hydrogen compression and storage equipment located on top of motor fuel-dispensing facility canopies shall be in accordance with Sections 2309.3.1.5.1 through 2309.3.1.5.5, Chapters 53 and 58 and the International Fuel Gas Code.

2309.3.1.5.1 Construction. Canopies shall be constructed in accordance with the motor fuel-dispensing facility canopy requirements of Section 406.7 of the *building code*.

2309.3.1.5.2 Fire-extinguishing systems. Fuel-dispensing areas under canopies shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. The design of the sprinkler system shall be not less than that required for Extra Hazard Group 2 occupancies. Operation of the sprinkler system shall activate the emergency functions of Sections 2309.3.1.5.3 and 2309.3.1.5.4.

2309.3.1.5.3 Emergency discharge. Operation of the automatic sprinkler system shall activate an automatic emergency discharge system, which will discharge the hydrogen gas from the equipment on the canopy top through the vent pipe system.

2309.3.1.5.4 Emergency shutdown control. Operation of the automatic sprinkler system shall activate the emergency shutdown control required by Section 2309.5.3.

2309.3.1.5.5 Signage. Approved signage having 2-inch (51 mm) block letters shall be affixed at approved locations on the exterior of the canopy structure stating: CANOPY TOP HYDROGEN STORAGE.

2309.3.2 Canopies. Dispensing equipment need not be separated from canopies of Type I or II construction that are constructed in a manner that prevents the accumulation of hydrogen gas and in accordance with Section 406.7 of the *building code*.

2309.4 Dispensing into motor vehicles at ~~self-service~~ hydrogen motor fuel-dispensing facilities. ~~Self-service hydrogen~~ Hydrogen motor fuel-dispensing systems, including key, code and card lock dispensing systems, shall be limited to the filling of permanently mounted motor vehicle fuel ~~containers~~tanks on hydrogen-powered vehicles.

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In addition to the requirements in Section 2311, the owner of a ~~self-service~~ hydrogen motor fuel-dispensing facility shall provide for the safe operation of the system by complying with this code and the fueling protocols in NFPA 2 and through the institution of a fire safety plan submitted in accordance with Section 404, the training of employees and operators who use and maintain the system in accordance with Section 406, and provisions for hazard communication in accordance with Section 407.

Exception: Filling of nonpermanently mounted storage containers or tanks for motor fuel-dispensing system testing purposes is permitted.

2309.4.1 Dispensing systems. Dispensing systems shall be equipped with an overpressure protection device set at not greater than 140 percent of the service pressure of the fueling nozzle it supplies.

2309.5 Safety precautions. Safety precautions at hydrogen motor fuel-dispensing and generation facilities shall be in accordance with Sections 2309.5.1 through 2309.5.3.1.

2309.5.1 Protection from vehicles. Guard posts or other approved means shall be provided to protect hydrogen storage systems and use areas subject to vehicular damage in accordance with Section 312.

2309.5.1.1 Vehicle fueling pad. The vehicle shall be fueled on noncoated concrete or other approved paving material having a resistance not exceeding 1 megohm as determined by the methodology specified in EN 1081.

2309.5.2 Emergency shutoff valves. A manual emergency shutoff valve shall be provided to shut down the flow of gas from the hydrogen supply to the piping system.

2309.5.2.1 Identification. Manual emergency shutoff valves shall be identified and the location shall be clearly visible, accessible and indicated by means of a sign.

2309.5.3 Emergency shutdown controls. In addition to the manual emergency shutoff valve required by Section 2309.5.2, a remotely located, manually activated emergency shutdown control shall be provided. An emergency shutdown control shall be located within 75 feet (22 860 mm) of, but not less than 25 feet (7620 mm) from, dispensers and hydrogen generators.

2309.5.3.1 System requirements. Activation of the emergency shutdown control shall automatically shut off the power supply to all hydrogen storage, compression and dispensing equipment; shut off natural gas or other fuel supply to the hydrogen generator; and close valves between the main supply and the compressor and between the storage containers and dispensing equipment.

~~(6) **2309.6 Defueling of hydrogen from fuel storage containers.** The discharge or defueling of hydrogen from fuel storage tanks for the purpose of maintenance, cylinder certification, calibration of dispensers or other activities shall be in accordance with *paragraphs* (I)(6)(a)(2309.6.1) *to* (I)(6)(a)(ii)(*d*)(2309.6.1.2.4) *of this rule*.~~

~~(a) **2309.6.1 Methods of discharge.** The discharge of hydrogen from fuel storage tanks shall be accomplished through a closed transfer system in accordance with *paragraph* (I)(6)(a)(i)(2309.6.1.1) *of this rule* or a method of atmospheric venting in accordance with *paragraph* (I)(6)(a)(ii)(2309.6.1.2) *of this rule*.~~

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(i) **2309.6.1.1 Closed transfer system.** A documented procedure that explains the logic sequence for discharging the storage tank shall be provided to the fire code official for review and approval. The procedure shall include what actions the operator is required to take in the event of a low-pressure or high-pressure hydrogen release during discharging activity. Schematic design documents shall be provided illustrating the arrangement of piping, regulators and equipment settings. The construction documents shall illustrate the piping and regulator arrangement and shall be shown in spatial relation to the location of the compressor, storage vessels and emergency shutdown devices.

(ii) **2309.6.1.2 Atmospheric venting of hydrogen from fuel storage containers.** Where atmospheric venting is used for the discharge of hydrogen from fuel storage tanks, such venting shall be in accordance with *paragraphs* (I)(6)(a)(ii)(*a*)(2309.6.1.2.1) *to* (I)(6)(a)(ii)(*a*)(*iv*)(2309.6.1.2.1.4) *of this rule*.

(*a*) **2309.6.1.2.1 Defueling equipment.** Equipment used for defueling shall be listed and labeled or approved for the intended use.

(*i*) **2309.6.1.2.1.1 Manufacturer's equipment required.** Equipment supplied by the manufacturer shall be used to connect the storage tanks to be defueled to the vent pipe system.

(*ii*) **2309.6.1.2.1.2 Vent pipe maximum diameter.** Defueling vent pipes shall have a maximum inside diameter of 1 inch (25 mm).

(*iii*) **2309.6.1.2.1.3 Maximum flow rate.** The maximum rate of hydrogen flow through the vent pipe system shall not exceed 1,000 cfm at NTP (0.47 m^3/s) and shall be controlled by means of the manufacturer's equipment, at low pressure and without adjustment.

(*iv*) **2309.6.1.2.1.4 Isolated use.** The vent pipe used for defueling shall not be connected to another venting system used for any other purpose.

(*b*) **2309.6.1.2.2 Construction documents.** Construction documents shall be provided illustrating the defueling system to be utilized. Plan details shall be of sufficient detail and clarity to allow for evaluation of the piping and control systems to be utilized and include the method of support for cylinders, containers or tanks to be used as part of a closed transfer system, the method of grounding and bonding and other requirements specified herein.

(*c*) **2309.6.1.2.3 Stability of cylinders, containers and tanks.** A method of rigidly supporting cylinders, containers or tanks used during the closed transfer system discharge or defueling of hydrogen shall be provided. The method shall provide not less than two points of support and shall be designed to resist lateral movement of the receiving cylinder, container or tank. The system shall be designed to resist movement of the receiver based on the highest gas-release velocity through valve orifices at the receiver's rated service pressure and volume. Supporting structures or appurtenances used to support receivers shall be constructed of noncombustible materials in accordance with the *building code as listed in rule 1301:7-7-80 of the Administrative Code*.

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(*d*) **2309.6.1.2.4 Grounding and bonding.** Cylinders, containers or tanks and piping systems used for defueling shall be bonded and grounded. Structures or appurtenances used for supporting the cylinders, containers or tanks shall be grounded in accordance with NFPA 70 *as listed in rule 1301:7-7-80 of the Administrative Code*. The valve of the vehicle storage tank shall be bonded with the defueling system prior to the commencement of discharge or defueling operations.

(b) **2309.6.2 Repair of hydrogen piping.** Piping systems containing hydrogen shall not be opened to the atmosphere for repair without first purging the piping with an inert gas to achieve 1 *per cent* hydrogen or less by volume. Defueling operations and exiting purge flow shall be vented in accordance with *paragraph* (I)(6)(a)(ii)(2309.6.1.2) *of this rule*.

(c) **2309.6.3 Purging.** Each individual manufactured component of a hydrogen generating, compression, storage or dispensing system shall have a label affixed as well as a description in the installation and owner's manuals describing the procedure for purging air from the system during startup, regular maintenance and for purging hydrogen from the system prior to disassembly (to admit air).

For the interconnecting piping between the individual manufactured components, the pressure rating must be not less than 20 times the absolute pressure present in the piping when any hydrogen meets any air.

(i) **2309.6.3.1 System purge required.** After installation, repair or maintenance, the hydrogen piping system shall be purged of air in accordance with the manufacturer's procedure for purging air from the system.

2309.6 Repairs, purging, defueling and discharge. The repair, purging, defueling or discharge activities associated with hydrogen motor fuel dispensing and generation systems, storage tanks and the installation of the systems shall be in accordance with Chapters 53 and 58 and NFPA 2.

Exception: The motor vehicle fuel tank and the fuel supply piping from the motor vehicle fuel tank to the engine compartment on a motor vehicle or forklift unless the fuel tank is required to be defueled in accordance with Section 2311.8.11.

2309.6.1 Documented procedure. A documented procedure that explains the logic sequence for defueling or discharging operations shall be maintained on site and shall be provided to the fire code official upon request. The procedure shall include what actions the operator is required to take in the event of a low-pressure or high-pressure hydrogen release during discharging activity. Schematic design documents shall be maintained on site, illustrating the arrangement of piping, regulators and equipment settings. The schematic shall illustrate the piping and regulator arrangement and shall be shown in spatial relation to the location of the vehicle being defueled and, if applicable, to the compressor, storage vessels and emergency shutdown devices.

Section 2310 Marine motor fuel-dispensing facilities

2310.1 General. The construction of marine motor fuel-dispensing facilities shall be in accordance with the *building code* and NFPA 30A. The storage of Class I, II or IIIA liquids at marine motor fuel-dispensing facilities shall be in accordance with *this chapter* and *Chapter 57*. *Where underground storage of flammable or combustible liquids is impractical due to geological conditions of the site, shore tanks supplying marine service stations may be located aboveground*

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in special enclosures, vaults or protected aboveground tanks which provide physical protection and fire-resistive protection as a unit, when approved by the fire code official. The request to install such aboveground tanks shall be accompanied by a site survey which supports the request. The survey shall be prepared by a registered professional engineer of the appropriate discipline.

2310.2 Storage and handling. The storage and handling of Class I, II or IIIA liquids at marine motor fuel-dispensing facilities shall be in accordance with Sections 2310.2.1 through 2310.2.3.

2310.2.1 Class I, II or IIIA liquid storage. Class I, II or IIIA liquids stored inside ~~of~~ buildings used for marine motor fuel-dispensing facilities shall be stored in approved containers or portable tanks. Storage of Class I liquids shall not exceed 10 gallons (38 L).

Exception: Storage in liquid storage rooms in accordance with Section 5704.3.7.

2310.2.2 Class II or IIIA liquid storage and dispensing. Class II or IIIA liquids stored or dispensed inside ~~of~~ buildings used for marine motor fuel-dispensing facilities shall be stored in and dispensed from approved containers or portable tanks. Storage of Class II and IIIA liquids shall not exceed 120 gallons (454 L).

2310.2.3 Heating equipment. Heating equipment installed in Class I, II or IIIA liquid storage or dispensing areas shall comply with Section 2301.6.

2310.3 Dispensing. The dispensing of liquid fuels at marine motor fuel-dispensing facilities shall comply with Sections 2310.3.1 through 2310.3.5.

2310.3.1 General. Wharves, piers or floats at marine motor fuel-dispensing facilities shall be used exclusively for the dispensing or transfer of petroleum products to or from marine craft, except that transfer of essential ship stores is allowed.

2310.3.2 Supervision. Marine motor fuel-dispensing facilities shall have an attendant or supervisor who is fully aware of the operation, mechanics and hazards inherent to fueling of boats on duty whenever the facility is open for business. The attendant's primary function shall be to supervise, observe and control the dispensing of Class I, II or IIIA liquids or flammable gases.

2310.3.3 Hoses and nozzles. Dispensing of Class I, II or IIIA liquids into the fuel tanks of marine craft shall be by means of an approved hose equipped with a listed automatic-closing nozzle without a latch-open device.

Hoses used for dispensing or transferring Class I, II or IIIA liquids, when not in use, shall be reeled, racked or otherwise protected from mechanical damage.

2310.3.4 Portable containers. Dispensing of Class I, II or IIIA liquids into containers, other than fuel tanks, shall be in accordance with Section 2304.4.1.

2310.3.5 Liquefied petroleum gas. Liquefied petroleum gas cylinders shall not be filled at marine motor fuel-dispensing facilities unless approved. Storage facilities for LP-gas cylinders shall be provided *in accordance with Section* 2307.

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2310.4 Fueling of marine vehicles at other than approved marine motor fuel-dispensing facilities. Fueling of floating marine craft at other than a marine motor fuel-dispensing facility shall comply with Sections 2310.4.1 and 2310.4.2.

2310.4.1 Class I liquid fuels. Fueling of floating marine craft with Class I fuels at other than a marine motor fuel-dispensing facility is prohibited.

2310.4.2 Class II or III liquid fuels. Fueling of floating marine craft with Class II or III fuels at other than a marine motor fuel-dispensing facility shall be in accordance with all of the following:

1. The premises and operations shall be approved by the fire code official.
2. Tank vehicles and fueling operations shall comply with Section 5706.6.
3. The dispensing nozzle shall be of the listed automatic-closing type without a latch-open device.
4. Nighttime deliveries shall ~~only~~ be made only in lighted areas.
5. The tank vehicle flasher lights shall be in operation while dispensing.
6. Fuel expansion space shall be left in each fuel tank to prevent overflow in the event of temperature increase.

2310.5 Fire prevention regulations. General fire safety regulations for marine motor fuel-dispensing facilities shall comply with Sections 2310.5.1 through 2310.5.7.

2310.5.1 Housekeeping. Marine motor fuel-dispensing facilities shall be maintained in a neat and orderly manner. Accumulations of rubbish or waste oils in excessive amounts shall be prohibited.

2310.5.2 Spills. Spills of Class I, II or IIIA liquids at or on the water shall be reported immediately to the fire department and jurisdictional authorities.

2310.5.3 Rubbish containers. Containers with tight-fitting or self-closing lids shall be provided for temporary storage of combustible debris, rubbish and waste material. The rubbish containers shall be constructed entirely of materials that comply with any one of the following:

1. Noncombustible materials.
2. Materials that meet a peak rate of heat release not exceeding 300 kW/m^2 when tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m^2 in the horizontal orientation.

2310.5.4 Marine vessels and craft. Vessels or craft shall not be made fast to fuel docks serving other vessels or craft occupying a berth at a marine motor fuel-dispensing facility.

2310.5.5 Sources of ignition. Construction, maintenance, repair and reconditioning work involving the use of open flames, arcs or spark-producing devices shall not be performed at

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marine motor fuel-dispensing facilities or within 50 feet (15 240 mm) of the dispensing facilities, including piers, wharves or floats, except for emergency repair work approved in writing by the fire code official. Fueling shall not be conducted at the pier, wharf or float during the course of such emergency repairs.

2310.5.5.1 Smoking. Smoking or open flames shall be prohibited within 50 feet (15 240 mm) of fueling operations. "No Smoking" signs complying with Section 310 shall be posted conspicuously about the premises. Such signs shall have letters not less than 4 inches (102 mm) in height on a background of contrasting color.

2310.5.6 Preparation of tanks for fueling. Boat owners and operators shall not offer their craft for fueling unless the tanks being filled are properly vented to dissipate fumes to the outside atmosphere.

2310.5.7 Warning signs. Warning signs shall be prominently ~~predominately~~ displayed at the face of each wharf, pier or float at such elevation as to be clearly visible from the decks of marine craft being fueled. Such signs shall have letters not less than 3 inches (76 mm) in height on a background of contrasting color bearing the following or approved equivalent wording:

WARNING
NO SMOKING-STOP ENGINE WHILE FUELING,
SHUT OFF ELECTRICITY.

DO NOT START ENGINE UNTIL AFTER BELOW
DECK SPACES ARE VENTILATED.

2310.6 Fire protection. Fire protection features for marine motor fuel-dispensing facilities shall comply with Sections 2310.6.1 through 2310.6.4.

2310.6.1 Standpipe hose stations. Fire hose, where provided, shall be enclosed within a cabinet, and hose stations shall be labeled: FIRE HOSE-EMERGENCY USE ONLY.

2310.6.2 Obstruction of fire protection equipment. Materials shall not be placed on a pier in such a manner as to obstruct access to fire-fighting equipment or piping system control valves.

2310.6.3 Access. Where the pier is ~~accessible to~~ designed for vehicular traffic, an unobstructed roadway to the shore end of the wharf shall be maintained for access by fire apparatus.

2310.6.4 Portable fire extinguishers. Portable fire extinguishers in accordance with Section 906, each having a minimum rating of 20-B:C, shall be provided as follows:

1. One on each float.

2. One on the pier or wharf within 25 feet (7620 mm) of the head of the gangway to the float, unless the office is within 25 feet (7620 mm) of the gangway or is on the float and an extinguisher is provided thereon.

Section 2311 Repair garages

Note: for copyright claim information, please see the notice on the last page of this rule.

2311.1 General. Repair garages shall comply with this section and the *building code*. Repair garages for vehicles that use more than one type of fuel shall comply with the applicable provisions of this section for each type of fuel used.

Where a repair garage includes a motor fuel-dispensing facility, the fuel-dispensing operation shall comply with the requirements of this chapter for motor fuel-dispensing facilities.

2311.2 Storage and use of flammable and combustible liquids. The storage and use of flammable and combustible liquids in repair garages shall comply with Chapter 57 and Sections 2311.2.1 through 2311.2.4.

2311.2.1 Cleaning of parts. Cleaning of parts shall be conducted in approved parts-cleaning machines in accordance with Chapter 57.

2311.2.2 Waste oil, motor oil and other Class IIIB liquids. Waste oil, motor oil and other Class IIIB liquids shall be stored in tanks or containers *approved in accordance with Chapter 57*, which are allowed to be stored and dispensed from inside repair garages.

2311.2.2.1 Tank location. Tanks storing Class IIIB liquids in repair garages are allowed to be located at, below or above grade, provided that adequate drainage or containment is provided.

2311.2.2.2 Liquid classification. Crankcase drainings shall be classified as Class IIIB liquids unless otherwise determined by testing.

2311.2.3 Drainage and disposal of liquids and oil-soaked waste. Garage floor drains, where provided, shall drain to oil separators or traps discharging to a sewer in accordance with the *plumbing code*. Contents of oil separators, traps and floor drainage systems shall be collected at sufficiently frequent intervals and removed from the premises to prevent oil from being carried into the sewers.

2311.2.3.1 Disposal of liquids. Crankcase drainings and liquids shall not be dumped into sewers, streams or on the ground, but shall be stored in tanks or containers in accordance with Chapter 57 until removed from the premises.

2311.2.3.2 Disposal of oily waste. Self-closing metal cans shall be used for oily waste.

2311.2.4 Spray finishing. Spray finishing with flammable or combustible liquids shall comply with Chapter 24.

2311.3 Sources of ignition. Sources of ignition shall not be located within 18 inches (457 mm) of the floor and shall comply with Chapters 3 and 35.

2311.3.1 Equipment. Appliances and equipment installed in a repair garage shall comply with the provisions of the *building code*, the *mechanical code* and NFPA 70.

2311.3.2 Smoking. Smoking shall not be allowed in repair garages except in approved locations.

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2311.4 Below-grade areas. Pits and below-grade work areas in repair garages shall comply with Sections 2311.4.1 through 2311.4.3.

2311.4.1 Construction. Pits and below-grade work areas shall be constructed in accordance with the *building code*.

2311.4.2 Means of egress. Pits and below-grade work areas shall be provided with means of egress in accordance with Chapter 10.

2311.4.3 Ventilation. Where Class I liquids or LP-gas are stored or used within a building having a basement or pit wherein flammable vapors could accumulate, the basement or pit shall be provided with mechanical ventilation in accordance with the *mechanical code*, at a minimum rate of 1½ cubic feet per minute per square foot (cfm/ft^2) [0.008 m^3/(s●m^2)] to prevent the accumulation of flammable vapors.

2311.5 Vehicles powered by liquefied petroleum gas (LP-gas). Vehicles powered by LP-gas and the servicing of vehicles powered by LP-gas shall be in compliance with this chapter, Chapter 61 of this code and NFPA 58.

2311.6 Vehicles powered by liquefied natural gas (LNG) and compressed natural gas (CNG). LNG vehicles and CNG vehicles shall comply with Sections 2311.6.1 and 2311.6.2, as applicable.

2311.6.1 Liquefied natural gas (LNG). LNG vehicle fuel system pressure shall be measured and recorded prior to entering the repair facility. The maximum allowable system pressure shall be not more than 170 psig (1172 kPa). Pressure greater than 170 psig (1172 kPa) shall be reduced by operating the vehicle or limited venting outdoors, as required.

2311.6.2 Compressed natural gas (CNG). CNG vehicle fuel system pressure and the ambient temperature shall be measured and recorded prior to entering the repair facility. Pressure greater than the indicated maximum pressure in accordance with Table 2311.6.2 shall be reduced by defueling the vehicle.

Table 2311.6.2
Temperature compensated cylinder pressure table[a]

Gas temperature °F	Pressure in full 3,600 psi CNG container, psig
123.6	4,500
120	4,455
110	4,272
100	4,105
90	3,936
80	3,768
70	3,600
60	3,432
50	3,263
40	3,094
30	2,926
20	2,757

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10	2,589
0	2,421
-10	2,253
-20	2,086
-30	1,919
-40	1,753

For SI: °C = [(°F)-32]/1.8, 1 psig = 6.895 kPa.

a. 3,600 psi service pressure calculated from the standard gas composition used to create the gasoline gallon equivalent (GGE).

2311.7 Fire extinguishers. Fire extinguishers shall be provided in accordance with Section 906.

2311.8 Repair garages for vehicles fueled by lighter-than-air fuels. The room, motor vehicle repair booth or motor vehicle repair space containing repair garage activities for the conversion or repair of vehicles that use CNG, LNG, hydrogen or other lighter-than-air motor fuels shall be in accordance with Sections 2311.8 through 2311.8.11 in addition to the other requirements of Section 2311.

Repair garages for the repair of vehicles that use hydrogen fuel shall be in accordance with this code and NFPA 2.

Exceptions:

1. Repair garages where work is conducted only on vehicles where the motor vehicle fuel tank and system have been defueled and the motor vehicle fuel tank has been purged with nitrogen gas, and where standard operating procedures to document and maintain the fueling status throughout repair operations are approved.

2. Repair garages where work is not performed on the fuel system and is limited to exchange of parts and maintenance not requiring open flame or welding on the CNG-, LNG-, hydrogen- or other lighter-than-air-fueled motor vehicle. Movement of a subassembly on which the motor vehicle fuel tank remains mounted to allow access to other parts of the vehicle that are not a portion of the fuel system shall be permitted.

3. Repair garages for hydrogen-fueled vehicles where work is not performed on the motor vehicle fuel tank and is limited to the exchange of parts and maintenance not requiring open flame or welding on the hydrogen-fueled vehicle. During the work, the entire hydrogen fuel system shall contain less than 400 cubic feet (11.3m^3) of hydrogen.

4. Repair garages for natural-gas-fueled vehicles where work is not being performed on the motor vehicle fuel tank and is limited to the exchange of parts and maintenance not requiring open flame or welding on the natural-gas-fueled vehicle. During the work, the natural gas, in the motor vehicle fuel tank shall contain a pressure of not more than 250 psi at 70°F (1724 kPa at 21°C).

~~(5) 2311.5~~ **2311.8.1 Preparation of vehicles for repair.** For vehicles powered by gaseous fuels, the fuel shutoff valves shall be closed prior to repairing any portion of the vehicle fuel system.

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Vehicles powered by gaseous fuels in which the fuel system has been damaged shall be inspected and evaluated for fuel system integrity prior to being brought into the repair garage. The inspection shall include testing of the entire fuel delivery system for leakage.

2311.8.2 Repair garages used for the repair of hydrogen-fueled vehicles. Repair garages used for the repair of hydrogen-fueled vehicles shall be provided with an approved exhaust ventilation system in accordance with the *mechanical code* and Chapter 6 of NFPA 2.

2311.8.3 Motor vehicle repair rooms. Motor vehicle repair rooms shall be enclosed with not less than 1-hour fire barriers constructed in accordance with Section 707 of the *building code*, or horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both, with 1-hour rated opening protectives.

2311.8.4 Motor vehicle repair booths. The design and construction of motor vehicle repair booths shall be in accordance with Sections 2311.8.4.1 through 2311.8.4.4.

2311.8.4.1 Construction. Motor vehicle repair booths shall be constructed of approved noncombustible materials. Where walls or ceiling assemblies are constructed of sheet metal, single-skin assemblies shall be not thinner than 0.0478 inch (18 gage) (1.2 mm) and each sheet of double-skin assemblies shall be not thinner than 0.0359 inch (20 gage) (0.9 mm). Structural sections of motor vehicle repair booths shall be sealed in an approved manner.

2311.8.4.2 Surfaces. The interior surfaces of motor vehicle repair booths shall be constructed to permit the free passage of exhaust air from all parts of the interior.

2311.8.4.3 Means of egress. Means of egress shall be provided in accordance with Chapter 10.

Exception: Means of egress doors from premanufactured motor vehicle repair booths shall be not less than 30 inches (762 mm) in width by 80 inches (2032 mm) in height.

2311.8.4.4 Clear space. Motor vehicle repair booths shall be installed so that all parts of the booth be provided with ready access for cleaning. A clear area of not less than 3 feet (914 mm) wide shall be maintained on all sides of the motor vehicle repair booth. This clear area shall be kept free of any storage or combustible construction.

Exceptions:

1. This requirement shall not prohibit locating a motor vehicle repair booth closer than 3 feet (914 mm) to or directly against an interior partition, wall or floor/ceiling assembly that has a fire-resistance rating of not less than 1 hour, provided that the motor vehicle repair booth can be adequately maintained and cleaned.

2. This requirement shall not prohibit locating a motor vehicle repair booth closer than 3 feet (914 mm) to an exterior wall or a roof assembly, provided that the wall or roof is constructed of noncombustible material and the motor vehicle repair booth can be adequately maintained and cleaned.

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2311.8.5 Motor vehicle repair spaces. Where such spaces are not separately enclosed, noncombustible spray curtains shall be provided to restrict the spread of flammable gases.

2311.8.6 Fire protection. Motor vehicle repair booths or spaces installed in a room or area protected by an automatic sprinkler system shall have the protection extended to include the inside of the motor vehicle repair booth or space.

~~2311.6~~2311.8.7 **Fire extinguishers.** Portable ~~F~~fire extinguishers ~~shall be provided in accordance~~ complying with Section 906 shall be provided for motor vehicle repair rooms, motor vehicle repair booths or motor vehicle repair spaces.

~~(7) **2311.7 Repair garages for vehicles fueled by lighter-than-air fuels.** Repair garages for the conversion and repair of vehicles that use CNG, liquefied natural gas (LNG), hydrogen or other lighter-than-air motor fuels shall be in accordance with *paragraphs* (K)(7)(2311.7) *to* (K)(7)(b)(iii)(2311.7.2.3) *of this rule* in addition to the other requirements of *paragraph* (K)(2311) *of this rule*.~~

~~**Exceptions:**~~

~~1. Repair garages where work is not performed on the fuel system and is limited to exchange of parts and maintenance not requiring open flame or welding on the CNG-, LNG-, hydrogen- or other lighter-than-air-fueled motor vehicle.~~

~~2. Repair garages for hydrogen-fueled vehicles where work is not performed on the hydrogen storage tank and is limited to the exchange of parts and maintenance not requiring open flame or welding on the hydrogen-fueled vehicle. During the work, the entire hydrogen fuel system shall contain a quantity that is less than 200 cubic feet (5.6 m^3) of hydrogen.~~

~~2311.7.1~~2311.8.8 **Exhaust ~~V~~ventilation.** Repair garages used for the repair of CNG, LNG, or other lighter-than-air motor fuels other than hydrogen ~~natural gas or hydrogen-fueled vehicles~~ shall be provided with ~~*a*~~ mechanical ventilation system. The mechanical exhaust ventilation system shall be in accordance with the *mechanical code* and Sections ~~2311.7.1.1~~ 2311.8.8.1 and ~~2311.7.1.2~~ 2311.8.8.2.

Exception: ~~Repair garages with natural ventilation when approved.~~Where approved by the fire code official, natural ventilation shall be permitted in lieu of mechanical exhaust ventilation.

~~2311.7.1.1~~2311.8.8.1 **Design.** For ~~I~~indoor locations, ~~shall be ventilated utilizing~~ air supply inlets and exhaust outlets for mechanical ventilation shall be arranged to provide uniformly distributed air movement ~~to the extent practical. I~~with inlets ~~shall be~~ uniformly arranged on ~~exterior~~ walls near floor level. and ~~O~~outlets ~~shall be located~~ at the high point of the room in ~~exterior~~ walls or the roof.

~~Ventilation shall be by a continuous mechanical ventilation system or by a mechanical ventilation system activated by a continuously monitoring natural gas detection system or, for hydrogen, a continuously monitoring flammable gas detection system, each activating at a gas concentration of not more than 25 *per cent* of the lower flammable limit (LFL). In all cases, the system shall shut down the fueling system in the event of failure of the~~

~~ventilation system.~~Failure of the ventilation system shall cause the fueling system to shut down.

The exhaust ventilation rate shall be not less than 1 cubic foot per minute (0.03 m^3/minute) per 12 cubic feet ~~[0.00139 m^3 x ($s \cdot m^3$)]~~(34 m^3) of room volume.

~~2311.7.1.2~~2311.8.8.2 **Operation.** The mechanical exhaust ventilation system shall operate continuously.

Exceptions:

1. Mechanical exhaust ventilation systems that are interlocked with a gas detection system designed in accordance with Sections ~~2311.7.2~~ 2311.8.9 through ~~2311.7.2.3~~ 2311.8.9.2.

2. Mechanical exhaust ventilation systems in repair garages that are used only for repair of vehicles fueled by liquid fuels or odorized gases, such as CNG, where the ventilation system is electrically interlocked with the lighting circuit.

~~2311.7.2~~2311.8.9 **Gas detection system.** Repair garages used for repair of vehicles fueled by nonodorized gases including, but not limited to, hydrogen and nonodorized LNG, shall be provided with a ~~flammable~~ gas detection system that complies with Section 916. The gas detection system shall be designed to detect leakage of nonodorized gaseous fuel. Where lubrication or chassis service pits are provided in garages used for repairing nonodorized LNG-fueled vehicles, gas sensors shall be provided in such pits.

~~(i) **2311.7.2.1 System design.** The flammable gas detection system shall be listed or approved and shall be calibrated to the types of fuels or gases used by vehicles to be repaired. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 *per cent* of the lower flammable limit (LFL). Gas detection shall be provided in lubrication or chassis service pits of repair garages used for repairing nonodorized LNG-fueled vehicles.~~

~~(*a*) **2311.7.2.1.1 Gas detection system components.** Gas detection system control units shall be listed and labeled in accordance with UL 864 or UL 2017 *as listed in rule 1301:7-7-80 of the Administrative Code*. Gas detectors shall be listed and labeled in accordance with UL 2075 *as listed in rule 1301:7-7-80 of the Administrative Code* for use with the gases and vapors being detected.~~

~~2311.7.2.2 Operation~~2311.8.9.1 System activation**.** Activation of the gas detection ~~system~~ alarm shall result in all of the following:

1. Initiation of ~~distinct~~local audible and visual alarms ~~signals~~ in ~~the repair garage~~approved locations.

2. Deactivation of ~~all~~ heating systems located in the repair garage.

3. Activation of the mechanical exhaust ventilation system, where the ventilation system is interlocked with gas detection.

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~~2311.7.2.3~~2311.8.9.2 **Failure of the gas detection system.** Failure of the gas detection system shall ~~result in the deactivation of~~automatically deactivate the heating system, ~~activation of~~activate the mechanical exhaust ventilation system where the system is interlocked with the gas detection system and cause a trouble signal to sound in an *occupied area or other location approved by the fire code official*.

2311.8.10 Classified electrical area. Areas within 18 inches (450 mm) of a ceiling within a motor vehicle repair room or motor vehicle repair booth shall be designed and installed in accordance with the requirements for Class I, Division 2 classified locations, as set forth in NFPA 70.

Exceptions:

1. Rooms with exhaust ventilation of not less than 1 cubic foot per minute per square foot (0.3 $m^3/min/m^2$) of floor area, with suction taken from a point within 18 inches (450 mm) of the highest point in the ceiling in repair garages for vehicles that use CNG, liquefied natural gas (LNG) or other lighter-than-air motor fuels.

2. Rooms used for the repair of hydrogen-fueled vehicles that have an approved exhaust ventilation system in accordance with the *mechanical code* and NFPA 2.

~~2311.8~~2311.8.11 **Defueling equipment required at vehicle maintenance and repair facilities.** Facilities for repairing or replacing hydrogen fuel ~~systems~~tanks on hydrogen-fueled vehicles shall have equipment to defuel vehicle storage tanks. Where work must be performed on a motor vehicle's fuel ~~storage~~ tank for the purpose of maintenance, repair or cylinder certification, defueling and purging shall be conducted in accordance with Section 2309.6 and NFPA 2.

Section 2312 Service station at a bulk plant or terminal

2312.1 General. *That portion of a bulk plant property where flammable or combustible liquids are stored and dispensed from fixed equipment into the fuel tanks of motor vehicles, marine craft or approved containers shall comply with this section and NFPA 30A.*

Exception: *The dispensing of diesel fuel at a terminal or bulk plant into a motor vehicle that is transporting petroleum products or equipment essential to the operation of the terminal or bulk plant, provided that the motor vehicle is owned or leased by or operated under a contract with a person who has been issued a motor fuel dealers license under Section 5735.02 of the Revised Code. For such dispensing, the provisions of this rule governing capacity limitations shall not apply.*

2312.2 Separation. *All equipment utilized in connection with the storage and dispensing operations of a motor fuel-dispensing facility shall be separated by a minimum of 100 feet from the area in which aboveground bulk plant operations are conducted and by a security fence. Any gates in the required fence shall be secured against unauthorized entry.*

2312.3 Independent operations. *Motor fuel-dispensing facility operations shall be totally independent of the bulk plant operations to include:*

1. *Above-ground tanks located in the bulk plant shall not supply dispensing devices at the motor fuel-dispensing facility.*

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2. Storage tanks at the motor fuel-dispensing facility shall not be connected by piping to aboveground tanks located in the bulk plant.

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2025 ROC

1301:7-7-40 STORAGE OF DISTILLED SPIRITS AND WINES

SECTION 4001 GENERAL

4001.1 General. The storage of distilled spirits and wines in barrels and casks shall comply with this chapter in addition to other applicable requirements of this code.

4001.1.1 Nonapplicability. Chapter 50 and Chapter 57 are not applicable to the storage of distilled spirits and wines in barrels and casks as identified in Section 5001.1, Exception 10, and Section 5701.2, Item 10.

SECTION 4002 DEFINITIONS

4002.1 Definitions. Words and terms used in this chapter and defined in Chapter 2 shall have the meanings ascribed to them as defined therein.

SECTION 4003 PRECAUTIONS AGAINST FIRE

4003.1 Spill control. Drainage or containment systems shall be provided by means of curbs, scuppers, special drains or other suitable means to prevent the flow of spills throughout the building.

Exception: *Drainage or containment systems are not required for the storage of distilled spirits and wines in wooden barrels and casks where the storage complies with the following as applicable:*

1. *In type V-B construction the maximum storage height shall not exceed 6 barrels high and the maximum storage area shall not exceed 6,000 square feet.*
2. *In all other types of construction the maximum storage height shall not exceed 6 barrels high and the maximum storage area shall not exceed 20,000 square feet.*

4003.1.1 Containment volume. *Where required, containment volume shall equal the volume of four times the quantity of the largest drum or barrel stored in the containment area plus 20 minutes of fire water falling over either the containment area or the sprinkler remote design area, whichever is less.*

4003.2 Ventilation. For rooms and spaces where distilled spirits and wines in barrels and casks are stored, ventilation shall be provided in accordance with the *mechanical code* and one of the following:

1. The rooms and spaces shall be ventilated at a rate sufficient to maintain the concentration of vapors within the area at or below 25 percent of the lower flammable limit (LFL). This shall be confirmed by sampling the actual vapor concentration under normal operating conditions. The sampling shall be conducted throughout the enclosed storage area, extending to or toward the bottom and the top of the enclosed storage area. The vapor concentration used to determine the required ventilation rate shall be the highest measured concentration during the sampling procedure. The sampling shall be conducted manually or by installation of a continuously monitoring flammable vapor detection system.
2. The rooms and spaces shall be provided exhaust ventilation at a rate of not less than 1 cfm per square foot [0.00508 $m^3/(s \times m^2)$] of solid floor area. The exhaust ventilation shall

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be accomplished by natural or mechanical means, with discharge of the exhaust to a safe location outside the building.

4003.3 Sources of ignition. Sources of ignition shall be controlled in accordance with Sections 4003.3.1 through 4003.4.

4003.3.1 Smoking. Smoking shall be prohibited and "No Smoking" signs provided as follows:

1. In rooms or areas where hazardous materials are stored or dispensed or used in open systems in amounts requiring a permit in accordance with *Chapter 1*.
2. Within 25 feet (7620 mm) of outdoor storage, dispensing or open-use areas.
3. Facilities or areas within facilities that have been designated as totally "no smoking" shall have "No Smoking" signs placed at all entrances to the facility or area. Designated areas within such facilities where smoking is permitted either permanently or temporarily shall be identified with signs designating that smoking is permitted in these areas only.
4. In rooms or areas where flammable or combustible hazardous materials are stored, dispensed or used.

Signs required by this section shall be in English as a primary language or in symbols allowed by this code and shall comply with Section 310.

4003.3.2 Open flame. Open flames and high-temperature devices shall not be used in a manner that creates a hazardous condition and shall be listed for use with the hazardous materials stored or used.

4003.3.3 Industrial trucks. Powered industrial trucks used in areas designated as hazardous (classified) locations in accordance with NFPA 70 shall be listed and labeled for use in the environment intended in accordance with NFPA 505.

4003.3.4 Electrical. Electrical wiring and equipment shall be installed and maintained in accordance with Section ~~608~~ *603* and NFPA 70.

4003.4 Lightning. Structures containing barrel storage should be protected from lightning. The lightning protection equipment shall be installed in accordance with NFPA 70 and NFPA 780.

SECTION 4004 STORAGE

4004.1 Storage. Storage shall be in accordance with this section and Section 315.

4004.2 Empty containers. The storage of empty containers previously used for the storage of flammable or combustible liquids, unless free from explosive vapors, shall be stored as required for filled containers.

4004.3 Basement storage. Class I liquids shall be allowed to be stored in basements in amounts not exceeding the maximum allowable quantity per control area for use-open systems in Table 5003.1.1(1), provided that automatic suppression and other fire protection are provided in accordance with *the building code and to the extent not addressed therein* Chapter 9. Class II and IIIA liquids shall also be allowed to be stored in basements, provided that automatic suppression and other fire protection are provided in accordance with *the building code and to the extent not addressed therein* Chapter 9.

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4004.4 Bulk beverage storage areas. There shall be no storage of combustible materials in the bulk beverage storage areas not related to the beverage storage activities.

Exception: *Where the fire area is less than 10,000 square feet, mixed commodity storage shall be permitted provided it complies with all other provisions of this chapter and all other applicable provisions of this code including, but not limited to, Chapter 32.*

SECTION 4005 FIRE PROTECTION

4005.1 Automatic sprinkler system. The storage of distilled spirits and wines shall be protected by an approved automatic sprinkler system as required by *the building code and to the extent not addressed therein* Chapter 9.

4005.2 Portable fire extinguishers. Approved portable fire extinguishers shall be provided in accordance with Section 906.

SECTION 4006 SIGNAGE

4006.1 Hazard identification signs. Unless otherwise exempted by the fire code official, visible hazard identification signs, as specified in NFPA 704 for the specific material contained, shall be placed on stationary containers and above-ground tanks; at entrances to locations where hazardous materials are stored, dispensed, used or handled in quantities requiring a permit; and at specific entrances and locations designated by the fire code official.

4006.1.1 Maintenance and style. Signs and markings required by Section 4006.1 shall not be obscured or removed; shall be in English as a primary language or in symbols allowed by this code; shall be durable; and the size, color and lettering shall be approved.

SECTION 4007 PUBLIC ACCESS

4007.1 Public access. *Notwithstanding the provisins of any other section of this code, the public may access distillery locations for the purposes of toring stoage and production areas of the distillery in accordance with section 4007.1.1 and 4007.1.2.*

4007.1.1 Security. *The public may access property used for the storage of distilled spirits and wines in barrels and casks for purposes of tours where all of the following conditions are met:*

1. *The maximum number of people that are on the property at any time does not exceed the maximum occupancy load for the facility as determined by the building code official, and*
2. *The maximum number of people that are within a storage area or production area does not exceed the maimum occupancy load for that area as determined by the building code official, and*
3. *All members of the public are escorted and/or supervised by distillery personnel at all times while on the premises, and*
4. *All other provisions of this code are complied with including all other applicable security and safety measures.*

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4007.1.2 Above-ground tank storage in area where there is public access. *Above-ground tank storage for the storage of distilled spirits and wines may occur on premises to which the public has access where the public access is conducted in accordance with the provisions of Section 4007.1.1 and the above ground tanks comply with the safeguarding requirements of Section 5704.1.2.*

Copyright Claim Information

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1301:7-7-56 Explosives and fireworks.

Section 5601 General

5601.1 Scope. The provisions of *Sections 5601 through 5607* shall govern the possession, manufacture, storage, handling, sale and use of explosives, explosive materials, *matters described in Section 3743.80 of the Revised Code and* small arms ammunition. *The provisions referencing fireworks in Sections 5601 through 5605, 5608 through 5610 and 5612 through 5628 shall govern the possession, manufacture, storage, handling, sale and use of fireworks. The provisions of Section 5611 shall govern the operation of flame effects. The provisions in Section 5626 shall govern the possession, storage, handling, discharge and use of 1.4G fireworks purchased pursuant to sections 3743.27, 3743.45 and 3743.451 of the Revised Code. The provisions in Sections 5626 and 5627 shall be incorporated into and considered part of the state fire code adopted pursuant to Section 3737.82 of the Revised Code and may be enforced pursuant to the provisions of chapters 3737. and 3743. of the Revised Code and rule 1301:7-7-01 of the Administrative Code.*

Exceptions:

1. The Armed Forces of the United States, Coast Guard or National Guard.
2. Explosives in forms prescribed by the official United States Pharmacopoeia.
3. The possession, storage and use of small arms ammunition where packaged in accordance with DOTn packaging requirements.
4. The possession, storage and use of not more than 1 pound (0.454 kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and 10,000 small arms primers for hand loading of small arms ammunition for personal consumption.
5. The use of explosive materials by federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities.
6. Special industrial explosive devices that in the aggregate contain less than 50 pounds (23 kg) of explosive materials.
7. The possession, storage and use of blank industrial–power load cartridges where packaged in accordance with DOTn packaging regulations.
8. Transportation in accordance with DOTn 49 CFR Parts 100-185.
9. Items preempted by federal regulations.

5601.1.1 Explosive material standard. In addition to the requirements of this chapter, NFPA 495 shall govern the manufacture, transportation, storage, sale, handling and use of explosive materials.

5601.1.2 Explosive material terminals. In addition to the requirements of this chapter, the operation of explosive material terminals shall conform to the provisions of NFPA 498.

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5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling, *exhibition* and use of fireworks are prohibited *except as permitted in accordance with Chapter 3743. of the Revised Code and this rule. Matters relating to the construction and operation of a fireworks retail showroom subject to division (B) of ~~s~~Section~~s~~ 3743.04 ~~(B)~~ or Section 3743.25 of the Revised Code or a fountain device retailer subject to Section 3743.26 through 3743.29 of the Revised Code, including matters not addressed in NFPA 1124 (20~~17~~22 edition) shall comply with NFPA 1124 (2006 Edition). All other references to NFPA 1124 in this rule shall mean NFPA 1124 (~~2017Edition~~2022 Edition).*

***5601.1.3.1 Fireworks variances by state fire marshal.** In addition to the authority to grant modifications in accordance with Section 104.8, the state fire marshal may, in accordance with Section 3743.59 of the Revised Code, grant a variance to any provision of this code promulgated under the authority of Chapter 3743. of the Revised Code upon written application by an affected party and upon demonstration by that party of all of the following:*

1. *That a literal enforcement of the provision will result in a practical difficulty in complying with the requirements of this code; and*

2. *That the variance will not threaten the public health, safety or welfare.*

***5601.1.3.2.** A request for variance submitted pursuant to this rule shall only be considered upon production of any information or documentation requested by the state fire marshal. The particulars of such variance when granted shall be in writing, entered upon the records of the state fire marshal and furnished to the applicant and the authority having jurisdiction, if said authority is other than the state fire marshal.*

***5601.1.3.3.** Unless otherwise stipulated by the state fire marshal upon the granting of a variance, each variance granted pursuant to this rule shall automatically terminate one year from the date of its issuance.*

***5601.1.3.4.** There shall be no automatic renewals of any variance granted pursuant to this rule. Each variance shall be specifically applied for in writing by the requesting party and independently considered by the state fire marshal.*

5601.1.4 Rocketry. The storage, handling and use of model and high-power rockets shall comply with the requirements of NFPA 1122, NFPA 1125 and NFPA 1127.

5601.1.5 Ammonium nitrate. The storage and handling of ammonium nitrate shall comply with the requirements of NFPA 400 and Chapter 63.

Exception: Storage of ammonium nitrate in magazines with blasting agents shall comply with the requirements of NFPA 495.

5601.2 Permit required. ~~Permits~~ *In addition to permits otherwise required by the Revised Code, permits* shall be required as set forth in *Chapter 1, including Section 105,* and regulated in accordance with this *chapter*. *Permits required for manufacture, processing and explosives storage and explosive material storage as set forth in Chapter 1 shall be obtained from the state fire marshal. No permit shall be required under this code for any actions by a law enforcement agency taken pursuant to Section 3743.68 of the Revised Code, including the confiscation, verification and testing, storage, or destruction of fireworks.*

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5601.2.1 Conditions for the issuance of a permit to manufacture, process or store explosives or explosive materials. *No permit shall be issued for the manufacturing, processing or storage of explosives or explosive materials unless the following conditions are met:*

1. *The applicant submits an application for permit on a form prescribed by the state fire marshal.*

2. *The applicant pays the required fees and satisfies the background check and financial responsibility requirements as required by this rule.*

3. *The applicant provides a list of all explosives and explosive materials to be manufactured, processed or stored under the permit.*

4. *The applicant provides a map showing the distances between the locations of the activities subject to the permit and any adjacent structures, lot lines, railroads and roadways.*

5. *The activities and locations subject to the permit have been inspected by the fire code official having jurisdiction and found to be in compliance with NFPA 495 and this code.*

5601.2.2 **Residential uses.** Persons shall not keep or store, nor shall any permit *under this code* be issued to keep or store, any explosives *or fireworks* at any place of habitation, or within 100 feet (30 480 mm) thereof.

Exceptions:

1. Storage of smokeless propellant, black powder and small arms primers for personal use and not for resale in accordance with Section 5606.
2. *Storage of consumer fireworks in accordance with Section 5626.*

5601.2.3 **Sale and retail display.** Persons shall not construct a retail display nor offer for sale explosives, explosive materials or fireworks upon highways, sidewalks, public property or in Group A or E occupancies.

5601.2.4 **Permit restrictions.** The fire code official is authorized to limit the quantity of explosives, explosive materials or fireworks permitted at a given location. Persons possessing a permit for storage of explosives at any place, shall not keep or store an amount greater than authorized in such permit. Only the kind of explosive specified in such a permit shall be kept or stored.

Exception: *Permit limitations on the quantity of fireworks possessed or stored at a licensed premises for fireworks, as that term is defined in Section 3743.01(BB) of the Revised Code, shall be approved by the state fire marshal before any enforcement of such provisions by a local fire code official.*

5601.2.5 **Financial responsibility.** Before a permit *for the storage of explosives or explosive materials* is issued, as required by Section 5601.2, the applicant shall file with the jurisdiction a corporate surety bond in the principal sum of $100,000 or a public liability insurance policy for the same amount, for the purpose of the payment of all damages to persons or property that arise from, or are caused by, the conduct of any act authorized by the permit upon which

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any judicial judgment results. *Before a permit for the manufacture or processing of explosives or explosive materials, the applicant shall file with the jurisdiction a corporate surety bond in the principal sum of $1,000,000 or a public liability insurance policy for the same amount, for the purpose of the payment of all damages to persons or property that arise from, or are caused by, the conduct of any act authorized by the permit upon which any judicial judgment results.* The fire code official is authorized to specify a greater or lesser amount when, in his or her opinion, conditions at the location of use indicate a greater or lesser amount is required. Government entities shall be exempt from *the requirements of Section 5601.2.5, but are not exempt from the blasting or fireworks exhibition requirements of Section 5601.2.5.1 or 5601.2.5.2.*

5601.2.5.1 **Blasting.** Before approval to do blasting is issued, the applicant for approval shall file a bond or submit a certificate of insurance in such form, amount and coverage as determined by the legal department of the jurisdiction to be adequate in each case to indemnify the jurisdiction against any and all damages arising from permitted blasting.

5601.2.5.2 **Fireworks** ***exhibition.*** *The applicant for a fireworks exhibition permit shall provide to the local fire official and law enforcement officer an indemnity bond in the amount of at least one million dollars with surety satisfactory to the fire official and law enforcement officer of the jurisdiction, conditioned for payment of all final judgments that may be rendered against the exhibitor on account of injury, death, or loss to persons or property emanating from the fireworks exhibition, or proof of insurance coverage of at least one million dollars for liability arising from injury, death, or loss to persons or property emanating from the fireworks exhibition.*

5601.2.6 Prohibition on permits and background check requirements. *No person shall be eligible for a permit for the manufacture, processing or storage of explosives under this code if the individual has been convicted of or pled guilty to a ~~felony~~ disqualifying offense in accordance with Section 9.79 of the Revised Code under the laws of this state, another state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country. All persons seeking a permit for the storage of explosives or explosive materials shall complete a civilian background check for criminal history as administered or approved by the state fire marshal. The state fire marshal may accept a currently valid "Certificate of Clearance" or other similar documentation issued by the bureau of alcohol, tobacco, firearms and explosives as satisfactory documentation of a person's criminal history. Applicants shall, upon request of the state fire marshal, provide the state fire marshal with certified copies, or other similar documentation, relating to the individual's civilian criminal background check.*

5601.3 Prohibited explosives. Permits shall not be issued or renewed for possession, manufacture, storage, handling, sale or use of the following materials and such materials currently in storage or use shall be disposed of in an approved manner.

1. Liquid nitroglycerin.

2. Dynamite containing more than 60-percent liquid explosive ingredient.

3. Dynamite having an unsatisfactory absorbent or one that permits leakage of a liquid explosive ingredient under any conditions liable to exist during storage.

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4. Nitrocellulose in a dry and uncompressed condition in a quantity greater than 10 pounds (4.54 kg) of net weight in one package.

5. Fulminate of mercury in a dry condition and fulminate of all other metals in any condition except as a component of manufactured articles not hereinafter forbidden.

6. Explosive compositions that ignite spontaneously or undergo marked decomposition, rendering the products of their use more hazardous, when subjected for 48 consecutive hours or less to a temperature of 167°F (75°C).

7. New explosive materials until approved by DOTn, except that permits are allowed to be issued to educational, governmental or industrial laboratories for instructional or research purposes.

8. Explosive materials forbidden for transport by DOTn.

9. Explosive materials containing an ammonium salt and a chlorate.

10. Explosives not packed or marked as required by DOTn 49 CFR, Parts 100-185.

Exception: Gelatin dynamite.

5601.4 Qualifications. Persons in charge of magazines, blasting, fireworks *exhibition* or pyrotechnic special effect operations shall not be under the influence of alcohol or drugs that impair sensory or motor skills, shall be not less than 21 years of age and shall demonstrate knowledge of all safety precautions related to the storage, handling or use of explosives, explosive materials or fireworks.

5601.5 Supervision. The fire code official is authorized to require operations permitted under the provisions of Section 5601.2 to be supervised at any time by the fire code official in order to determine compliance with all safety and fire regulations.

5601.6 Notification. Whenever a new explosive material storage or manufacturing site is established, including a temporary job site, the local law enforcement agency, fire department and local emergency planning committee shall be notified 48 hours in advance, not including Saturdays, Sundays and holidays, of the type, quantity and location of explosive materials at the site.

5601.7 Seizure. The fire code official is authorized to remove or cause to be removed or disposed of in an approved manner, at the expense of the owner, explosives or explosive materials offered or exposed for sale, stored, possessed or used in violation of this chapter. ~~*The*~~ *In addition to peace officers with jurisdiction, the fire code official may seize fireworks in accordance with division (B) of Section 3743.68 of the Revised Code.*

5601.7.1 Seizure of fireworks. *The authority seizing any fireworks shall notify the state fire marshal not more than three days following the date of the seizure and shall state the reason for the seizure, as well as the quantity, type, and location of the fireworks. Any fireworks seized pursuant to division* (B) *of Section 3743.68 of the Revised Code shall be made in accordance with statutory and constitutional provisions governing searches and seizures by law enforcement officers. The state fire marshal's or certified fire safety inspector's office shall keep the seized fireworks pending the time they are no longer needed as evidence. A sample*

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of the seized fireworks is sufficient for evidentiary purposes. The remainder of the seized fireworks may be disposed of pursuant to an order from a court of competent jurisdiction after notice and a hearing. The state fire marshal's or certified fire safety inspector's office may impound seized fireworks at the site where they were seized and cause them to be secured and held pending the time they are no longer needed as evidence.

5601.7.2 Disposal of unneeded fireworks. *Fireworks disposed of by the state fire marshal, ~~or~~ certified fire safety inspector, peace officer, or law enforcement officer shall be in a manner prescribed by the state fire marshal after final determination by the court or upon final termination of proceedings, whichever is later and the state fire marshal or that office is not liable for claims for the loss of or damages to the seized fireworks. If no proceedings are commenced pursuant to the rule, the state fire marshal may dispose of or order the disposal of the fireworks pursuant to Chapter 2981. of the Revised Code after all of the following:*

1. *A random sampling of the fireworks has been taken.*
2. *An inventory list has been taken of all types and kinds of fireworks.*
3. *An analysis of the random sampling has been completed by the state fire marshal.*
4. *Photographs have been taken of the fireworks to be destroyed.*
5. *The state fire marshal has given written approval for the destruction of the fireworks at least ten days prior to the date of disposal.*
6. *A disposal form shall be provided by the state fire marshal and such form shall be completed and state the specific total weight of the fireworks seized, the total weight of fireworks to be destroyed, and the total weight of the fireworks not to be destroyed.*

5601.8 Establishment of quantity of explosives and distances. The quantity of explosives and distances shall be in accordance with Sections 5601.8.1 through 5601.8.1.4.

5601.8.1 Quantity of explosives. The quantity-distance (Q-D) tables in Sections 5604.5 and 5605.3 shall be used to provide the minimum separation distances from potential explosion sites as set forth in Tables 5601.8.1(1) through 5601.8.1(3). The classification and the weight of the explosives are primary characteristics governing the use of these tables. The net explosive weight shall be determined in accordance with Sections 5601.8.1.1 through 5601.8.1.4.

Table 5601.8.1(1)
Application of ~~separation distance~~Quantity-Distance (Q-D) tables-Division 1.1, 1.2 and 1.5 explosives[a,b,c]

Item	Magazine	~~Q-D~~	Operating building	~~Q-D~~	Inhabited building	~~Q-D~~	Public traffic route	~~Q-D~~
Magazine	IMD in Table 5604.5.2(1)	~~IMD~~	ILD or IPD in Table 5605.3	~~ILD or IPD~~	IBD in Table 5604.5.2(1)	~~IBD~~	PTR in Table 5604.5.2(1)	~~PTR~~

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Operating building	ILD or IPD in Table 5604.5.2(1)	~~ILD or IPD~~	ILD or IPD in Table 5605.3	~~ILD or IPD~~	IBD in Table 5604.5.2(1)	~~IBD~~	PTR in Table 5604.5.2(1)	~~PTR~~
Inhabited building	IBD inTable 5604.5.2(1)	~~IBD~~	IBD in Table 5604.5.2(1)	~~IBD~~	Not applicable	~~Not applicable~~	Not applicable	~~Not applicable~~
Public traffic route	PTR in Table 5604.5.2(1)	~~PTR~~	PTR in Table 5604.5.2(1)	~~PTR~~	Not applicable	~~Not applicable~~	Not applicable	~~Not applicable~~

For SI: 1 foot = 304.8 mm.

a. The minimum separation distance ~~(D_0)~~ shall be 60 feet. Where a building or magazine containing explosives is barricaded, the minimum distance shall be 30 feet.

b. Linear interpolation between tabular values in the referenced Q-D tables shall not be allowed. Nonlinear interpolation of the values shall be allowed subject to an approved technical opinion and report prepared in accordance with Section ~~104.7.2~~104.8.2.

c. For definitions of Quantity-Distance abbreviations IBD, ILD, IMD, IPD and PTR, see Chapter 2.

Table 5601.8.1(2)
Application of ~~separation distance~~Quantity-Distance (Q-D) tables-Division 1.3 explosives[a,b,c]

Item	Magazine	~~Q-D~~	Operating building	~~Q-D~~	Inhabited building	~~Q-D~~	Public traffic route	~~Q-D~~
Magazine	IMD in Table 5604.5.2(2)	~~IMD~~	ILD or IPD in Table 5604.5.2(2)	~~ILD or IPD~~	IBD in Table 5604.5.2(2)	~~IBD~~	PTR in Table 5604.5.2(2)	~~PTR~~
Operating building	ILD or IPD in Table 5604.5.2(2)	~~ILD or IPD~~	ILD or IPD in Table 5604.5.2(2)	~~ILD or IPD~~	IBD in Table 5604.5.2(2)	~~IBD~~	PTR in Table 5604.5.2(2)	~~PTR~~
Inhabited building	IBD in Table 5604.5.2(2)	~~IBD~~	IBD in Table 5604.5.2(2)	~~IBD~~	Not applicable	~~Not applicable~~	Not applicable	~~Not applicable~~
Public traffic route	PTR in Table 5604.5.2(2)	~~PTR~~	PTR in Table 5604.5.2(2)	~~PTR~~	Not applicable	~~Not applicable~~	Not applicable	~~Not applicable~~

For SI: 1 foot = 304.8 mm.

a. The minimum separation distance ~~(D_0)~~ shall be not less than 50 feet.

b. Linear interpolation between tabular values in the referenced Q-D table shall be allowed.

c. For definitions of Quantity-Distance abbreviations IBD, ILD, IMD, IPD and PTR, see Chapter 2.

Table 5601.8.1(3)

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Application of ~~separation distance~~Quantity-Distance (Q-D) tables-Division 1.4 explosives[a,b,c,~~d~~]

Item	Magazine	~~Q-D~~	Operating building	~~Q-D~~	Inhabited building	~~Q-D~~	Public traffic route	~~Q-D~~
Magazine	IMD in Table 5604.5.2(3)	~~IMD~~	ILD or IPD in Table 5604.5.2(3)	~~ILD or IPD~~	IBD in Table 5604.5.2(3)	~~IBD~~	PTR in Table 5604.5.2(3)	~~PTR~~
Operating building	ILD or IPD in Table 5604.5.2(3)	~~ILD or IPD~~	ILD or IPD in Table 5604.5.2(3)	~~ILD or IPD~~	IBD in Table 5604.5.2(3)	~~IBD~~	PTR in Table 5604.5.2(3)	~~PTR~~
Inhabited building	IBD in Table 5604.5.2(3)	~~IBD~~	IBD in Table 5604.5.2(3)	~~IBD~~	Not applicable	~~Not applicable~~	Not applicable	~~Not applicable~~
Public traffic route	PTR in Table 5604.5.2(3)	~~PTR~~	PTR in Table 5604.5.2(3)	~~PTR~~	Not applicable	~~Not applicable~~	Not applicable	~~Not applicable~~

For SI: 1 foot = 304.8 mm.

a. The minimum separation distance ~~(D_0)~~ shall be not less than 50 feet.
b. Linear interpolation between tabular values in the referenced (Q-D) table shall not be allowed.
c. For definitions of Quantity-Distance abbreviations IBD, ILD, IMD, IPD and PTR, see Chapter 2.
~~d. This table shall not apply to consumer fireworks, 1.4G.~~

5601.8.1.1 Mass-detonating explosives (Division 1.1, 1.2 or 1.5). The total net explosive weight of mass-detonating explosives (Division 1.1, 1.2 or 1.5) shall be used. See Table 5604.5.2(1) or Table 5605.3 as appropriate.

Exception: Where the TNT equivalence of the explosive material has been determined, the equivalence is allowed to be used to establish the net explosive weight.

5601.8.1.2 Nonmass-detonating explosives (excluding Division 1.4). Nonmass-detonating explosives (excluding Division 1.4) shall be as follows:

1. Division 1.3 propellants. The total weight of the propellants alone shall be the net explosive weight. The net weight of propellant shall be used. See Table 5604.5.2(2).

2. Combinations of bulk metal powder and pyrotechnic compositions. The sum of the net weights of metal powders and pyrotechnic compositions in the containers shall be the net explosive weight. See Table 5604.5.2(2).

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5601.8.1.3 Combinations of mass-detonating and nonmass-detonating explosives (excluding Division 1.4). Combination of mass-detonating and nonmass-detonating explosives (excluding Division 1.4) shall be as follows:

1. Where Division 1.1 and 1.2 explosives are located in the same site, determine the distance for the total quantity considered first as 1.1 and then as 1.2. The required distance is the greater of the two. Where the Division 1.1 requirements are controlling and the TNT equivalence of the 1.2 is known, the TNT equivalent weight of the 1.2 items shall be allowed to be added to the total explosive weight of Division 1.1 items to determine the net explosive weight for Division 1.1 distance determination. See Table 5604.5.2(2) or Table 5605.3, as appropriate.

2. Where Division 1.1 and 1.3 explosives are located in the same site, determine the distances for the total quantity considered first as 1.1 and then as 1.3. The required distance is the greater of the two. Where the Division 1.1 requirements are controlling and the TNT equivalence of the 1.3 is known, the TNT equivalent weight of the 1.3 items shall be allowed to be added to the total explosive weight of Division 1.1 items to determine the net explosive weight for Division 1.1 distance determination. See Table 5604.5.2(1), 5604.5.2(2) or 5605.3, as appropriate.

3. Where Division 1.1, 1.2 and 1.3 explosives are located in the same site, determine the distances for the total quantity considered first as 1.1, next as 1.2 and finally as 1.3. The required distance is the greatest of the three. As allowed by Items 1 and 2, TNT equivalent weights for 1.2 and 1.3 items are allowed to be used to determine the net weight of explosives for Division 1.1 distance determination. Table 5604.5.2(1) or Table 5605.3 shall be used where TNT equivalency is used to establish the net explosive weight.

4. For composite pyrotechnic items Division 1.1 and Division 1.3, the sum of the net weights of the pyrotechnic composition and the explosives involved shall be used. See Tables 5604.5.2(1) and 5604.5.2(2).

5601.8.1.4 Moderate fire-no blast hazards (Division 1.4). For Division 1.4 explosives, the total weight of the explosive material alone is the net weight. The net weight of the explosive material shall be used.

Section 5602 Definitions

5602.1 Definitions. The following terms are defined in Chapter 2.

Ammonium nitrate.

Authority having jurisdiction.

Barricade.

Artificial barricade.

Natural barricade.

Barricaded.

Note: for copyright claim information, please see the notice on the last page of this rule.

Beer and intoxicating liquor.

Black match.

Blast area.

Blast site.

Blaster.

Blasting agent.

Booby trap.

Break.

Bullet resistant.

Cigarette load.

Controlled substance.

CPSC.

Detonating cord.

Detonation.

Detonator.

Discharge site.

Display site.

DOTn.

Explosive.

High explosive.

Low explosive.

Mass-detonating explosives.

UN/DOTn Class 1 explosives.

Division 1.1.

Division 1.2.

Note: for copyright claim information, please see the notice on the last page of this rule.

Division 1.3.

Division 1.4.

Division 1.5.

Division 1.6.

Explosive material.

Fallout area.

Fireworks.

1.1G Fireworks.

1.2G Fireworks.

1.3G Fireworks.

1.4G Fireworks.

1.4G Special effects fireworks.

1.4S Fireworks.

1.4S Special effects fireworks.

Fireworks *exhibition*.

Fireworks incident.

Fireworks incident site.

Fireworks plant.

Flame effect.

Highway.

Inhabited building.

Interlinked fire detection.

Licensed building.

Licensed exhibitor of fireworks or licensed exhibitor.

Licensed exhibitor of indoor fireworks.

Licensed exhibitor of outdoor/indoor fireworks.

Note: for copyright claim information, please see the notice on the last page of this rule.

Licensed manufacturer of fireworks or licensed manufacturer.

Licensed premises.

Licensed wholesaler of fireworks or licensed wholesaler.

List of licensed exhibitors.

List of licensed manufacturers.

List of licensed wholesalers.

Magazine.

Indoor.

Type 1.

Type 2.

Type 3.

Type 4.

Type 5.

Manufacturing of fireworks.

Mortar.

Navigable waters.

Net explosive weight (net weight).

Novelties and trick noisemakers.

Operating building.

Operating line.

Party popper.

Plosophoric material.

Processing of fireworks.

Proximate audience.

Public Traffic Route (PTR).

Note: for copyright claim information, please see the notice on the last page of this rule.

Pyrotechnic article.

Pyrotechnic composition.

Pyrotechnic special effect.

Pyrotechnic special-effect material.

Pyrotechnics.

Quantity-Distance (Q-D).

Inhabited Building Distance (IBD).

Intermagazine Distance (IMD).

Intraline Distance (ILD) or Intraplant Distance (IPD).

~~**Minimum separation distance (D_0).**~~

Railroad.

Railway.

Ready box.

Representative sample showroom.

Retail sale or sell at retail.

Small arms ammunition.

Small arms primers.

Smoke device.

Smokeless propellants.

Snake or glow worm.

Snapper.

Special industrial explosive device.

Storage location.

Theft resistant.

Trick match.

Wholesale sale or sell at wholesale.

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Wire sparkler.

5602.2 Terms used for Section ~~5616~~5615.10. *In accordance with Section 3743.75 of the Revised Code, the following terms, only as used in Section ~~5616~~5615.10, have the following exclusive meanings:*

"Particular location." *A licensed premises and, regardless of when approved, any storage location approved in accordance with Section 3743.04 or 3743.17 of the Revised Code and this rule.*

"Person." *Any person or entity, in whatever form or name, that acquires possession of a manufacturer or wholesaler of fireworks license issued pursuant to this rule by transfer of possession of license, whether that transfer occurs by purchase, assignment, inheritance, bequest, stock transfer, or any other type of transfer, on the condition that the transfer is in accordance with division* (D) *of Section 3743.04 of the Revised Code or division* (D) *of Section 3743.17 of the Revised Code and is approved by the state fire marshal.*

Section 5603 Record keeping and reporting

5603.1 General. Records of the receipt, handling, use or disposal of explosive materials, and reports of any accidents, fireworks matters, thefts or unauthorized activities involving explosive materials shall conform to the applicable requirements of this section and this chapter. *Records relating to the manufacturing, sale, transportation, shipping, storage, ~~and~~ possession, discharge, or use of fireworks or fireworks incidents shall be created, maintained and disposed of in accordance with the Revised Code and this chapter.*

5603.2 Transaction record. The permittee shall maintain a record of all transactions involving receipt, removal, use or disposal of explosive materials. Such records shall be maintained for a period of 5 years.

Exception: Where only Division 1.4G (consumer fireworks) are handled, records need only be maintained for a period of 3 years.

5603.3 Loss, theft or unauthorized removal. The loss, theft or unauthorized removal of explosive materials *or 1.1G fireworks, 1.2G fireworks or 1.3G fireworks* from a magazine or permitted facility shall be reported to the fire code official, local law enforcement authorities and the US Department of Treasury, Bureau of Alcohol, Tobacco, Firearms and Explosives within 24 hours.

Exception: Loss of Division 1.4G (consumer fireworks) need not be reported to the Bureau of Alcohol, Tobacco, Firearms and Explosives.

5603.3.1 Fireworks. *~~Manufacturers~~In addition to the requirements of Section 5603.3, manufacturers, wholesalers, fountain device retailers, shippers and exhibitors shall report any theft or loss of any fireworks to the local law enforcement agency within twenty-four hours after the discovery of the theft or loss and shall send a copy of the report prepared by the local law enforcement agency to the state fire marshal. If such report is unavailable, the manufacturer, wholesaler, fountain device retailer, shipper or exhibitor shall notify the state fire marshal of the investigating law enforcement agency. In the event of such theft or loss of*

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any fireworks or pyrotechnic devices, the local fire code official shall cooperate with the state fire marshal in conducting a joint investigation of the circumstances.

5603.4 ~~Accidents~~Accident *and fireworks incident notifications*. ~~Accidents~~ *In addition to the requirements of Section 3743.451 of the Revised Code, accidents and fireworks incidents subject to Section 3743.451 of the Revised Code* involving the use of explosives, explosive materials and fireworks that result in injuries or property damage shall be reported to the fire code official immediately.

5603.4.1 Injury or damage report. *The local fire code official shall immediately make a report to the state fire marshal when any fireworks related fire, explosion, unauthorized discharge, personal injury, or other significant fireworks incident occurs, including all fires, explosions, personal injuries received or resulting from fireworks at a manufacturing plant, wholesale facility, from a shipment of fireworks in transit, or from fireworks at an exhibition. The report shall provide the location where the fire, explosion, or injury occurred and the name, address and telephone number of any person injured as a result when such information is available. The scene must be held until released by the state fire marshal.*

5603.5 Misfires. The *licensed exhibitor of fireworks* or blaster in charge shall keep a record of all aerial shells that fail to fire or charges that fail to detonate.

5603.6 Hazard communication. Manufacturers of explosive materials and fireworks shall maintain records of chemicals, chemical compounds and mixtures required by DOL 29 CFR, Part 1910.1200, and Section 407.

5603.7 Safety rules. Current safety rules covering the operation of magazines, as described in Section 5604.7, shall be posted on the interior of the magazine in a visible location.

Section 5604 Explosive materials storage and handling

5604.1 General. Storage of explosives and explosive materials, small arms ammunition, small arms primers, propellant-actuated cartridges and smokeless propellants in magazines shall comply with the provisions of this section.

5604.2 Magazine required. Explosives and explosive materials, and Division 1.3G fireworks shall be stored in magazines constructed, located, operated and maintained in accordance with the provisions of Section 5604 and NFPA 495 or NFPA 1124.

Exceptions:

1. Storage of fireworks at display sites in accordance with Section *5610* and NFPA 1123 or NFPA 1126.

2. Portable or mobile magazines not exceeding 120 square feet (11 m^2) in area shall not be required to comply with the requirements of the *building code*.

5604.3 Magazines. The storage of explosives and explosive materials in magazines shall comply with Table 5604.3.

Table 5604.3

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Storage amounts and magazine requirements for explosives, explosive materials and fireworks, 1.3G maximum allowable quantity per control area

New UN/DOTn division	Old DOTn class	ATF/OSHA class	Indoor[a] (pounds)				Outdoor (pounds)	Magazine type required				
			Unprotected	Cabinet	Sprinklers	Sprinklers & cabinet		1	2	3	4	5
1.1[b]	A	High	0	0	1	2	1	X	X	X	-	-
1.2	A	High	0	0	1	2	1	X	X	X	-	-
1.2	B	Low	0	0	1	1	1	X	X	X	X	-
1.3	B	Low	0	0	5	10	1	X	X	X	X	-
1.4[c]	B	Low	0	0	50	100	1	X	X	X	X	-
1.5	C	Low	0	0	1	2	1	X	X	X	X	-
1.5	Blasting agent	Blasting agent	0	0	1	2	1	X	X	X	X	X
1.6	Not applicable	Not applicable	0	0	1	2	1	X	X	X	X	X

For SI: 1 pound = 0.454 kg, 1 pound per gallon = 0.12 kg per liter, 1 ounce = 28.35 g.

a. A factor of 10 pounds per gallon shall be used for converting pounds (solid) to gallons (liquid) in accordance with Section 5003.1.2.

b. Black powder shall be stored in a Type 1, 2, 3 or 4 magazine as provided for in Section 5604.3.1.

~~c. This table shall not apply to consumer fireworks, 1.4G.~~

5604.3.1 High explosives. Explosive materials classified as Division 1.1 or 1.2 or formerly classified as Class A by the US Department of Transportation shall be stored in Type 1, 2 or 3 magazines.

Exceptions:

1. Black powder shall be stored in a Type 1, 2, 3 or 4 magazine.
2. Cap-sensitive explosive material that is demonstrated not to be bullet sensitive shall be stored in a Type 1, 2, 3, 4 or 5 magazine.

5604.3.2 Low explosives. Explosive materials that are not cap sensitive shall be stored in a Type 1, 2, 3, 4 or 5 magazine.

5604.3.3 Detonating cord. For quantity and distance purposes, detonating cord of 50 grains per foot shall be calculated as equivalent to 8 pounds (4 kg) of high explosives per 1,000 feet (305 m). Heavier or lighter core loads shall be rated proportionally.

5604.4 Prohibited storage. Detonators shall be stored in a separate magazine for blasting supplies and shall not be stored in a magazine with other explosive materials.

5604.5 Location. The use of magazines for storage of explosives and explosive materials shall comply with Sections 5604.5.1 through 5604.5.3.3.

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5604.5.1 Indoor magazines. The use of indoor magazines for storage of explosives and explosive materials shall comply with the requirements of Sections 5604.5.1.1 through 5604.5.1.7.

5604.5.1.1 Use. The use of indoor magazines for storage of explosives and explosive materials shall be limited to occupancies ~~in~~ of Group F, H, M or S, and research and development laboratories.

5604.5.1.2 Construction. Indoor magazines shall comply with the following construction requirements:

1. Construction shall be fire resistant and theft resistant.
2. Exterior shall be painted red.
3. Base shall be fitted with wheels, casters or rollers to facilitate removal from the building in an emergency.
4. Lid or door shall be marked with conspicuous white lettering not less than 3 inches (76 mm) high and minimum ½ inch (12.7 mm) stroke, reading EXPLOSIVES-KEEP FIRE AWAY.
5. The least horizontal dimension shall not exceed the clear width of the entrance door.

5604.5.1.3 Quantity limit. Not more than 50 pounds (23 kg) of explosives or explosive materials shall be stored within an indoor magazine.

Exception: Day boxes used for the storage of in-process material in accordance with Section 5605.6.4.1.

5604.5.1.4 Prohibited use. Indoor magazines shall not be used within buildings containing Group R occupancies.

5604.5.1.5 Location. Indoor magazines shall be located within 10 feet (3048 mm) of an entrance and only on floors at or having ramp access to the exterior grade level.

5604.5.1.6 Number. Not more than two indoor magazines shall be located in the same building. Where two such magazines are located in the same building, one magazine shall be used solely for the storage of not more than 5,000 detonators.

5604.5.1.7 Separation distance. Where two magazines are located in the same building, they shall be separated by a distance of not less than 10 feet (3048 mm).

5604.5.2 Outdoor magazines. Outdoor magazines other than Type 3 shall be located so as to comply with Table 5604.5.2(2) or 5604.5.2(3) as set forth in Tables 5601.8.1(1) through 5601.8.1(3). Where a magazine or group of magazines, as described in Section 5604.5.2.2, contains different classes of explosive materials, and Division 1.1 materials are present, the required separations for the magazine or magazine group as a whole shall comply with Table 5604.5.2(2).

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Table 5604.5.2(1)
American table of distances for storage of explosives as approved by the Institute of makers of explosives and revised June 1991[a]

Quantity of explosive materials[c]		Distances in feet							
		Inhabited buildings		Public highways with traffic volume less than 3,000 vehicles per day		Public highways with traffic volume greater than 3,000 vehicles per day and passenger railways		Separation of magazines[d]	
Pounds over	Pounds not over	Barricaded	Unbarricaded	Barricaded	Unbarricaded	Barricaded	Unbarricaded	Barricaded	Unbarricaded
0	5	70	140	30	60	51	102	6	12
5	10	90	180	35	70	64	128	8	16
10	20	110	220	45	90	81	162	10	20
20	30	125	250	50	100	93	186	11	22
30	40	140	280	55	110	103	~~208~~206	12	24
40	50	150	300	60	120	110	220	14	28
50	75	170	340	70	140	127	254	15	30
75	100	190	380	75	150	139	278	16	32
100	125	200	400	80	160	150	300	18	36
125	150	215	430	85	170	159	318	19	38
150	200	235	470	95	190	175	350	21	42
200	250	255	510	105	210	189	378	23	46
250	300	270	540	110	220	201	402	24	48
300	400	295	590	120	240	221	442	27	54
400	500	320	640	130	260	238	476	29	58
500	600	340	~~480~~680	135	270	253	506	31	62
600	700	355	710	145	290	266	532	32	64
700	800	375	750	150	300	278	556	33	66
800	900	390	780	155	310	289	578	35	70
900	1,000	400	800	160	320	300	600	36	72
1,000	1,200	425	850	165	330	318	636	39	78
1,200	1,400	450	900	170	340	336	672	41	82
1,400	1,600	470	940	175	350	351	702	43	86
1,600	1,800	490	980	180	360	366	732	44	88
1,800	2,000	505	1,010	185	370	378	756	45	90

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2,000	2,500	545	1,090	190	380	408	816	49	98
2,500	3,000	580	1,160	195	390	432	864	52	104
3,000	4,000	635	1,270	210	420	474	948	58	116
4,000	5,000	685	1,370	225	450	513	1,026	61	122
5,000	6,000	730	1,460	235	470	546	1,092	65	130
6,000	7,000	770	1,540	245	490	573	1,146	68	136
7,000	8,000	800	1,600	250	500	600	1,200	72	144
8,000	9,000	835	1,670	255	510	624	1,248	75	150
9,000	10,000	865	1,730	260	520	645	1,290	78	156
10,000	12,000	875	1,750	270	540	687	1,374	82	164
12,000	14,000	885	1,770	275	550	723	1,446	87	174
14,000	16,000	900	1,800	280	560	756	1,512	90	180
16,000	18,000	940	1,880	285	570	786	1,572	94	188
18,000	20,000	975	1,950	290	580	813	1,626	98	196
20,000	25,000	1,055	2,000	315	630	876	1,752	105	210
25,000	30,000	1,130	2,000	340	680	933	1,866	112	224
30,000	35,000	1,205	2,000	360	720	981	1,962	119	238
35,000	40,000	1,275	2,000	380	760	1,026	2,000	124	248
40,000	45,000	1,340	2,000	400	800	1,068	2,000	129	258
45,000	50,000	1,400	2,000	420	840	1,104	2,000	135	270
50,000	55,000	1,460	2,000	440	880	1,140	2,000	140	280
55,000	60,000	1,515	2,000	455	910	1,173	2,000	145	290
60,000	65,000	1,565	2,000	470	940	1,206	2,000	150	300
65,000	70,000	1,610	2,000	485	970	1,236	2,000	155	310
70,000	75,000	1,655	2,000	500	1,000	1,263	2,000	160	320
75,000	80,000	1,695	2,000	510	1,020	1,293	2,000	165	330
80,000	85,000	1,730	2,000	520	1,040	1,317	2,000	170	340
85,000	90,000	1,760	2,000	530	1,060	1,344	2,000	175	350
90,000	95,000	1,790	2,000	540	1,080	1,368	2,000	180	360
95,000	100,000	1,815	2,000	545	1,090	1,392	2,000	185	370
100,000	110,000	1,835	2,000	550	1,100	1,437	2,000	195	390
110,000	120,000	1,855	2,000	555	1.110	1,479	2,000	205	410
120,000	130,000	1,875	2,000	560	1,120	1,521	2,000	215	430
130,000	140,000	1,890	2,000	565	1,130	1,557	2,000	225	450
140,000	150,000	1,900	2,000	570	1,140	1,593	2,000	235	470
150,000	160,000	1,935	2,000	580	1,160	1,629	2,000	245	490

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160,000	170,000	1,965	2,000	590	1,180	1,662	2,000	255	510
170,000	180,000	1,990	2,000	600	1,200	1,695	2,000	265	530
180,000	190,000	2,010	2,010	605	1,210	1,725	2,000	275	550
190,000	200,000	2,030	2,030	610	1,220	1,755	2,000	285	570
200,000	210,000	2,055	2,055	620	1,240	1,782	2,000	295	590
210,000	230,000	2,100	2,100	635	1,270	1,836	2,000	315	630
230,000	250,000	2,155	2,155	650	1,300	1,890	2,000	335	670
250,000	275,000	2,215	2,215	670	1,340	1,950	2,000	360	720
275,000	300,000[b]	2,275	2,275	690	1,380	2,000	2,000	385	770

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg.

a. This table applies only to the manufacture and permanent storage of commercial explosive materials. It is not applicable to transportation of explosives or any handling or temporary storage necessary or incident thereto. It is not intended to apply to bombs, projectiles or other heavily encased explosives.

b. Storage in excess of 300,000 pounds of explosive materials in one magazine is not allowed.

c. Where a manufacturing building on an explosive materials plant site is designed to contain explosive materials, such building shall be located with respect to its proximity to inhabited buildings, public highways and passenger railways based on the maximum quantity of explosive materials permitted to be in the building at one time.

d. Where two or more storage magazines are located on the same property, each magazine shall comply with the minimum distances specified from inhabited buildings, railways and highways, and, in addition, they should be separated from each other by not less than the distances shown for separation of magazines, except that the quantity of explosives in detonator magazines shall govern in regard to the spacing of said detonator magazines from magazines containing other explosive materials. Where any two or more magazines are separated from each other by less than the specified separation of magazines distances, then two or more such magazines, as a group, shall be considered as one magazine, and the total quantity of explosive materials stored in such group shall be treated as if stored in a single magazine located on the site of any magazine in the group and shall comply with the minimum distances specified from other magazines, inhabited buildings, railways and highways.

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Table 5604.5.2(2)
Table of distances (Q-D) for buildings and magazines containing explosives-Division 1.3 mass-fire hazard[a,b,c]

Quantity of Division 1.3 explosives (net explosives weight)		Distances in feet			
Pounds over	Pounds not over	Inhabited building distance (IBD)	Distance to public traffic route (PTR)	Intermagazine distance (IMD)	Intraline distance (ILD) or Intraplant distance (IPD)
0	1,000	75	75	50	50
1,000	5,000	115	115	75	75
5,000	10,000	150	150	100	100
10,000	20,000	190	190	125	125
20,000	30,000	215	215	145	145
30,000	40,000	235	235	155	155
40,000	50,000	250	250	165	165
50,000	60,000	260	260	175	175
60,000	70,000	270	270	185	185
70,000	80,000	280	280	190	190
80,000	90,000	295	295	195	195
90,000	100,000	300	300	200	200
100,000	200,000	375	375	250	250
200,000	300,000	450	450	300	300

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg.

a. Black powder, where stored in magazines, is defined as low explosive by the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF).
b. For quantities less than 1,000 pounds, the required distances are those specified for 1,000 pounds. The use of lesser distances is allowed where supported by approved test data or analysis.
c. Linear interpolation of explosive quantities between table entries is allowed.

Table 5604.5.2(3)
Table of distances (Q-D) for buildings and magazines containing explosives-Division 1.4[c]

Quantity of Division 1.4 explosives (net explosives weight)		Distances in feet			
Pounds over	Pounds not over	Inhabited building distance (IBD)	Distance to public traffic route (PTR)	Intermagazine distance[a,b] (IMD)	Intraline distance (ILD) or Intraplant distance[a] (IPD)
50	Not limited	100	100	50	50

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg.

a. A separation distance of 100 feet is required for buildings other than Type I or Type II construction as defined in the *building code*.
b. For earth-covered magazines, specific separation is not required.

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1. Earth cover material used for magazines shall be relatively cohesive. Solid or wet clay and similar types of soil are too cohesive and shall not be used. Soil shall be free from unsanitary organic matter, trash, debris and stones heavier than 10 pounds or larger than 6 inches in diameter. Compaction and surface preparation shall be provided, as necessary, to maintain structural integrity and avoid erosion. Where cohesive material cannot be used, as in sandy soil, the earth cover over magazines shall be finished with a suitable material to ensure structural integrity.
2. The earth fill or earth cover between earth-covered magazines shall be either solid or sloped, in accordance with the requirements of other construction features, but not less than 2 feet of earth cover shall be maintained over the top of each magazine. To reduce erosion and facilitate maintenance operations, the cover shall have a slope of 1 unit vertical to 2 units horizontal ~~to 1 vertical~~(50-percent slope).

c. Restricted to articles, including articles packaged for shipment, that are not regulated as an explosive under Bureau of Alcohol, Tobacco, Firearms and Explosives regulations, or unpacked articles used in process operations that do not propagate a detonation or deflagration between articles. ~~This table shall not apply to consumer fireworks, 1.4G.~~

5604.5.2.1 Separation. Where two or more storage magazines are located on the same property, each magazine shall comply with the minimum distances specified from inhabited buildings, public transportation routes and operating buildings. Magazines shall be separated from each other by not less than the intermagazine distances (IMD) shown for the separation of magazines.

5604.5.2.2 Grouped magazines. Where two or more magazines are separated from each other by less than the intermagazine distances (IMD), such magazines as a group shall be considered as one magazine and the total quantity of explosive materials stored in the group shall be treated as if stored in a single magazine. The location of the group of magazines shall comply with the intermagazine distances (IMD) specified from other magazines or magazine groups, inhabited buildings (IBD), public transportation routes (PTR) and operating buildings (ILD or IPD) as required.

5604.5.3 Special requirements for Type 3 magazines. Type 3 magazines shall comply with Sections 5604.5.3.1 through 5604.5.3.3.

5604.5.3.1 Location. Wherever practicable, Type 3 magazines shall be located away from neighboring inhabited buildings, railways, highways and other magazines in accordance with Table 5604.5.2(2) or 5604.5.2(3) as applicable.

5604.5.3.2 Supervision. Type 3 magazines shall be attended when explosive materials are stored within. Explosive materials shall be removed to appropriate storage magazines for unattended storage at the end of the work-day.

5604.5.3.3 Use. Not more than two Type 3 magazines shall be located at the same blasting site. Where two Type 3 magazines are located at the same blasting site, one magazine shall be used solely for the storage of detonators.

5604.6 Construction. Magazines shall be constructed in accordance with Sections 5604.6.1 through 5604.6.~~5.26~~.

5604.6.1 Drainage. The ground around a magazine shall be graded so that water drains away from the magazine.

5604.6.2 Heating. Magazines requiring heat shall be heated as prescribed in NFPA 495 by either hot water radiant heating within the magazine or by indirect warm air heating.

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5604.6.3 Lighting. Where lighting is necessary within a magazine, electric safety flashlights or electric safety lanterns shall be used, except as provided in NFPA 495.

5604.6.4 Nonsparking materials. In other than Type 5 magazines, there shall not be exposed ferrous metal on the interior of a magazine containing packages of explosives.

5604.6.5 Signs and placards. Property on which Type 1 magazines and outdoor magazines of Types 2, 4 and 5 are located shall be posted with signs stating: NO SMOKING and EXPLOSIVES-KEEP OFF. These signs shall be of contrasting colors with a minimum letter height of 3 inches (76 mm) with a minimum brush stroke of ½ inch (12.7 mm). The signs shall be located to minimize the possibility of a bullet shot at the sign hitting the magazine.

5604.6.5.1 Access road signs. At the entrance to explosive material manufacturing and storage sites, all access roads shall be posted with the following warning sign or other approved sign:

DANGER!
NEVER FIGHT EXPLOSIVE FIRES.
EXPLOSIVES ARE STORED ON THIS SITE
CALL _____

The sign shall be weather-resistant with a reflective surface and have lettering not less than 2 inches (51 mm) high.

5604.6.5.2 Placards. Type 5 magazines containing Division 1.5 blasting agents shall be prominently placarded as required during transportation by DOTn 49 CFR, Part 172 and DOTy 27 CFR, Part ~~55~~555.

5604.6.6 Grounding. Outdoor magazines shall be properly grounded.

Exception: Type III portable day boxes are not required to be grounded.

5604.7 Operation. Magazines shall be operated in accordance with Sections 5604.7.1 through 5604.7.9.

5604.7.1 Security. Magazines shall be kept locked in the manner prescribed in NFPA 495 at all times except during placement or removal of explosives or inspection.

5604.7.2 Open flames and lights. Smoking, matches, flame-producing devices, open flames, firearms and firearms cartridges shall not be allowed inside of or within 50 feet (15 240 mm) of magazines.

5604.7.3 Brush. The area located around a magazine shall be kept clear of brush, dried grass, leaves, trash, debris and similar combustible materials for a distance of 25 feet (7620 mm).

5604.7.4 Combustible storage. Combustible materials shall not be stored within 50 feet (15 240 mm) of magazines.

5604.7.5 Unpacking and repacking explosive materials. Containers of explosive materials, except fiberboard containers, and packages of damaged or deteriorated explosive materials

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or fireworks shall not be unpacked or repacked inside or within 50 feet (15 240 mm) of a magazine or in close proximity to other explosive materials.

5604.7.5.1 Storage of opened packages. Packages of explosive materials that have been opened shall be closed before being placed in a magazine.

5604.7.5.2 Nonsparking tools. Tools used for the opening and closing of packages of explosive materials, other than metal slitters for opening paper, plastic or fiberboard containers, shall be made of nonsparking materials.

5604.7.5.3 Disposal of packaging. Empty containers and paper and fiber packaging materials that previously contained explosive materials shall be disposed of or reused in an approved manner.

5604.7.6 Tools and equipment. Metal tools, other than nonferrous transfer conveyors and ferrous metal conveyor stands protected by a coat of paint, shall not be stored in a magazine containing explosive materials or detonators.

5604.7.7 Contents. Magazines shall be used exclusively for the storage of explosive materials, blasting materials and blasting accessories.

5604.7.8 Compatibility. Corresponding grades and brands of explosive materials shall be stored together and in such a manner that the grade and brand marks are visible. Stocks shall be stored so as to be easily counted and checked. Packages of explosive materials shall be stacked in a stable manner not exceeding 8 feet (2438 mm) in height.

5604.7.9 Stock rotation. When explosive material is removed from a magazine for use, the oldest usable stocks shall be removed first.

5604.8 Maintenance. Maintenance of magazines shall comply with Sections 5604.8.1 through 5604.8.3.

5604.8.1 Housekeeping. Magazine floors shall be regularly swept and be kept clean, dry and free of grit, paper, empty packages and rubbish. Brooms and other cleaning utensils shall not have any spark-producing metal parts. Sweepings from magazine floors shall be disposed of in accordance with the manufacturer's approved instructions.

5604.8.2 Repairs. Explosive materials shall be removed from the magazine before making repairs to the interior of a magazine. Explosive materials shall be removed from the magazine before making repairs to the exterior of the magazine where there is a possibility of causing a fire. Explosive materials removed from a magazine under repair shall either be placed in another magazine or placed a safe distance from the magazine, where they shall be properly guarded and protected until repairs have been completed. Upon completion of repairs, the explosive materials shall be promptly returned to the magazine. Floors shall be cleaned before and after repairs.

5604.8.3 Floors. Magazine floors stained with liquid shall be dealt with in accordance with instructions obtained from the manufacturer of the explosive material stored in the magazine.

5604.9 Inspection. Magazines containing explosive materials shall be opened and inspected *by the permit holder* at maximum *intervals of seven* days. The inspection shall determine whether

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there has been an unauthorized or attempted entry into a magazine or an unauthorized removal of a magazine or its contents. *The permit holder shall document said inspections including the date of inspection, name of person conducting inspection and a verification of the inventory. The permit holder shall maintain such records for a minimum of one year and provide such documentation to the state fire marshal upon request.*

5604.9.1 *If in the state fire marshal's discretion, the state fire marshal determines that conditions affecting the security of explosives exist that require more frequent inventory inspections, the permit holder shall conduct such inspections on a daily basis unless otherwise notified by the state fire marshal for the duration of the prevailing conditions. Such conditions would exist when the United States department of homeland security threat advisory system, or a similar system of the United States government or the state of Ohio, reaches a high or severe level or the governor of Ohio declares a state of emergency pursuant to section 5502.21 of the Revised Code or the governor otherwise activates the Ohio militia in accordance with Ohio Constitution Article 9, Section 4.*

5604.10 Disposal of explosive materials. Explosive materials shall be disposed of in accordance with Sections 5604.10.1 through 5604.10.7.

5604.10.1 Notification. The fire code official shall be notified immediately where deteriorated or leaking explosive materials are determined to be dangerous or unstable and in need of disposal.

5604.10.2 Deteriorated materials. Where an explosive material has deteriorated to an extent that it is in an unstable or dangerous condition, or when a liquid has leaked from an explosive material, the person in possession of such material shall immediately contact the material's manufacturer to obtain disposal and handling instructions.

5604.10.3 Qualified person. The work of destroying explosive materials shall be directed by persons experienced in the destruction of explosive materials.

5604.10.4 Storage of misfires. Explosive materials and fireworks recovered from blasting or display misfires shall be placed in a magazine until an experienced person has determined the proper method for disposal.

5604.10.5 Disposal sites. Sites for the destruction of explosive materials and fireworks shall be approved and located at the maximum practicable safe distance from inhabited buildings, public highways, operating buildings and all other exposures to ensure keeping air blast and ground vibration to a minimum. The location of disposal sites shall not be closer to magazines, inhabited buildings, railways, highways and other rights-of-way than is allowed by Tables 5604.5.2(1), 5604.5.2(2) and 5604.5.2(3). Where possible, barricades shall be utilized between the destruction site and inhabited buildings. Areas where explosives are detonated or burned shall be posted with adequate warning signs.

5604.10.6 Reuse of site. Unless an approved burning site has been thoroughly saturated with water and has passed a safety inspection, 48 hours shall elapse between the completion of a burn and the placement of scrap explosive materials for a subsequent burn.

5604.10.7 Personnel safeguards. Once an explosive burn operation has been started, personnel shall relocate to a safe location where adequate protection from air blast and flying

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debris is provided. Personnel shall not return to the burn area until the person in charge has inspected the burn site and determined that it is safe for personnel to return.

Section 5605 Manufacture, assembly and testing of explosives, explosive materials and fireworks

5605.1 General. The manufacture, assembly and testing of explosives, ammunition, blasting agents and fireworks shall comply with the requirements of this section and NFPA 495 or NFPA 1124.

Exceptions:

1. The hand loading of small arms ammunition prepared for personal use and not offered for resale.

2. The mixing and loading of blasting agents at blasting sites in accordance with NFPA 495.

3. The use of binary explosives or plosophoric materials in blasting or pyrotechnic special effects applications in accordance with NFPA 495 or NFPA 1126.

5605.2 Emergency planning and preparedness. Emergency plans, emergency drills, employee training and hazard communication shall conform to the provisions of this section and Sections 404, 405, 406 and 407.

5605.2.1 Hazardous Materials Management Plans and Inventory Statements required. Detailed Hazardous Materials Management Plans (HMMP) and Hazardous Materials Inventory Statements (HMIS) complying with the requirements of Section 407 shall be prepared and submitted to the local emergency planning committee, the fire code official and the local fire department.

5605.2.2 Maintenance of plans. A copy of the required HMMP and HMIS shall be maintained on site and furnished to the fire code official on request.

5605.2.3 Employee training. Workers who handle explosives or explosive charges or dispose of explosives shall be trained in the hazards of the materials and processes in which they are to be engaged and with the safety rules governing such materials and processes.

5605.2.4 Emergency procedures. Approved emergency procedures shall be formulated for each plant and shall include personal instruction in any anticipated emergency. Personnel shall be made aware of an emergency warning signal.

5605.3 Intraplant separation of operating buildings. Explosives manufacturing buildings and fireworks manufacturing buildings, including those where explosive charges are assembled, manufactured, prepared or loaded utilizing Division 1.1, 1.2, 1.3, 1.4 or 1.5 explosives, shall be separated from all other buildings, including magazines, within the confines of the manufacturing plant, at a distance not less than those shown in Table 5604.5.2(3) or Table 5605.3, as appropriate.

~~**Exception:** Fireworks manufacturing buildings separated in accordance with NFPA 1124 *as listed in rule 1301:7-7-80 of the Administrative Code.*~~

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The quantity of explosives in an operating building shall be the net weight of all ~~the~~ explosives contained therein. Distances shall be based on the hazard division requiring the greatest separation, unless the aggregate explosive weight is divided by approved walls or shields designed for that purpose. Where dividing a quantity of explosives into smaller stacks, a suitable barrier or adequate separation distance shall be provided to prevent propagation from one stack to another.

Where distance is used as the sole means of separation within a building, such distance shall be established by testing. Testing shall demonstrate that propagation between stacks will not result. Barriers provided to protect against explosive effects shall be designed and installed in accordance with approved standards.

Exception: Fireworks manufacturing buildings separated in accordance with NFPA 1124 ~~*as listed in rule 1301:7-7-80 of the Administrative Code*~~.

Table 5605.3
Minimum intraline (intraplant) separation distances (ILD or IPD) between barricaded operating buildings containing explosives-Division 1.1, 1.2 or 1.5-mass-explosion hazard[a]

Net explosive weight			Net explosive weight		
Pounds over	**Pounds not over**	**Intraline distance (ILD) or intraplant distance (IPD) (feet)**	**Pounds over**	**Pounds not over**	**Intraline distance (ILD) or intraplant distance (IPD) (feet)**
0	50	30	20,000	25,000	265
50	100	40	25,000	30,000	280
100	200	50	30,000	35,000	295
200	300	60	35,000	40,000	310
300	400	65	40,000	45,000	320
400	500	70	45,000	50,000	330
500	600	75	50,000	55,000	340
600	700	80	55,000	60,000	350
700	800	85	60,000	65,000	360
800	900	90	65,000	70,000	370
900	1,000	95	70,000	75,000	385
1,000	1,500	105	75,000	80,000	390
1,500	2,000	115	80,000	85,000	395
2,000	3,000	130	85,000	90,000	400
3,000	4,000	140	90,000	95,000	410
4,000	5,000	150	95,000	100,000	415
5,000	6,000	160	100,000	125,000	450
6,000	7,000	170	125,000	150,000	475
7,000	8,000	180	150,000	175,000	500
8,000	9,000	190	175,000	200,000	525
9,000	10,000	200	200,000	225,000	550
10,000	15,000	225	225,000	250,000	575
15,000	20,000	245	250,000	275,000	600
-------	-------	-------	275,000	300,000	635

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For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg.

a. Where a building or magazine containing explosives is not barricaded, the intraline distances shown in this table shall be doubled.

5605.4 Separation of manufacturing operating buildings from inhabited buildings, public traffic routes and magazines. Where an operating building on an explosive materials plant site is designed to contain explosive materials, such a building shall be located away from inhabited buildings, public traffic routes and magazines in accordance with Table 5604.5.2(2) or 5604.5.2(3) as appropriate, based on the maximum quantity of explosive materials permitted to be in the building at one time (see Section 5601.8).

Exception: Fireworks manufacturing buildings constructed and operated in accordance with NFPA 1124.

5605.4.1 Determination of net explosive weight for operating buildings. In addition to the requirements of Section 5601.8 to determine the net explosive weight for materials stored or used in operating buildings, quantities of explosive materials stored in magazines located at distances less than intraline distances from the operating building shall be added to the contents of the operating building to determine the net explosive weight for the operating building.

5605.4.1.1 Indoor magazines. The storage of explosive materials located in indoor magazines in operating buildings shall be limited to a net explosive weight not to exceed 50 pounds (23 kg).

5605.4.1.2 Outdoor magazines with a net explosive weight less than 50 pounds. The storage of explosive materials in outdoor magazines located at less than intraline distances from operating buildings shall be limited to a net explosive weight not to exceed 50 pounds (23 kg).

5605.4.1.3 Outdoor magazines with a net explosive weight greater than 50 pounds. The storage of explosive materials in outdoor magazines in quantities exceeding 50 pounds (23 kg) net explosive weight shall be limited to storage in outdoor magazines located not less than intraline distances from the operating building in accordance with Section 5604.5.2.

5605.4.1.4 Net explosive weight of materials stored in combination indoor and outdoor magazines. The aggregate quantity of explosive materials stored in any combination of indoor magazines or outdoor magazines located at less than the intraline distances from an operating building shall not exceed 50 pounds (23 kg).

5605.5 Buildings and equipment. Buildings or rooms that exceed the maximum allowable quantity per control area of explosive materials shall be operated in accordance with this section and constructed in accordance with the requirements of the *building code* for Group H occupancies.

Exception: Fireworks manufacturing buildings constructed and operated in accordance with NFPA 1124.

5605.5.1 Explosives dust. Explosives dust shall not be exhausted to the atmosphere.

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5605.5.1.1 Wet collector. When collecting explosives dust, a wet collector system shall be used. Wetting agents shall be compatible with the explosives. Collector systems shall be interlocked with process power supplies so that the process cannot continue without the collector systems also operating.

5605.5.1.2 Waste disposal and maintenance. Explosives dust shall be removed from the collection chamber as often as necessary to prevent overloading. The entire system shall be cleaned at a frequency that will eliminate hazardous concentrations of explosives dust in pipes, tubing and ducts.

5605.5.2 Exhaust fans. Squirrel cage blowers shall not be used for exhausting hazardous fumes, vapors or gases. Only nonferrous fan blades shall be used for fans located within the ductwork and through which hazardous materials are exhausted. Motors shall be located outside the duct.

5605.5.3 Work stations. Work stations shall be separated by distance, barrier or other approved alternatives so that fire in one station will not ignite material in another work station. Where necessary, the operator shall be protected by a personnel shield located between the operator and the explosive device or explosive material being processed. This shield and its support shall be capable of withstanding a blast from the maximum amount of explosives allowed behind it.

5605.6 Operations. Operations involving explosives shall comply with Sections 5605.6.1 through 5605.6.10.

5605.6.1 Isolation of operations. Where the type of material and processing warrants, mechanical operations involving explosives in excess of 1 pound (0.454 kg) shall be carried on at isolated stations or at intraplant distances, and machinery shall be controlled from remote locations behind barricades or at separations so that workers will be at a safe distance while machinery is operating.

5605.6.2 Static controls. The work area where the screening, grinding, blending and other processing of static-sensitive explosives or pyrotechnic materials is done shall be provided with approved static controls.

5605.6.3 Approved containers. Bulk explosives shall be kept in approved, nonsparking containers when not being used or processed. Explosives shall not be stored or transported in open containers.

5605.6.4 Quantity limits. The quantity of explosives at any particular work station shall be limited to that posted on the load limit signs for the individual work station. The total quantity of explosives for multiple workstations shall not exceed that established by the intraplant distances in Table 5604.5.2(3) or Table 5605.3, as appropriate.

5605.6.4.1 Magazines. Magazines used for storage in processing areas shall be in accordance with the requirements of Section 5604.5.1. Explosive materials shall be removed to appropriate storage magazines for unattended storage at the end of the workday. The contents of indoor magazines shall be added to the quantity of explosives contained at individual work stations and the total quantity of material stored, processed or used shall be utilized to establish the intraplant separation distances indicated by Table 5604.5.2(3) or Table 5605.3, as appropriate.

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5605.6.5 Waste disposal. Approved receptacles with covers shall be provided for each location for disposing of waste material and debris. These waste receptacles shall be emptied and cleaned as often as necessary but not less than once each day or at the end of each shift.

5605.6.6 Safety rules. General safety rules and operating instructions governing the particular operation or process conducted at that location shall be available at each location.

5605.6.7 Personnel limits. The number of occupants in each process building and in each magazine shall not exceed the number necessary for proper conduct of production operations.

5605.6.8 Pyrotechnic and explosive composition quantity limits. Not more than 500 pounds (227 kg) of pyrotechnic or explosive composition, including not more than 10 pounds (5 kg) of salute powder shall be allowed at one time in any process building or area. Compositions not in current use shall be kept in covered nonferrous containers.

Exception: Composition that has been loaded or pressed into tubes or other containers as consumer fireworks.

5605.6.9 Posting limits. The maximum number of occupants and maximum weight of pyrotechnic and explosive composition permitted in each process building shall be posted in a conspicuous location in each process building or magazine.

5605.6.10 Heat sources. Fireworks, explosives or explosive charges in explosive materials manufacturing, assembly or testing shall not be stored near any source of heat.

Exception: Approved drying or curing operations.

5605.7 Maintenance. Maintenance and repair of explosives-manufacturing facilities and areas shall comply with Section 5604.8.

5605.8 Explosive materials testing sites. Detonation of explosive materials or ignition of fireworks for testing purposes shall be done only in isolated areas at sites where distance, protection from missiles, shrapnel or flyrock, and other safeguards provides protection against injury to personnel or damage to property.

5605.8.1 Protective clothing and equipment. Protective clothing and equipment shall be provided to protect persons engaged in the testing, ignition or detonation of explosive materials.

5605.8.2 Site security. Where tests are being conducted or explosives are being detonated, only authorized persons shall be present. Areas where explosives are regularly or frequently detonated or burned shall be approved and posted with adequate warning signs. Warning devices shall be activated before burning or detonating explosives to alert persons approaching from any direction that they are approaching a danger zone.

5605.9 Waste disposal. Disposal of explosive materials waste from manufacturing, assembly or testing operations shall be in accordance with Section 5604.10.

Section 5606 Small arms ammunition and small arms ammunition components

Note: for copyright claim information, please see the notice on the last page of this rule.

5606.1 General. Indoor storage and display of black powder, smokeless propellants, small arms primers, ~~and~~ small arms ammunition and commercial reloading shall comply with this section and NFPA 495.

5606.2 Prohibited storage. Small arms ammunition shall not be stored together with Division 1.1, Division 1.2 or Division 1.3 explosives unless the storage facility is suitable for the storage of explosive materials.

5606.3 Packages. Smokeless propellants shall be stored in approved shipping containers conforming to DOTn 49 CFR, Part 173.

5606.3.1 Repackaging. The bulk repackaging of smokeless propellants, black powder and small arms primers shall not be performed in retail establishments.

5606.3.2 Damaged packages. Damaged containers shall not be repackaged.

Exception: Approved repackaging of damaged containers of smokeless propellant into containers of the same type and size as the original container.

5606.4 Storage in Group R occupancies. The storage of small arms ammunition components in Group R occupancies shall comply with Sections 5606.4.1 through 5606.4.3.

5606.4.1 Black powder. Black powder for personal use in quantities not exceeding 20 pounds (9 kg) shall be stored in original containers in occupancies limited to Group R-3. Quantities exceeding 20 pounds (9 kg) shall not be stored in any Group R occupancy.

5606.4.2 Smokeless propellants. Smokeless propellants for personal use in quantities not exceeding 20 pounds (9 kg) shall be stored in original containers in occupancies limited to Group R-3. Smokeless propellants in quantities exceeding 20 pounds (9 kg) but not exceeding 50 pounds (23 kg) and kept in a wooden box or cabinet having walls of not less than 1 inch (25 mm) nominal thickness shall be allowed to be stored in occupancies limited to Group R-3. Quantities exceeding these amounts shall not be stored in any Group R occupancy.

5606.4.3 Small arms primers. Not more than 10,000 small arms primers shall be stored in occupancies limited to Group R-3.

5606.5 Display and storage in Group M occupancies. The display and storage of small arms ammunition components in Group M occupancies shall comply with Sections 5606.5.1 through 5606.5.2.3.

5606.5.1 Display. Display of small arms ammunition components in Group M occupancies shall comply with Sections 5606.5.1.1 through 5606.5.1.3.

5606.5.1.1 Smokeless propellant. Not more than 20 pounds (9 kg) of smokeless propellants, in containers of 1 pound (0.454 kg) or less capacity each, shall be displayed in Group M occupancies.

5606.5.1.2 Black powder. Not more than 1 pound (0.454 kg) of black powder shall be displayed in Group M occupancies.

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5606.5.1.3 Small arms primers. Not more than 10,000 small arms primers shall be displayed in Group M occupancies.

5606.5.2 Storage. Storage of small arms ammunition components shall comply with Sections 5606.5.2.1 through 5606.5.2.3.

5606.5.2.1 Smokeless propellant. Commercial stocks of smokeless propellants shall be stored as follows:

1. Quantities exceeding 20 pounds (9 kg), but not exceeding 100 pounds (45 kg) shall be stored in portable wooden boxes having walls of not less than 1 inch (25 mm) nominal thickness.

2. Quantities exceeding 100 pounds (45 kg), but not exceeding 800 pounds (363 kg), shall be stored in nonportable storage cabinets having walls not less than 1 inch (25 mm) nominal thickness. Not more than 400 pounds (182 kg) shall be stored in any one cabinet, and cabinets shall be separated by a distance of not less than 25 feet (7620 mm) or by a fire partition having a fire-resistance rating of not less than 1 hour.

3. Storage of quantities exceeding 800 pounds (363 kg), but not exceeding 5,000 pounds (2270 kg) in a building shall comply with all of the following:

   3.1 The warehouse or storage room is ~~unaccessible~~not open to unauthorized personnel.

   3.2 Smokeless propellant shall be stored in nonportable storage cabinets having wood walls not less than 1 inch (25 mm) nominal thickness and having shelves with not more than 3 feet (914 mm) of separation between shelves.

   3.3 Not more than 400 pounds (182 kg) is stored in any one cabinet.

   3.4 Cabinets shall be located against walls of the storage room or warehouse with not less than 40 feet (12 192 mm) between cabinets.

   3.5 The minimum required separation between cabinets shall be 20 feet (6096 mm) provided that barricades twice the height of the cabinets are attached to the wall, midway between each cabinet. The barricades must extend not less than 10 feet (3048 mm) outward, be firmly attached to the wall and be constructed of steel not less than ¼ inch thick (6.4 mm), 2-inch (51 mm) nominal thickness wood, brick or concrete block.

   3.6 Smokeless propellant shall be separated from materials classified as combustible liquids, flammable liquids, flammable solids or oxidizing materials by a distance of 25 feet (7620 mm) or by a fire partition having a fire-resistance rating of 1 hour.

   3.7 The building shall be equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

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4 Smokeless propellants not stored in accordance with ~~Section 5606.5.2.1, 5606.5.2.1, or 5606.5.2.1~~Item 1, 2 or 3 shall be stored in a Type 2 or 4 magazine in accordance with Section 5604 and NFPA 495.

5606.5.2.2 Black powder. Commercial stocks of black powder in quantities less than 50 pounds (23 kg) shall be allowed to be stored in Type 2 or 4 indoor or outdoor magazines. Quantities greater than 50 pounds (23 kg) shall be stored in outdoor Type 2 or 4 magazines. ~~When~~ Where black powder and smokeless propellants are stored together in the same magazine, the total quantity shall not exceed that permitted for black powder.

5606.5.2.3 Small arms primers. Commercial stocks of small arms primers shall be stored as follows:

1. Quantities not to exceed 750,000 small arms primers stored in a building shall be arranged such that not more than 100,000 small arms primers are stored in any one pile and piles are not less than 15 feet (4572 mm) apart.

2. Quantities exceeding 750,000 small arms primers stored in a building shall comply with all of the following:

   2.1 The warehouse or storage building ~~shall~~is not ~~be accessible~~open to unauthorized personnel.

   2.2 Small arms primers shall be stored in cabinets. Not more than 200,000 small arms primers shall be stored in any one cabinet.

   2.3 Shelves in cabinets shall have vertical separation of not less than 2 feet (610 mm).

   2.4 Cabinets shall be located against walls of the warehouse or storage room with not less than 40 feet (12 192 mm) between cabinets. The minimum required separation between cabinets shall be allowed to be reduced to 20 feet (6096 mm) provided that barricades twice the height of the cabinets are attached to the wall, midway between each cabinet. The barricades shall be firmly attached to the wall and shall be constructed of steel not less than ¼ inch thick (6.4 mm), 2-inch (51 mm) nominal thickness wood, brick or concrete block.

   2.5 Small arms primers shall be separated from materials classified as combustible liquids, flammable liquids, flammable solids or oxidizing materials by a distance of 25 feet (7620 mm) by a fire partition having a fire-resistance rating of 1 hour.

   2.6 The building shall be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

3. Small arms primers not stored in accordance with ~~Section 5606.5.2.3 or 5606.5.2.3~~Item 1 or 2 of this section shall be stored in a magazine meeting the requirements of Section 5604 and NFPA 495.

5606.6 Commercial reloading. Commercial reloading of small arms ammunition shall comply with Sections 5606.6.1 through 5606.6.8.

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5606.6.1 Electrical. Areas within 3 feet (914 mm) of reloading equipment shall be Class I, Division 2, Group A type.

5606.6.2 Exhaust fans. Squirrel cage blowers shall not be used for exhausting hazardous fumes, vapors or gases. Only nonferrous fan blades shall be used for fans located within the ductwork and through which hazardous materials are exhausted. Motors shall be located outside the duct.

5606.6.3 Work stations. Work stations shall be separated by distance, barrier or other approved alternatives so that fire in one station will not ignite material in another work station.

5606.6.4 Personnel limits. The number of occupants in each process building and in each magazine shall not exceed the number necessary for proper conduct of production operations.

5606.6.5 Approved containers. Smokeless powder shall be kept in its original container.

5606.6.6 Static controls. The work area shall be provided with approved static controls.

5606.6.7 Waste disposal. Approved receptacles with covers shall be provided for each location for disposing of waste material and debris. These waste receptacles shall be emptied and cleaned as often as necessary but not less than once each day or at the end of each shift.

5606.6.8 Safety rules. General safety rules and operating instructions governing the particular operation or process conducted at that location shall be available at each location.

Section 5607 Blasting

5607.1 General. Blasting operations shall be conducted only by approved, competent operators familiar with the required safety precautions and the hazards involved and in accordance with the provisions of NFPA 495.

5607.2 Manufacturer's instructions. Blasting operations shall be performed in accordance with the instructions of the manufacturer of the explosive materials being used.

5607.3 Blasting in congested areas. Where blasting is done in a congested area or in close proximity to a structure, railway or highway, or any other installation, precautions shall be taken to minimize earth vibrations and air blast effects. Blasting mats or other protective means shall be used to prevent fragments from being thrown.

5607.4 Restricted hours. Surface-blasting operations shall only be conducted during daylight hours between sunrise and sunset. Other blasting shall be performed during daylight hours unless otherwise approved by the fire code official.

5607.5 Utility notification. Where blasting is being conducted in the vicinity of utility lines or rights-of-way, the blaster shall notify the appropriate representatives of the utilities not less than 24 hours in advance of blasting, specifying the location and intended time of such blasting. Verbal notices shall be confirmed with written notice.

Exception: In an emergency situation, the time limit shall not apply where approved.

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5607.6 Electric detonator precautions. Precautions shall be taken to prevent accidental discharge of electric detonators from currents induced by radar and radio transmitters, lightning, adjacent power lines, dust and snowstorms, or other sources of extraneous electricity.

5607.7 Nonelectric detonator precautions. Precautions shall be taken to prevent accidental initiation of nonelectric detonators from stray currents induced by lightning or static electricity.

5607.8 Blasting area security. During the time that holes are being loaded or are loaded with explosive materials, blasting agents or detonators, only authorized persons engaged in drilling and loading operations or otherwise authorized to enter the site shall be allowed at the blast site. The blast site shall be guarded or barricaded and posted. Blast site security shall be maintained until after the post-blast inspection has been completed.

5607.9 Drill holes. Holes drilled for the loading of explosive charges shall be made and loaded in accordance with NFPA 495.

5607.10 Removal of excess explosive materials. After loading for a blast is completed and before firing, excess explosive materials shall be removed from the area and returned to the proper storage facilities.

5607.11 Initiation means. The initiation of blasts shall be by means conforming to the provisions of NFPA 495.

5607.12 Connections. The blaster shall supervise the connecting of the blastholes and the connection of the loadline to the power source or initiation point. Connections shall be made progressively from the blasthole back to the initiation point.

Blasting lead lines shall remain shunted (shorted) and shall not be connected to the blasting machine or other source of current until the blast is to be fired.

5607.13 Firing control. A blast shall not be fired until the blaster has made certain that all surplus explosive materials are in a safe place in accordance with Section 5607.10, all persons and equipment are at a safe distance or under sufficient cover and that an adequate warning signal has been given.

5607.14 Post-blast procedures. After the blast, the following procedures shall be observed.

1. ~~No person~~Persons shall not return to the blast area until allowed to do so by the blaster in charge.

2. The blaster shall allow sufficient time for smoke and fumes to dissipate and for dust to settle before returning to or approaching the blast area.

3. The blaster shall inspect the entire blast site for misfires before allowing other personnel to return to the blast area.

5607.15 Misfires. Where a misfire is suspected, all initiating circuits shall be traced and a search made for unexploded charges. Where a misfire is found, the blaster shall provide proper safeguards for excluding all personnel from the blast area. Misfires shall be reported to the blasting supervisor immediately. Misfires shall be handled under the direction of the person in charge of the blasting operation in accordance with NFPA 495.

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Section 5608 Fireworks *exhibition*

5608.1 ***Permit.*** *This section applies to any exhibition of 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0432), 1.4S fireworks (UN0337) and 1.4S special effects fireworks (UN0432). No 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335) or 1.4G fireworks (UN0336) may be displayed or otherwise discharged indoors.*

A permit shall be obtained from the local fire official and law enforcement officer of the jurisdiction for any outdoor exhibition of 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0432), 1.4S fireworks (UN0337) and 1.4S special effects fireworks (UN0432) fireworks and any indoor exhibition of 1.4G special effects fireworks (UN0432), 1.4S fireworks (UN0337) and 1.4S special effects fireworks (UN0432) pursuant to the applicable provisions of ~~s~~Section 3743.54 of the Revised Code. The permit shall bear the signatures of the fire official and law enforcement official having jurisdiction and the licensed exhibitor applying to conduct the fireworks exhibition. The permit shall identify the certified fire safety inspector, fire chief, or fire prevention officer who will be present before, during, and after the fireworks exhibition, where appropriate.

> ***5608.1.1 Permit form.*** *The form for exhibition permit as prescribed by the state fire marshal shall be legibly and fully completed by the licensed exhibitor to clearly indicate the circumstances of the public fireworks exhibition the exhibitor wishes to conduct.*
>
> ***5608.1.2 Approval.*** *Before any fireworks exhibition permit issued under this rule is considered to be a valid permit to allow the licensed exhibitor to acquire fireworks and conduct a fireworks exhibition, the permit must be signed and dated by the local officials having jurisdiction.*

5608.2 Permit ***approval.*** *A fireworks exhibition permit should be obtained from such local officials at least five days in advance of the fireworks exhibition. Failure to obtain the exhibition permit prior to five days in advance of the fireworks exhibition may result in denial of the approval required to conduct the fireworks exhibition.*

5608.3 ***Fee.*** *When the legislative authority of the political subdivision has prescribed a fee for the issuance of a permit for a fireworks exhibition, the fire official and law enforcement officer shall not issue such permit until the exhibitor pays the requisite fee and meets the financial responsibility requirements of Section 5601.2.4.2.*

5608.4 ***Inspection of site.*** *The fire chief or fire prevention officer of the authority having jurisdiction shall inspect the premises where the fireworks exhibition is to take place and determine whether the fireworks exhibition is in compliance with Chapter 3743. of the Revised Code and NFPA 1123 (Chapter 5, site selection) and the applicable portions of NFPA 1126. The radius of separation distance between all mortars, racks or other points of fireworks discharge and any members of the public shall be measured, regardless of obstruction or other topographical features, as a direct point to point line of sight measurement. All such separation distances shall be measured from the same horizontal plane of elevation between the fireworks discharge point and members of the public. No members of the public shall, regardless of their relative difference in elevation from the horizontal plane of measurement, be permitted within the required radius of separation. For the purposes of this section, the radius of separation extends infinitely above and below the horizontal plane of measurement. The inspection shall be conducted prior to the issuance of the permit for a fireworks exhibition.*

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5608.5 ***Inspection checklist.*** *At the time of the required site inspection, the fire chief or fire prevention officer, shall complete the required detailed inspection checklist as prescribed by the state fire marshal and set forth in the appendix to this rule. If the exhibition is to be inspected is an outdoor exhibition, the fire chief or fire prevention officer shall complete the detailed inspection checklist, in consultation with a police chief or other similar chief law enforcement officer of a municipal corporation, township, or township police district or with a designee of such a police chief or other similar chief law enforcement officer. No exhibition of fireworks shall occur in this state until the licensed exhibitor possesses a copy of the appropriate checklist signed by the fire official and the licensed exhibitor.*

5608.6 ***Exhibitor's license requirement.*** *No permit for a fireworks exhibition shall be granted unless the applicant is in possession of a valid license to exhibit fireworks issued by the state fire marshal. Each applicant for a permit shall show the applicant's license as an exhibitor of fireworks to the fire chief or fire prevention officer and, upon request to the police chief or other similar law enforcement officer.*

5608.7 *Fireworks exhibition permit application detailed information required.*

5608.7.1 *When an Ohio licensed exhibitor applies for the permit required by Section 5608.1, the licensed exhibitor shall submit all of the following information to the local officials having jurisdiction over the exhibition. Such information shall include but not be limited to:*

5608.7.1.1 *The name of the organization sponsoring the fireworks exhibition together with the names of persons actually in charge of the fireworks exhibition.*

5608.7.1.2 *The date and time of day when the fireworks exhibition is to be held.*

5608.7.1.3 *The exact location planned for the fireworks exhibition.*

5608.7.1.4 *The name and license number of the fireworks exhibitor who is to supervise the discharge of fireworks and of all personnel assisting within the discharge perimeter.*

5608.7.1.5 *The class of fireworks to be discharged with the number of set pieces and shells (specify single- or multiple-break), including experimental rockets or missiles.*

5608.7.1.5.1 *For the indoor exhibition of fireworks, the requirements for pyrotechnic product information in accordance with Chapter 7 of NFPA 1126.*

5608.7.1.6 *The manner and place of storage of all fireworks prior to and during the fireworks exhibition for all fireworks storage shall be in accordance with Section 5610.1.*

5608.7.1.7 *A diagram of the premises on which the fireworks exhibition is to be held, showing the point at which the fireworks are to be discharged, the location of all buildings, highways, railroads, or other inhabited structures within one thousand feet of the discharge and potential landing site. The diagram shall also show the line barriers behind which the audience will be restrained.*

5608.7.1.7.1 *For the indoor exhibition of fireworks, the diagram must include:*

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1. *The interior of the structure to be used for the exhibition and the layout of all devices to be used at the exhibition.*

2. *A description of the direction the devices shall be fired and the fallout radius for each device.*

3. *The lines behind which the audience shall be restrained.*

5608.7.1.7.2 *For the indoor exhibition of fireworks, certifications that the set, scenery and rigging materials are treated with appropriate flame retardant.*

5608.7.1.8 *Proof that general liability insurance or indemnity bond issued by a company licensed to provide such coverages in the state of Ohio, for an amount no less than one million dollars or as otherwise required in a higher amount by the authority having jurisdiction, is in force for the applicant and includes acts of all employees.*

5608.7.1.9 *A copy of each exhibitor's license and proof of assistant's registration for all individuals proposed to operate within the discharge perimeter.*

5608.7.1.10 *The name and license number of the fireworks manufacturer, wholesaler or out-of-state shipper who supplied all items in the fireworks exhibition.*

5608.7.2 *The licensed exhibitor reflected on the fireworks exhibition permit at the time of the fireworks exhibition shall be responsible for compliance with the provisions under which the fireworks exhibition permit was granted.*

5608.7.3 *A copy of the issued permit and the completed inspection checklist shall be sent to the state fire marshal by the fire official no later than five days after the date of the fireworks exhibition. In the event of any incident resulting in an investigation or other inquiry by the state fire marshal or other authority having jurisdiction, the completed permit and the completed inspection checklist shall be made immediately available to the state fire marshal or other authority having jurisdiction upon request.*

5608.8 ***Permit, denial and revocation.*** *The local fire official and, for the outdoor exhibition of fireworks a law enforcement officer of the jurisdiction may deny or revoke a fireworks exhibition permit for any of the following:*

5608.8.1 *The applicant/exhibitor does not possess a valid exhibitor's license issued by the state fire marshal.*

5608.8.2 *The site on which the fireworks exhibition is to take place does not conform to the applicable rules.*

5608.8.3 *The applicant has failed to pay the permit fee or provide the required information.*

5608.8.4 *The applicant has failed to provide the required indemnity bond or proof of insurance.*

5608.8.5 *The exhibitor has failed to postpone a fireworks exhibition when so ordered due to unsafe conditions or operations, inclement weather, wind conditions, unsafe spectator conditions, or any other condition in violation of this chapter.*

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5608.8.6 *The exhibitor has failed to store the fireworks in a safe manner prior to or during the fireworks exhibition or is firing the fireworks exhibition in an unsafe manner.*

5608.8.7 *The licensed exhibitor present at the fireworks exhibition is not the licensed exhibitor that was designated to be present pursuant to Section 5608.7.1.4. The authority having jurisdiction is authorized to approve a substitution of another licensed exhibitor under extenuating circumstances prior to the fireworks exhibition provided that the substitute licensed exhibitor:*

5608.8.7.1 *Demonstrates to the authority having jurisdiction possession of a valid fireworks exhibitors' license;*

5608.8.7.2 *Signs the fireworks exhibition permit and thereby accepts the full responsibility and liability for conducting the fireworks exhibition as initially approved;*

5608.8.7.3 *Produces proof that general liability insurance or indemnity bond issued by a company licensed to provide such coverages in the state of Ohio, for an amount no less than one million dollars or as otherwise required in a higher amount by the authority having jurisdiction, is in force for the applicant and includes acts of all employees;*

5608.8.7.4 *Demonstrates to the authority having jurisdiction that they are authorized by the initial exhibitor to conduct the fireworks exhibition;*

5608.8.7.5 *Follows the initially approved conditions of the fireworks exhibition permit;*

5608.8.7.6 *Conducts the fireworks exhibition in accordance with the requirements of this chapter.*

5608.9 ***Ceasing operations.*** *The conducting of an exhibition by an exhibitor, all exhibition discharges, and any associated exhibition operations shall immediately cease and the fireworks exhibition shall be postponed or cancelled when:*

1. *a fireworks incident occurs~~,~~;*
2. *the ceasing of operations is so ordered by the authority having jurisdiction or the licensed fireworks exhibitor due to unsafe conditions or operations, inclement weather, wind conditions, unsafe spectator conditions, or any other condition in violation of this rule~~,~~;*
3. *~~or~~ any substantially unsafe exhibition conditions or operations, wind or spectator conditions, or inclement weather occur~~,~~;*
4. *~~or~~ any other substantially unsafe conditions occur ~~in violation of~~including those that result in conditions that violate this rule.*

Any ceasing of operations shall result in the automatic revocation of the exhibition permit associated with the operations.

The orders to cease operations, postpone the fireworks exhibition and the revocation of the fireworks exhibition permit may be communicated verbally by the authority having jurisdiction. When so ordered or when the fireworks exhibition permit has been revoked, the exhibitor shall cease firing of the fireworks exhibition immediately.

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***5608.9.1 Resuming operations**. Unless a fireworks incident has occurred, the exhibitor may reapply for and be granted a new permit for the fireworks exhibition when the fire official and, for an outdoor exhibition, a law enforcement officer are satisfied that all rules, conditions, and operations are safe or have been complied with. If a fireworks incident has occurred, an exhibition permit may only be reissued upon the state fire marshal's completion of an investigation pursuant to section 3743.541(B) of the Revised Code.*

***5608.9.2. Firework Incidents.** All persons conducting or assisting in the conduct of a fireworks exhibition must comply with Section 5603.4 and Sections 5608.9.2.1 through 5608.9.2.31 as required by division (B) of Section 3743.541 of the Revised Code:*

***5608.9.2.1** The appropriate certified fire safety inspector, fire chief, or fire prevention officer or appropriate state or local law enforcement authority with jurisdiction over a fireworks incident site shall immediately notify the state fire marshal, the state fire marshal's designee, or a member of the state fire marshal's staff regarding the occurrence of the fireworks incident and the location of the fireworks incident site.*

***5608.9.2.2** At any time after a fireworks incident occurs, unless the state fire marshal otherwise delegates the state fire marshal's authority to the appropriate state or local law enforcement authority with jurisdiction over the fireworks incident site, the state fire marshal, the state fire marshal's designee, or a member of the state fire marshal's staff shall supervise and coordinate the investigation of the fireworks incident and supervise any dismantling, repositioning, or other disturbance of fireworks, associated equipment or other materials, or other items within the fireworks incident site or of any evidence related to the fireworks incident.*

***5608.9.2.3** A state or local law enforcement officer, certified fire safety inspector, fire chief, or fire prevention officer, or any person authorized and supervised by a state or local law enforcement officer, certified fire safety inspector, fire chief, or fire prevention officer, prior to the arrival of the state fire marshal, the state fire marshal's designee, or a member of the state fire marshal's staff at a fireworks incident site, may dismantle, reposition, or move any fireworks, any associated equipment or other materials, or any other items found within the site or any evidence related to the fireworks incident only as necessary to prevent an imminent fire, imminent explosion, or similar threat of additional injury or death to any member of the public at the site.*

5608.10 *Safety requirements. All fireworks exhibitions shall be conducted in accordance with the following as applicable to the type of exhibition:*

***5608.10.1 Mortars.** All mortars used in a fireworks exhibition that are greater than or equal to eight inches in diameter shall be equipped with electronic ignition equipment in accordance with NFPA 1123.*

***5608.10.2 Standard of stability.** All fireworks mortars and mortar racks used at a fireworks exhibition shall conform to the requirements of NFPA 1123 and this section to ensure stability.*

***5608.10.2.1** All mortar racks shall be securely positioned in accordance with the requirements of NFPA 1123. The methods used to securely position the mortar rack shall not include the use of items such as plastic ties, string, twine, tape, or any other material*

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that may easily break, dislodge, ignite, or otherwise permit the repositioning of the mortar rack.

5608.10.2.2 *All mortars, bundles, box items, cakes, candle placements, and mortar racks shall be inherently stable or be properly secured and braced to prevent repositioning. It is not acceptable to create inherent stability of mortar racks only by connection to other mortar racks.*

5608.10.2.3 *All mortar racks shall be individually secured by one or more approved method. Approved methods include but are not limited to: utilizing steel stakes, sturdy wood stakes, or spikes securely attached to the rack frame with approved materials; utilizing sand bags of sufficient quantity and height placed on each side of and in direct contact with the rack frame; utilizing wood or steel feet of sufficient length, strength, and durability, securely attached in a perpendicular orientation to the ends of the rack frame; utilizing sideboards securely mounted in a perpendicular orientation to both ends of the rack frame; or by the construction of A-frame braces of sufficient strength and durability securely attached to both ends of the rack frame.*

5608.10.2.4 *The stability of all mortars, bundles, box items, cakes, candle placements and mortar racks shall be verified by the licensed fireworks exhibitor and fire official immediately prior to the fireworks exhibition. Each such item shall be individually addressed in an appropriate manner to ensure its integrity and stability prior to providing affirmative documentation of such stability on the required inspection checklist.*

5608.10.3 Exhibition site activity. *Each licensed exhibitor shall display prominently upon their person any visible identification required by the fire code official at all times when within the discharge perimeter or otherwise at the exhibition site. Each licensed exhibitor shall make their exhibitor license available for review to any fire or law enforcement officer upon request.*

5608.10.3.1 Discharge perimeter for an outdoor exhibition. *Only fire officials, licensed fireworks exhibitors or persons who are employees of licensed exhibitors of fireworks and who are registered with the state fire marshal under Section 3743.56 of the Revised Code shall be permitted within the discharge perimeter during a fireworks exhibition.*

5608.10.3.2 Fall out area for an indoor exhibition. *Only fire officials, licensed fireworks exhibitors, or persons who are employees of licensed exhibitors of fireworks and who are registered with the state fire marshal under Section 3743.56 of the Revised Code shall be permitted within the fall out area during a fireworks exhibition. If approved by the fire official, persons associated with a theatrical or other similar performance related to the exhibition may also be permitted within the fall out area during an indoor fireworks exhibition.*

5608.10.4 Inspection. *An inspection of all affected premises shall be conducted immediately following a fireworks exhibition for purposes of locating and disposing of defective or unexploded fireworks. If an outdoor fireworks exhibition is conducted at night, an inspection shall also be conducted at sunrise the following morning.*

5608.10.5 Fire official. *The governing authority having jurisdiction in the location where an outdoor exhibition is to take place shall require that a certified fire safety inspector, fire chief, or fire prevention officer be present before, during, and after the outdoor fireworks exhibition. The fire safety inspector, fire chief or fire prevention officer, shall complete the detailed*

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inspection checklist as prescribed by the state fire marshal and set forth in the appendix of this rule. If the exhibition to be inspected is an outdoor exhibition, the fire chief or fire prevention officer shall complete the detailed inspection checklist, in consultation with a police chief or other similar chief law enforcement officer of a municipal corporation, township, or township police district or with a designee of such a police chief or other similar chief law enforcement officer.

5608.10.6 Assistants. *No licensed exhibitor of fireworks shall permit an employee to assist the licensed exhibitor in conducting fireworks exhibitions unless the employee is registered with the state fire marshal under Section 3743.56 of the Revised Code and Section 5619.10.*

5608.10.7 *Unless otherwise specifically directed by this chapter, the Administrative Code, or the Revised Code, all fireworks used in any type of exhibit shall be used in accordance with the instructions provided by the manufacturer.*

5608.10.8 *No person, and no licensed exhibitor of fireworks or their registered assistant(s) without a proper exhibition permit, shall handle, touch, or use any fireworks at any exhibition subject to this section unless specifically authorized to take such actions in Section 3743.451 of the Revised Code.*

Section 5609 Shipping and transportation

5609.1 General. *As used in this section, "fireworks" includes 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0432), 1.4S fireworks (UN0337) and 1.4S special effects fireworks (UN0432). All fireworks transported on the highways in this state and all wholesale and commercial sales of fireworks shall be packaged, shipped, placarded, and transported in accordance with DOTn regulations applicable to the transportation, and the offering for transportation, of hazardous materials and NFPA 1123, 1124 and 1126. All fireworks otherwise transported into or through this state shall be transported in accordance with applicable law. For purposes of this section, "wholesale and commercial sales" includes all sales for resale and any nonretail sale made in furtherance of a commercial enterprise. For purposes of enforcement of these regulations under Section 4905.83 of the Revised Code, any sales transaction exceeding one thousand pounds shall be presumed to be a wholesale or commercial sale.*

5609.2 Interstate shipment of fireworks. *No person shall ship fireworks into this state by mail, parcel post, or common carrier unless the person possesses a valid shipping permit issued under Section 3743.40 of the Revised Code, and the fireworks are shipped directly to the holder of a license issued under Section 3743.03 or 3743.16 of the Revised Code or to the holder of a license issued under Section 3743.51 of the Revised Code who possesses a valid exhibition permit issued in accordance with Section 3743.54 of the Revised Code and the fireworks being shipped are to be used at that specifically permitted exhibition.*

5609.3 Intrastate shipment of fireworks. *No person shall ship fireworks within this state by mail, parcel post, or common carrier unless the fireworks are shipped directly to the holder of a license issued under Section 3743.03 or 3743.16 of the Revised Code or to the holder of a license issued under Section 3743.51 of the Revised Code who possesses a valid exhibition permit issued in accordance with Section 3743.54 of the Revised Code and the fireworks being shipped are to be used at that specifically permitted exhibition.*

Section 5610 Storage of fireworks at exhibition site

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5610.1 Storage. The storage of fireworks at the *exhibition* site shall comply with the requirements *of* this section and NFPA 1123 *and* NFPA 1126. *All fireworks to be used at a fireworks exhibition shall be stored in an approved magazine at the exhibition site until immediately prior to their use. Such magazine shall be located in an area approved by the local fire official and shall meet the table of distances requirements of this chapter. Magazines shall be constructed in accordance with this chapter. No fireworks may be acquired or stored by an exhibitor until the permit for the specific exhibition that the fireworks will be used at has been issued. Such storage shall not exceed a period of seventy-two hours prior to the start of the fireworks exhibition as provided for in the approved permit unless all of the following apply:*

1. *The fire code official having jurisdiction over the exhibition approves the extended time period for storage as part of the exhibition permit.*

2. *All fireworks are stored at the exhibition site as that site is described in the permit.*

3. *The fireworks stored at the exhibition site in accordance with this rule shall only be those fireworks approved by the fire code official having jurisdiction as necessary for the specific exhibition listed in the exhibition permit that describes the extended storage period.*

4. *The extended time period for storage shall not exceed a maximum of fourteen days.*

5610.2 **Supervision and weather protection.** Beginning as soon as fireworks have been delivered to the *exhibition* site, they shall not be left unattended.

5610.3 **Weather protection.** Fireworks shall be kept dry after delivery to the *exhibition* site.

5610.4 **Inspection.** *Fireworks* shall be inspected by the operator or assistants after delivery to the *exhibition* site. *Fireworks* having tears, leaks, broken fuses or signs of having been wet shall be set aside and shall not be fired. Aerial shells shall be checked for proper fit in mortars prior to discharge. Aerial shells that do not fit properly shall not be fired. After the fireworks *exhibition*, damaged, deteriorated or dud *fireworks* shall either be returned to the supplier or destroyed in accordance with the supplier's instructions and Section 5604.10.

Exception: Minor repairs to fuses shall be allowed. For electrically ignited *exhibitions*, attachment of electric matches and similar tasks shall be allowed.

5610.5 **Sorting and separation.** After delivery to the *exhibition* site and prior to the fireworks *exhibition*, all *aerial* shells shall be separated according to size and their designation as salutes.

Exception: For electrically fired *fireworks exhibitions*, or *exhibitions* where all shells are loaded into mortars prior to the show, ~~there is no requirement for~~ separation of shells according to their size or their designation as salutes is not required.

5610.6 **Ready boxes.** *Fireworks* that will be temporarily stored at the site during the fireworks *exhibition* shall be stored in ready boxes located upwind and ~~at least~~not less than 25 feet (7620 mm) from the mortar placement and separated according to their size and their designation as salutes.

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Exception: For electrically fired fireworks *exhibitions*, or *exhibitions* where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to their size, their designation as salutes~~,~~ or for the use of ready boxes.

Section 5611 Flame effects permit

5611.1 Scope. *This section shall apply to the following:*

1. *Use of flame effects for entertainment, exhibition, demonstration or simulation before an audience;*
2. *Design, fabrication, installation, testing, control, operation, and maintenance of equipment, materials, procedures, and systems used to produce flame effects;*
3. *Rehearsal, videotaping, audio taping, or filming of any television, radio, or movie production if such production is before an audience and includes the use of flame effects;*
4. *Rehearsal of any production incorporating flame effects intended to be presented before an audience;*
5. *Storage and holding at a venue where flammable and combustible materials are used to create flame effects;*

5611.2. This rule shall not apply to:

1. *Flame effects produced solely by pyrotechnic special effects devices;*
2. *Use of pyrotechnic special effects;*
3. *Storage of flammable solids, liquids, and gases not to be used to create flame effects;*
4. *Manufacture, off-site storage, and transportation of materials and equipment used to produce flame effects;*
5. *Use of flame effects in fire training, except where there is an audience that is not part of the training;*
6. *Manufacture, transportation, storage, sale, or use of model or high-power rocket motors;*
7. *Traditional non-theatrical public display of flames such as the following:*
   - *7.1 Use of lighted candles in restaurants or religious services;*
   - *7.2 Fireplace in areas open to the public;*
   - *7.3 Restaurant cooking visible to the patrons;*
   - *7.4 Listed Group II flame effects.*
8. *Use of motor vehicles in races or sanctioned competitive sporting events.*

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5611.3 *Permit.* *A permit shall be obtained from the local fire code official of the jurisdiction for the use of any flame effect in an indoor and outdoor flame effects exhibition as set forth in Section 5611.1 at least five days in advance of the production, exhibition, demonstration, or simulation using the flame effects. Failure to obtain a permit prior to five days in advance of the production or non-compliance with the requirements of this rule and NFPA 160 may, in the discretion of the local fire code official, result in denial or revocation of the permit.*

Before any flame effects exhibition permit issued under this chapter is considered to be a valid permit to allow the licensed flame effects exhibitor to conduct a flame effects exhibition, the permit, upon approval, must be signed and dated by the local fire code official having jurisdiction. As required by the local fire code official to confirm compliance with this section, receipt of the permit and/or any conditions associated thereto, the flame effects exhibitor shall sign and date the permit application, the permit and/or any other required documentation.

When a permit is required by this chapter, a local fire code official shall be present during the production, exhibition, demonstration, or simulation using flame effects.

> ***Exception**: When issuing a permit for a group I or group II flame effects production, exhibition, demonstration, or simulation using flame effects, the local fire code official may determine that a local fire code official need not be present during such an exhibition.*

If a permit is required by this rule, the permit shall identify the local fire code official who will be present before, during, and after the flame effects exhibition.

If any portion of the fire protection or life safety systems of a structure are interrupted during the operation of flame effects, a local fire code official must grant a prior approval of and be present during such interruptions.

Any performance adding flame effects different from the performance described in the permittee's plan shall require approval by the local fire code official having jurisdiction.

5611.4 *Permit form.* *The application form for exhibition permit as prescribed by the state fire marshal shall be legibly and fully completed by the licensed flame effects exhibitor to clearly indicate the circumstances and class of the flame effects exhibition the flame effects exhibitor wishes to conduct.*

5611.5 *Flame effects use plan.* *Before the performance of any production, the permit applicant shall submit a plan for the presentation, operation, or use of flame effects to the local fire code official. The plan shall be made in writing in such form as is acceptable to the local fire code official and shall demonstrate compliance with this ~~chapter~~ code and NFPA 160. The plan shall include but is not limited to the following:*

1. *The name of the person, group, or organization sponsoring the production;*
2. *The date and time of day of the production;*
3. *The exact location of the production;*
4. *The name of the licensed exhibitor of flame effects ~~exhibitor~~ and proof of a current, valid licensed exhibitor of flame effects ~~exhibitor~~ license issued by the state fire marshal;*

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5. The number, names, and ages of ~~all assistants that will be present~~any and all persons who support or aid the flame effects exhibition in any manner including holding the unlit flame effect prior to actual lighting and presentation of the flame effect by a licensed exhibitor of flame effects;

5.1 No person who is not a licensed exhibitor of flame effects may present, operate or use a flame effect or conduct a flame effect exhibition or related activities subject to this code and NFPA 160 unless that person is a currently licensed exhibitor of flame effects.

6. The qualifications and experience of the flame effects exhibitor;

7. The flame effects classification and design criteria in accordance with NFPA 160;

8. A diagram of the site indicating the location of all flame effects devices, the areas effected by each device, location of the audience and separation distances, means of egress, and information on all fuels and ventilation for each effect;

9. A narrative description of the flame effects, controls, and control sequences of all devices, and emergency response procedures;

10. If applicable, a valid Material Safety Data Sheet (MSDS) for each fuel utilized;

11. Documentation that the set, scenery, and rigging materials are treated with appropriate flame retardant.

After a permit has been granted, the permittee shall keep the plan available at the site for safety inspectors or other designated agents of each authority having jurisdiction.

5611.6 *Fee.* When the legislative authority of the political subdivision has prescribed a fee for the issuance of a permit for a flame effects exhibition, the local fire code official shall not issue such permit until the flame effects exhibitor pays the requisite fees as required by the local legislative enactment setting forth such fee.

5611.7 *Inspection of site.* Prior to issuance, the local fire code official having jurisdiction shall inspect the premises where the flame effects exhibition is to take place and determine whether the exhibition, demonstration, or simulation using flame effects is in compliance with this chapter, Chapter 3743.of the Revised Code, and NFPA 160 (Annex C, Inspection Guidelines).

5611.8 *Inspection checklist.* At the time of the required site inspection, the local fire code official having jurisdiction shall complete the required detailed inspection checklist as prescribed by the state fire marshal. No production, exhibition, demonstration, or simulation using flame effects shall occur in this state until the licensed flame effects exhibitor possesses a copy of the appropriate checklist signed by the local fire code official.

5611.9 *Requirements to conduct a ~~exhibit~~ flame effects exhibition.* No person shall engage in the production, exhibition, demonstration, or simulation using flame effects unless the person obtains a permit in accordance with this chapter. No permit for a flame effects exhibition shall be granted unless the applicant is a currently ~~in possession of a valid flame effects exhibitor's license~~ licensed exhibitor of flame effects in accordance with Section 5619 to exhibit, demonstrate, or simulate using flame effects. Each applicant for a permit shall show the applicant's license as a

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flame effects exhibitor's license to the local fire code official and, upon request, to the police chief or other similar law enforcement officer.

5611.10 ***Permit, denial and revocation.*** *The local fire code official may deny or revoke a flame effects exhibition permit for any of the following:*

1. *The applicant/exhibitor does not possess a valid flame effects exhibitor's license issued by the state fire marshal.*

2. *The site on which the flame effects exhibition is to take place does not conform to the applicable rules.*

3. *The applicant has failed to pay the permit fee or provide the required information.*

4. *The applicant has failed to provide the required indemnity bond or proof of insurance, if such indemnity bond or proof of insurance is required by the local fire code official at the local fire code official's discretion.*

5. *The flames effects exhibitor has failed to postpone a flame effects exhibition when so ordered due to unsafe conditions or operations, unsafe spectator conditions, or any other condition in violation of this rule.*

6. *The flames effects exhibitor has failed to store the flame effects in a safe manner prior to or during the flame effects exhibition or is firing the flame effects exhibition in an unsafe manner.*

7. *The licensed flames effects exhibitor present at the flame effects exhibition is not the licensed flame effects exhibitor that was designated to be present pursuant to Sections 5611.2 and 5611.4. The local fire code official is authorized to approve a substitution of another licensed flame effects exhibitor under extenuating circumstances prior to the flame effects exhibition provided that the substitute licensed flame effects exhibitor:*

   7.1 *Demonstrates to the local fire code official possession of a valid flame effects exhibitor's license;*

   7.2 *Signs the flame effects exhibition permit and thereby accepts the full responsibility and liability for conducting the flame effects exhibition as initially approved;*

   7.3 *If required by the local fire code official, produces proof that general liability insurance or indemnity bond issued by a company licensed to provide such coverage in the state of Ohio, for an amount no less than one million dollars or as otherwise required in a higher amount by the local fire code official, is in force for the applicant and includes acts of all employees;*

   7.4 *Demonstrates to the local fire official that they are authorized by the initial flame effects exhibitor to conduct the flame effects exhibition;*

   7.5 *Follows the initially approved conditions of the flame effects exhibition permit;*

   7.6 *Conducts the flame effects exhibition in accordance with the requirements of this chapter.*

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8. The licensed flame effects exhibitor failed to produce, exhibit, demonstrate, or simulate using flame effects in accordance with this chapter or otherwise failed to comply with the requirements set forth in this chapter.

5611.11 ***Ceasing operations.*** *Operations shall immediately cease and the flame effects exhibition shall be postponed by the licensed flame effects exhibitor when so ordered by the local fire code official or due to unsafe conditions or operations, unsafe spectator conditions, or any other condition in violation of this chapter.*

The local fire code official shall order the immediate cessation of the flame effects exhibition due to unsafe conditions or operations, unsafe spectator conditions, or any other condition in violation of this chapter. The orders to cease operations, postpone the flame effects exhibition and the revocation of the flame effects exhibition permit may be communicated verbally by the local fire code official. When so ordered or when the flame effects exhibition permit has been revoked, the flame effects exhibitor shall cease the flame effects exhibition immediately. The flame effects exhibitor may reapply for a new permit for the flame effects exhibition when the local fire code official is satisfied that all rules, conditions, and operations are safe or have been complied with.

5611.12 ***General.*** *All flame effects control systems shall be designed and installed to prevent accidental firing and unintentional release of fuel.*

5611.13 ***Holding areas, quantity, use, operation, design, and control of flame effects.***

5611.13.1 General *All flame effect materials and devices not connected for use shall be stored in accordance with applicable codes and standards and any state and local regulations.*

5611.13.2 Holding areas *All flammable flame effect materials and loaded devices that have been removed from storage areas in anticipation of use shall be stored in a holding area acceptable to the local fire code official.*

5611.13.3 Quantity limitations. *The maximum quantity of flammable flame effect materials and loaded devices stored in a holding area shall be that quantity used in one day.*

Quantities of flammable flame effect materials and devices in excess of those used in one day shall be permitted to be stored in holding areas with the approval of the local fire official.

Flammable flame effect materials and loaded devices in holding areas shall be secured or supervised continuously by an attendant trained in emergency response procedures.

All flame effects and flame effects exhibitors shall comply with NFPA 160 and the NFPA 160 annexes.

5611.14 ***Insurance.*** *The local fire code official having jurisdiction may require the applicant to maintain valid general liability insurance or an indemnity bond in force for the applicant and includes acts of all employees that is issued by a company licensed to provide such coverage in the state of Ohio, for an amount no less than one million dollars or as otherwise required in a higher amount by the local fire official.*

5611.15 ***Documentation.***

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5611.15.1 General *All flame effects devices and materials shall have drawings, manuals, or written descriptions to describe the type of item and performance specifications of the flame effects created. This documentation shall be on site and available to the local fire official.*

5611.16 ***Operating procedures*** *All flame effects shall have written operating instructions including start-up, show operations normal shutdown procedures, and emergency shutdown procedures. Operating instructions shall be available to the operator.*

Section 5612 Operational requirements

5612.1 *All licensed manufacturers, wholesalers, shippers, and fireworks exhibitors shall comply with the applicable requirements listed in this chapter, the building code, NFPA 1123, NFPA 1124 (2006 or 2017 edition as applicable per Section 5601.1.3) and NFPA 1126, relating to operation, record keeping and reporting, site security, separation distances, heating, lighting, electrical equipment, smoking regulations, fire and explosion prevention, fire protection and emergency procedures, transportation, and operations of fireworks exhibits.*

5612.1.1 *All manufacturing or processing of fireworks must be in accordance with Chapter 3743. of the Revised Code, the applicable provisions of NFPA 1123, NFPA 1124 and NFPA 1126 and, to the extent not addressed by the Revised Code or NFPA 1123, NFPA 1124 and NFPA 1126, in accordance with Section 5605.*

5612.2 *Licensed manufacturers and licensed wholesalers need not comply with any requirements of Section 5613 rule which concern the distance requirements of division* (G) *of section 3743.06 or division* (H) *of Section 3743.19 of the Revised Code if the buildings were erected on or before May 30, 1986 and were occupied by a licensee with a license for that location prior to December 1, 1990.*

5612.3 Continuing education. *Each licensed manufacturer, wholesaler, or exhibitor shall comply with the applicable continuing education requirements as follows:*

5612.3.1 Manufacturer. *Each licensed manufacturer of fireworks that possesses fireworks for sale and sells fireworks under division* (C) *of Section 3743.04 of the Revised Code, or a designee of the manufacturer, whose identity is provided to the state fire marshal by the manufacturer, annually shall attend a continuing education program. The state fire marshal shall develop the program and the state fire marshal or a person or public agency approved by the state fire marshal shall conduct it. A licensed manufacturer or the manufacturer's designee who attends a required program, within one year after attending the program, shall conduct in-service training for other employees of the licensed manufacturer regarding the information obtained in the program. A licensed manufacturer shall provide the state fire marshal with notice of the date, time, and place of all in-service training. The state fire marshal shall establish the subjects to be taught, the length of the classes, and the standards for approval, and the time periods for notification by the licensee to the state fire marshal of any in-service training.*

Exception: *If approved by the state fire marshal, any licensed manufacturer of fireworks that possesses fireworks for sale and sells fireworks under division (C) of Section 3743.04 of the Revised Code, or a designee of the manufacturer, whose identity is provided to the state fire marshal by the manufacturer, who serves as an instructor at a continuing*

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education program outlined above shall not have to attend an additional continuing education program as a student during that same licensing year.

5612.3.2 Wholesaler. *Each licensed wholesaler of fireworks or a designee of the wholesaler, whose identity is provided to the state fire marshal by the wholesaler, annually shall attend a continuing education program. The state fire marshal shall develop the program and the state fire marshal or a person or public agency approved by the state fire marshal shall conduct it. A licensed wholesaler or the wholesaler's designee who attends a required program, within one year after attending the program, shall conduct in-service training for other employees of the licensed wholesaler regarding the information obtained in the program. A licensed wholesaler shall provide the state fire marshal with notice of the date, time, and place of all in-service training. The state fire marshal shall establish the subjects to be taught, the length of the classes, and the standards for approval, and the time periods for notification by the licensee to the state fire marshal of any in-service training.*

Exception: *If approved by the state fire marshal, any licensed wholesaler of fireworks or a designee of the wholesaler, whose identity is provided to the state fire marshal by the wholesaler, who serves as an instructor at a continuing education program as outlined above shall not have to attend an additional continuing education program as a student during that same licensing year.*

5612.3.3 Exhibitor. *Each licensed exhibitor of fireworks or a designee of the exhibitor, whose identity is provided to the state fire marshal by the exhibitor, shall attend a continuing education program consisting of not less than six hours of instruction once every three years. The state fire marshal shall develop the program and the state fire marshal or a person or public agency approved by the state fire marshal shall conduct it. A licensed exhibitor or the exhibitor's designee who attends a required program, within one year after attending the program, and on an annual basis during the following two years, shall conduct in-service training for other employees of the licensee regarding the information obtained in the program. After each in-service training, the licensed exhibitor shall provide a roster to the state fire marshal's office listing all those that attended the in-service training. A licensed exhibitor shall provide the state fire marshal with certified proof of full compliance with all applicable annual training requirements of the United States Department of Transportation and of the Occupational Safety and Health Administration. A licensed exhibitor shall provide the state fire marshal with notice of the date, time, and place of all in-service training not less than thirty days prior to an in-service training event. An individual exhibitor who has no employees shall not fulfill continuing education requirements through a designee. An exhibitor who fulfills the continuing education requirements through a designee shall provide the identity and exhibitor license number of the designee to the state fire marshal prior to the training program. Each licensed exhibitor shall provide documentation evidencing compliance with the continuing education requirements in the manner prescribed in the license renewal application material.*

5612.3.3.1. *Upon approval of the state fire marshal, any licensed exhibitor of fireworks or a designee of the exhibitor whose identity is provided to the state fire marshal by the exhibitor, who serves as an instructor at a continuing education program as outlined above may count any hour(s) spent instructing as credit toward the exhibitor's or the designee's continuing education requirements as long as the hours of instruction were performed during the licensure period for which credit is sought.*

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5612.3.4 Records. *All records documenting the completion of the continuing education required by this chapter shall be maintained for a period of three years and shall be available for inspection by the state fire marshal or his/her designee when requested.*

5612.3.5 *In the discretion of the state fire marshal, continuing education classes provided under this section by the state fire marshal may be virtual or offered through similar digital means consistent with policies the state fire marshal establishes for such classes.*

Section 5613 Testing of fireworks for classification

5613.1 Suspect fireworks. *If there is reason to believe that the explosive composition or the pyrotechnic mixture of a particular fireworks device of the manufacturer, wholesaler, shipper, or exhibitor does not meet the DOTn classification regulations, such person shall furnish a random sampling of such fireworks device to the state fire marshal for testing to determine compliance of the device with DOTn classification regulations.*

1. *Fireworks shall be evaluated and tested by the state fire marshal by written request or by seizure.*

2. *The classification test shall not be construed as conferring classification to any other item, nor shall the trade name of any item be changed without notifying the state fire marshal thirty days prior to such change.*

3. *Fireworks or pyrotechnic devices that have not been classified by DOTn classification standards shall not be used, stored, or sold for use within this state.*

5613.2 Fee. *Fireworks or pyrotechnic devices that are submitted to the state fire marshal for classification by licensed manufacturers, wholesalers, shippers, or exhibitors shall be accompanied by a fee of twenty dollars for each item.*

5613.3 Submission of live samples. *When required by the state fire marshal, live samples shall be submitted to the state fire marshal for testing. The number of samples necessary shall be determined by the state fire marshal, but in no case shall the number of samples be less than ten.*

5613.4 *No person, other than the state fire marshal, a licensed manufacturer, licensed wholesaler or a licensed exhibitor pursuant to a properly issued exhibition permit, shall test fireworks. All testing of fireworks shall be in accordance with Chapter 3743. of the Revised Code, this rule and, to the extent not addressed by the Revised Code or this rule, in accordance with the applicable provisions of NFPA 1123, NFPA 1124 and NFPA 1126.*

Section 5614 Fireworks categories and labeling and general requirements

5614.1 *Pursuant to Chapter 3743. of the Revised Code, including Section 3743.05 of the Revised Code, the state fire marshal establishes the following fireworks categories and uses:*

5614.1.1 Manufacturing. *A licensed manufacturer of fireworks may manufacture or process only the following categories of fireworks in accordance with Chapter 3743. of the Revised Code, this chapter and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126: 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

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5614.1.2 Sales and other operations. *In accordance with Chapter 3743. of the Revised Code, this chapter and the applicable provisions of NFPA 1123, NFPA 1124 (2006 or 2017 edition as applicable per Section 5601.1.3) and/or NFPA 1126, a licensed manufacturer may offer for sale and sell at wholesale or retail fireworks if manufactured by the licensee or fireworks manufactured by another, and may conduct other fireworks related activities on its licensed premises, for only the following categories of fireworks: 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

In accordance with Chapter 3743. of the Revised Code, this chapter and the applicable provisions of NFPA 1123, NFPA 1124 (2006 or 2017 edition as applicable per Section 5601.1.3) and/or NFPA 1126, a licensed wholesaler may offer for sale and sell fireworks at wholesale or retail, and may conduct other fireworks related activities on its licensed premises, for only the following categories of fireworks: 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).

In accordance with Chapter 3743 of the Revised Code, including section 3743.27 of the Revised Code, Section 5627, and the applicable portions of NFPA 1124, a licensed fountain device retailer may offer for sale and sell at retail 1.4G fireworks (UN 0336) that meet the definition of a 'fountain device' as defined in division (H) of section 3743.01 of the Revised Code and this code.

5614.1.3 *Acquisition of fireworks and other general provisions*.

5614.1.3.1 *Out of state residents acquiring and taking possession of fireworks while such persons are in Ohio, and who are not acquiring fireworks pursuant to a license issued under Chapter 3743 of the Revised Code, may obtain only the following category of fireworks from a licensed manufacturer or licensed wholesaler in accordance with federal laws, rules and regulations, Chapter 3743. of the Revised Code (including section 3743.46 of the Revised Code), this chapter and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126: 1.4G fireworks (UN0336). Such persons shall not make, acquire, possess, sell, distribute, store, use, transport, exhibit or display any other category of fireworks while in Ohio without the proper state issued license and other required permits for such activities.*

5614.1.3.2 *Out of state persons acquiring fireworks while such persons are not located in Ohio may obtain the following categories of fireworks from a licensed manufacturer or licensed wholesaler in accordance with federal laws, rules and regulations, Chapter 3743. of the Revised Code, this chapter and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126: 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

5614.1.3.3 *Ohio residents acquiring and taking possession of fireworks while such persons are in Ohio, and who are not acquiring fireworks pursuant to a license issued under Chapter 3743 of the Revised Code, may obtain only the following category of fireworks from an Ohio licensed manufacturer or wholesaler in accordance with federal laws, rules and regulations, Chapter 3743. of the Revised Code (including section 3743.45*

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of the Revised Code), this chapter and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126: 1.4G fireworks (UN0336). Such persons shall not make, acquire, possess, sell, distribute, store, use, transport, exhibit or display any other category of fireworks while in Ohio without the proper state issued license and other required permits for such activities.

5614.1.3.4 *Licensed manufacturers and licensed wholesalers may acquire, in accordance with federal laws, rules and regulations, Chapter 3743. of the Revised Code, this chapter and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126, the following categories of fireworks from other licensed manufacturers and licensed wholesalers or licensed out of state shippers: 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

5614.1.3.5 *A licensed exhibitor of fireworks may, upon presentation of a properly issued and valid permit pursuant to section 3743.54 of the Revised Code, acquire, in accordance with federal laws, rules and regulations, Chapter 3743. of the Revised Code, this chapter and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126, only the following categories of fireworks for ~~a~~ such properly permitted exhibition only from a licensed manufacturer, a licensed wholesaler or, if such fireworks are shipped directly to an exhibition site, from a licensed out of state shipper:*

5614.1.3.5.1 *For an outdoor display exhibition: 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

5614.1.3.5.2 *For an indoor display exhibition: 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

5614.1.3.5.3 *Unless in accordance with Section 3743.46 of the Revised Code, no licensed exhibitor of fireworks shall:*

1. *acquire any fireworks, including 1.3G fireworks, for use in any exhibition other than those categories of fireworks authorized by this rule and such acquisition shall only be for up to the maximum amounts or quantities, and for the types of fireworks listed in the specific exhibition permit used to acquire the fireworks.*

2. *possess or store any fireworks, including 1.3G fireworks, for use in any exhibition in a manner not authorized by this Chapter, Section 5610.1, and other applicable laws and regulations.*

5614.1.3.6 *A licensed fountain device retailer may acquire, in accordance with federal laws, rules and regulations, Chapter 3743. of the Revised Code, this rule and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126, only the following categories of fireworks from Ohio licensed manufacturers and licensed wholesalers or licensed out of state shippers: 1.4G fireworks (UN0336) that meet the definition of a 'fountain device' as defined in division (H) of section 3743.01 of the Revised Code and this code.*

5614.1.3.7 *A person may acquire in accordance with federal laws, rules and regulations, Chapter 3743. of the Revised Code (including sections 3743.27 and 3743.45 of the*

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Revised Code), this rule and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126, only the following categories of fireworks from Ohio licensed fountain device retailer: 1.4G fireworks (UN0336) that meet the definition of a 'fountain device' as defined in division (H) of section 3743.01 of the Revised Code and this code.

5614.1.4 Ignition, discharge and display of fireworks. *Except as authorized in section 3743.45 of the Revised Code and Sections 5626 and 5627, the ignition, discharge and display of fireworks may only occur in accordance with Chapter 3743. of the Revised Code, this code, and Section 5614.1.4. Other than the testing of fireworks described in Section 5613, only a licensed exhibitor acting in accordance with a properly issued exhibition permit and in accordance with the federal laws, rules and regulations, Chapter 3743. of the Revised Code, this chapter and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126, may ignite, discharge or display only the following categories of fireworks:*

5614.1.4.1 For an outdoor display exhibition. *1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

5614.1.4.2 For an indoor display exhibition. *1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

5614.1.4.3 An indoor or outdoor use of pyrotechnic effect simulation equipment.

5614.1.5 Shipping into Ohio. *Only the following categories of fireworks may be shipped into Ohio:*

5614.1.5.1 Directly to a licensed manufacturer or a licensed wholesaler. *1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

5614.1.5.2 Directly to a licensed exhibitor at the site of a properly permitted outdoor exhibition for such exhibitor. *1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

5614.1.5.3 Directly to a licensed exhibitor at the site of a properly permitted indoor exhibition for such exhibitor. *1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432).*

All such shipments must be in accordance with federal laws, rules and regulations, Chapter 3743. of the Revised Code, this chapter and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126.

5614.1.6 Possession, transportation and storage of fireworks. *The possession, transportation and storage of 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432) shall be in accordance with federal laws, rules and regulations, Chapter 3743. of the Revised Code, this chapter and the applicable provisions of NFPA 1123, NFPA 1124 and/or NFPA 1126.*

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No other types of fireworks may be manufactured, sold, purchased, shipped, transported, possessed, ignited, displayed, stored or otherwise used in Ohio.

5614.2 Fireworks labeling. *All fireworks manufactured, sold, shipped, transported, or displayed in this state shall be labeled in accordance with the CPSC regulations and other applicable laws, rules or regulations, including regulations promulgated by the United States Department of Transportation.*

5614.3 Sales. *A licensed manufacturer, wholesaler, or fountain device retailer shall only sell fireworks that meet the standards set by the consumer product safety commission or by the American fireworks standard laboratories or that have received an EX number from the United States Department of Transportation or an FC Number from a Department of Transportation approved fireworks certification agency. The state fire marshal may publish and maintain a listing of the specific EX numbers from the United States Department of Transportation or FC Numbers from a Department of Transportation approved fireworks certification agency of fireworks that can be sold in Ohio. At least thirty days prior to publishing or updating such a list, the state fire marshal shall distribute it to all Ohio licensed manufacturers and wholesalers of fireworks for comment.*

5614.4 General. *No person or holder of a license issued pursuant to Chapter 3743. of the Revised Code shall acquire, possess, use, discharge, display, exhibit, ship, transport, store, manufacture, test, dispose, wholesale, sell at retail, or distribute any fireworks in this state unless such actions are in accordance with, at a minimum, the Revised Code, the Ohio Administrative Code, Chapter 56, and applicable political subdivisions laws and regulations.*

Section 5615 General requirements for licensure application and license

5615.1 License fee.

5615.1.1 *Every license fee required in accordance with this chapter shall be paid with ~~cash or by~~an acceptable form of payment as established by the state fire marshal, including a money order, postal note, cashier's check, credit card, approved digital payment process, certified check or personal check payable to the "Treasurer, State of Ohio."*

5615.1.2 *Every required license fee shall be paid at or mailed to the "Division of State Fire Marshal," at the address specified on the application material, or through a process established by the state fire marshal.*

5615.2 Expired license. *Renewal applications received after the required submittal dates shall be considered new applications and, for any licenses subject to Section 5619, shall meet the examination requirement of Section 5619.7.*

5615.3 Duplicate license. *In the event that a valid license is lost or accidentally destroyed, an application for a duplicate license shall be made in writing to the state fire marshal. The application for a duplicate license shall be accompanied by a ten-dollar fee.*

5615.4 Misuse of license. *No person who has been issued a manufacturer's or wholesaler's license shall give or permit any other person to use such license in violation of division* (D) *of Section 3743.04 and division* (D) *of Section 3743.17 of the Revised Code. No person who has been issued a shipping permit shall give or permit any other person to use such permit in violation of division* (F) *of Section 3743.40 of the Revised Code. No person who has been issued an exhibitor's license shall give or permit any other person to use such license in violation of division*

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(B) *of Section 3743.52 of the Revised Code. Any license or permit is not transferable or assignable to any other holder at the same location without the written permission of the state fire marshal, nor shall any license be extended beyond the dates set out therein.*

***Exception:** A permit for a fireworks exhibition may be transferred to a substitute licensed exhibitor as provided for in Section 5608.8.7.*

***5615.5 Forfeiture of fee.** When a license has been denied, revoked or suspended pursuant to this chapter and Chapter 119. of the Revised Code, the fee for such license shall be forfeited and deposited into the state fire marshal's rotary fund and applied as a fee for license processing.*

***5615.6 Issuance, denial suspension, or revocation.** The state fire marshal shall not issue an initial or renewal license, permit or registration authorized by Chapter 3743. of the Revised Code, and may suspend or revoke such licenses permits, if the applicant for the license or permit, or any individual holding, owning, or controlling a five per cent or greater beneficial or equity interest in the applicant for the license or permit, has been convicted of or pleaded guilty to, after June 30, 1997, a ~~felony~~ disqualifying offense in accordance with Section 9.79 of the Revised Code under the laws of this state, another state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country and such actions by the state fire marshal are in accordance with division (A) of section 3743.70 of the Revised Code.*

***5615.7 Investigation.** ~~Upon~~ Subject to Section 3743.70 of the Revised Code, upon receipt of an application and the required accompanying matter, the state fire marshal shall forward to the superintendent of the bureau of criminal identification and investigation a request that the bureau conduct an investigation of the applicant and, if applicable, additional individuals who hold, own, or control five per cent or greater beneficial or equity interest in the applicant, to determine whether the applicant or the additional associated individuals have been convicted of or pled guilty to a disqualifying offense in accordance with Section 9.79 of the Revised Code ~~felony~~ under the laws of this state, another state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country. If the applicant for initial licensure has resided in this state for less than five continuous years immediately prior to the date the applicant submits an initial application, the superintendent also shall request that the Federal Bureau of Investigation conduct an investigation of the applicant and, if applicable, additional individuals who hold, own or control a five per cent or greater beneficial or equity interest in the applicant, to determine whether the applicant or the additional associated individuals have been convicted of or pled guilty to a disqualifying offense in accordance with Section 9.79 of the Revised Code~~felony~~ under the laws of this state, another state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country. The superintendent shall forward the results of the investigation to the state fire marshal and may charge a reasonable fee for providing the results. The state fire marshal shall also assess the applicant any fee charged by the superintendent for the results to the applicant.*

***5615.8 License status.** The state fire marshal shall not place the existing license of a manufacturer or wholesaler in a temporarily inactive status while the holder of the license is attempting to qualify to retain the license.*

***5615.9 Geographic transfer of license.** All geographic transfers of a manufacturer of fireworks license or a wholesaler of fireworks license may only occur in accordance with, and in compliance with, section 3743.75 of the Revised Code.*

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5615.10 Ownership transfer of license. *Upon application by a licensed manufacturer or wholesaler of fireworks, a manufacturer or wholesaler license may be transferred to another person for the same particular location for which the license was issued if the assets of the manufacturer or wholesaler are transferred to that person by inheritance or by a sale approved by the state fire marshal. The state fire marshal shall not approve any transfer applications under this section unless:*

1. *The state fire marshal receives a satisfactory application for such a transfer on a form approved by the state fire marshal.*

2. *The person seeking to transfer the license is the verified owner of the license and is otherwise permitted by law to transfer its ownership interests in such license.*

3. *The person receiving ownership of the license meets the requirements of the Revised Code and this code for the possession of such a license.*

4. *The licensed premises for the particular location is inspected by the state fire marshal.*

5. *The license and the licensed premises are in compliance with the provisions of the Revised Code and this code.*

Section 5616 Requirements for manufacturers and wholesalers

5616.1 Application. *Unless otherwise required by law, application by a manufacturer or wholesaler for an original license or a renewal license shall be made on or after the first day of August but prior to the first day of October preceding the license year for which the original application or renewal application is being made. The application form shall be as prescribed by the state fire marshal. Failure to submit the application and license fee prior to the first day of October may require that the applicant wait until the following year to make another application. The original and renewal fee for a manufacturer or wholesaler license shall be two thousand seven hundred fifty dollars. The manufacturer or wholesaler license is effective for one year beginning on the first day of December. The state fire marshal shall issue or renew a license only on that date and at no other time unless otherwise specified by law.*

5616.1.1 *If an applicant has any storage locations approved in accordance with the Revised Code or this code, the applicant also shall submit a fee of one hundred dollars per storage location for the inspection of each storage location.*

5616.2 Denial or revocation of license. *A manufacturer or wholesaler license may be suspended, denied or revoked pursuant to Chapter 119. of the Revised Code when any of the following occur:*

5616.2.1 *The applicant has failed to submit proof of comprehensive general liability insurance or licensee has failed to maintain the same.*

5616.2.2 *The applicant has failed to provide the required information on the application form provided by the state fire marshal including, but not limited to failure to include, the identification of a statutory agent if applicable or other designated agent for service of process at the time of application and prompt notification of any changes in the statutory agent.*

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5616.2.3 *The applicant has failed to include the required fee for the license with the application.*

5616.2.4 *The applicant withdraws his or her application prior to an investigation or inspection by the state fire marshal to determine if the license shall be issued.*

5616.2.5 *The applicant or licensee has made a misrepresentation or filed false statements.*

5616.2.6 *There is substantial evidence that the fireworks premises are not in full compliance with Chapters 3781. and 3791. of the Revised Code, or any applicable building or zoning regulations.*

5616.2.7 *To the extent authorized by division (A) of Section 3743.70 of the Revised Code, the state fire marshal shall suspend, revoke or deny renewal of a license or permit first issued under Chapter 3743. of the Revised Code on or after July 1, 1997, if the holder of the license or permit, or any individual holding, owning, or controlling a five per cent or greater beneficial or equity interest in the holder of the license or permit, is convicted of or pleads guilty to a ~~felony~~ disqualifying offense in accordance with Section 9.79 of the Revised Code under the laws of this state, another state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country.*

5616.2.8 *The licensed premises fails to comply with the requirements as set forth in* Section 5623.

5616.2.9 *The applicant, licensee or premises fails to comply with the requirements or any provision of the Ohio Revised Code, Ohio Administrative Code or NFPA standards or any order of the state fire marshal.*

5616.2.10 *The applicant or licensee fails to comply with the applicable provisions of sections 3743.22, 3743.44, 3743.45, 3743.451 or any rules adopted pursuant to that section, 3743.46, 3743.47, including failure to provide the required safety pamphlet or have safety glasses available, 3743.60, 3743.61, 3743.63 or 3743.65 of the Revised Code.*

5616.3 Fireworks listing. *Applicants for all manufacturer or wholesaler licenses shall submit with their application to the state fire marshal a complete detailed list of all types of fireworks that they intend to wholesale, sell, offer for sale, transport, process, or otherwise dispose of. The list shall contain the following information:*

5616.3.1 *The classification of all fireworks, including 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432) materials in accordance with the regulations of the U.S. Department of Transportation (DOTn 49 CFR), the type of all fireworks, and the names of each device in the inventory. Records of the amount of each type of device kept in the inventory shall be made available for inspection by the state fire marshal or his designee or fire code official upon request.*

5616.4 Change in fireworks list. *Applicants for a manufacturer or wholesaler license shall notify the state fire marshal in writing of any changes in content, construction, additions of, or deletion of any fireworks device on the submitted list. All lists shall be updated annually for license renewal.*

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5616.5 Map. *All applicants for an initial manufacturer or wholesaler license, and thereafter at the discretion of the state fire marshal, shall submit a map showing the premises, all premises boundaries, building locations, building dimensions, distances between buildings, distance of the buildings from lot lines, railroads, roadways and habitable structures on adjoining properties. The map shall be sufficient to clearly delineate the boundaries, dimensions and all structures or other temporary or permanent fixtures located thereon that constitute the licensed premises. All buildings and structures shall be numbered and a list shall be attached to the map that corresponds to the building and structure number assigned to each, indicating the type of construction, date of construction (if erected after May 30, 1986) and actual use of each building and structure. Maps shall be drawn to scale by an architect, engineer or cartographer.*

5616.5.1 Boundaries of a licensed premises. *If a licensed premises consists of more than one parcel of real estate, those parcels shall be contiguous unless an exception is allowed pursuant to Chapter 3743. of the Revised Code and this chapter for storage locations. The boundaries of a licensed premises, including the boundaries of an approved storage location, shall not change unless the license holder has first obtained written approval from the state fire marshal. The state fire marshal shall approve the change to such licensed premises boundaries only when the applicant clearly shows all of the following:*

5616.5.1.1 *The proposed change would not be contrary to public health, safety or welfare.*

5616.5.1.2 *The proposed area of premises expansion or premises contraction shall maintain the contiguity of the approved boundaries for the licensed premises or storage location.*

5616.5.2 *Applications for such change shall include the submission of all of the following items:*

5616.5.2.1 *A tax or appraisal map and/or a survey plot or other professionally prepared map.*

5616.5.2.2 *Property deeds, lease agreements, and/or other appropriate proof of ownership or control. If the applicant does not own the licensed premises in fee simple, then the applicant must submit documentation, such as a copy of the current lease or rental agreement for the property, that the conduct of fireworks sales or related activity is an approved use of the premises by the owner.*

5616.5.2.3 *A narrative description of all properties, structures, lot lines, and boundaries of the licensed premises involved and in the proposed change thereto.*

5616.5.2.4 *All other relevant information requested by the state fire marshal.*

5616.6 Ownership. *Applicants for all manufacturer and wholesaler licenses shall submit with their application the parcel number and a copy of the deed of ownership or land contract for all of the parcels constituting the licensed premises. If the applicant does not own the licensed premises in fee simple, then the applicant must submit documentation, such as a copy of the current lease or rental agreement for the property, that the conduct of fireworks sales or related activity is an approved use of the premises by the owner.*

5616.7 Signature. *The application for a manufacturer or wholesaler license shall be signed by the applicant. If the application is made by a partnership, it shall be signed by each partner of the*

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partnership. If the application is made by a corporation, it shall be signed by the president of the corporation. The original or a certified copy of the articles of incorporation filed with the office of the secretary of state, stating each officer and statutory agent by name, and the letter of good standing shall be included with the application. Any change in the name of the identified officers of a corporation or the name of the identified statutory agent if applicable or other designated agent for service of process for each manufacturer or wholesaler that occurs during the licensure period shall be immediately submitted in writing to the state fire marshal.

5616.8 Magazine. *For a manufacturer of fireworks license, each fireworks plant shall have at least one Class 1 magazine that is approved by the Bureau of Alcohol, Tobacco, and Firearms of the United States Department of the Treasury and that is otherwise in conformity with federal law. Such approval shall be evidenced only by a license issued by the Bureau of Alcohol, Tobacco, and Firearms of the United States Department of the Treasury.*

Exception: *This requirement does not apply to fireworks plants existing on or before August 3, 1931.*

Section 5617 Fingerprint and insurance requirements for manufacturers and wholesalers of fireworks

5617.1 *Each manufacturer or wholesaler of fireworks shall submit with each application for licensure one set of the applicant's fingerprints and a set of fingerprints of any individual holding, owning, or controlling a five per cent or greater beneficial or equity interest in the applicant for the license. The state fire marshal shall retain the fingerprints or similar identifying information submitted with each licensure application. On renewal, the applicant must submit fingerprints or similar identifying information for all new owners or shareholders of five per cent or more of the beneficial interest of the license. Persons who have previous fingerprint sets or similar identifying information on file with the state fire marshal shall resubmit new fingerprint sets or updated similar identifying information no later than thirty-six months from the date the previous fingerprint set or similar identifying information was submitted.*

5617.2 *Each applicant for a fireworks wholesaler license shall submit proof of comprehensive general liability insurance coverage, specifically including fire and smoke casualty on premises, in an amount not less than one million dollars for each occurrence for bodily injury liability and wrongful death at its business location. Proof of such insurance shall be submitted together with proof of coverage in an amount not less than one million dollars for products liability on all inventory located at the business location. All applicants shall submit evidence of comprehensive general liability insurance coverage verified by the insurer and certified as to its provision of the minimum coverage required. The insurer who issued such insurance policy shall comply with all applicable Ohio laws or all applicable laws of the state where the insurer is located.*

5617.3 *Each applicant for a fireworks manufacturer license shall submit proof of comprehensive general liability insurance coverage, specifically including fire and smoke casualty on premises and products, in an amount not less than one million dollars for each occurrence for bodily injury liability and wrongful death liability at the fireworks plant. All applicants shall submit evidence of comprehensive general liability insurance coverage verified by the insurer and certified as to its provision of the minimum coverage required. The insurer who issued such insurance policy shall comply with all applicable Ohio laws or all applicable laws of the state where the insurer is located.*

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5617.4 *In the event of a fire or explosion, any person who is injured or suffers property damage shall immediately notify the state fire marshal in writing of any claim against a manufacturer or wholesaler of fireworks.*

5617.5 *The manufacturer or wholesaler shall notify the state fire marshal in writing at least fifteen days in advance of the expiration date, maturity date, or termination date of a liability insurance policy. The manufacturer or wholesaler shall surrender his license to the state fire marshal upon expiration, termination or cancellation of the required insurance coverage.*

5617.6 *A licensed wholesaler or manufacturer shall maintain comprehensive general liability insurance coverage in the amount and type specified in Chapter 3743. of the Revised Code at all times. Each policy of insurance shall contain a provision requiring the insurer to give not less than fifteen days prior written notice to the state fire marshal before termination, lapse, or cancellation of the policy, or any change in the policy that reduces the coverage of any required insurance coverage. A licensed wholesaler or manufacturer shall secure supplemental insurance in an amount and type that satisfies the requirements for coverage so that no lapse in coverage occurs at any time. A licensed wholesaler or manufacturer who secures supplemental insurance shall file evidence of the supplemental insurance with the state fire marshal prior to canceling or reducing the amount of coverage of any comprehensive general liability insurance coverage required.*

5617.7 *Failure by the applicant for or holder of a manufacturer or wholesaler license to comply with any section of this chapter is cause for the denial, revocation, or suspension of such license pursuant to Chapter 119. of the Revised Code.*

Section 5618 Requirements for out-of-state shipping permit

5618.1 Application. *Any person who wishes to ship fireworks including 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432) into this state shall submit an application for a license. Application shall be made as follows:*

5618.1.1 *The application shall be on the form provided by the state fire marshal and shall be accompanied by a fee of two thousand seven hundred fifty dollars.*

5618.1.2 *The application shall be accompanied by a certified copy or other copy acceptable to the state fire marshal of the applicant's license or permit issued in the applicant's state of residence, authorizing the applicant to engage in the manufacture, wholesale sale, or transportation of fireworks in that state.*

5618.1.3 *A statement by the applicant shall be attached to the application indicating that he understands and will abide by the rules adopted by the state fire marshal, pursuant to ~~s~~Section 3743.58 of the Revised Code, for transporting fireworks, and that the applicant will ship all fireworks in accordance with the DOTn regulations.*

5618.2 Issuance. *To the extent authorized by division (A) of section 3743.70 of the Revised Code, the state fire marshal shall not issue an initial license or permit if the applicant for the license or permit, or any individual holding, owning, or controlling five percent or greater beneficial or equity interest in the applicant for the license or permit, has been convicted of or pleaded guilty to a ~~felony~~ disqualifying offense in accordance with Section 9.79 of the Revised Code under the laws of this state, another state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country. The state fire marshal shall revoke or*

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deny renewal of a license or permit first issued under Chapter 3743. of the Revised Code on or after July 1, 1997, if the holder of the license or permit, or any individual holding, owning, or controlling a five per cent or greater beneficial or equity interest in the holder of the license or permit, is convicted of or pleads guilty to a ~~felony~~ disqualifying offense in accordance with Section 9.79 of the Revised Code under the laws of this state, another state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country.

5618.3 Bill of lading. *For each shipment of fireworks that is sent into this state, a copy of the bill of lading shall be submitted to the state fire marshal upon request, listing the type, amount and the destination.*

5618.4 Possession. *The holder of a shipping permit shall have an accurate copy of the permit in the holder's possession in this state at all times while in the course of shipping the fireworks directly into this state. A shipping permit is not transferable or assignable.*

Section 5619 Requirements for an exhibitor's license

5619.1 Categories of exhibitor licenses. *No person shall conduct a fireworks exhibition or flame effects exhibition in this state without a license issued by the state fire marshal. There shall be three categories of exhibitor licenses:*

1. *A licensed exhibitor of outdoor/indoor fireworks (Type I).*
2. *A licensed exhibitor of indoor fireworks (Type II).*
3. *A licensed exhibitor of flame effects (Type III).*

5619.2 Application. *Any person who wishes to be an exhibitor of indoor, outdoor, theatrical, or special effects fireworks or flame effects in this state shall submit an application as prescribed by the state fire marshal for an annual license and a license fee of fifty dollars.*

5619.2.1 *Applicants for a new exhibitor's license or a renewal of an existing license shall, upon request of the state fire marshal, provide the state fire marshal with certified copies, or other similar documentation, relating to the individual's civilian background check.*

5619.2.2 *Applicants for a reciprocal exhibitor's license in accordance with Chapter 4796. of the Revised Code shall, upon the request of the state fire marshal, provide documentation demonstrating compliance with both Chapter 4796. of the Revised Code and all applicable provisions of Sections 5616 and 5619 to the extent not otherwise addressed in Chapter 4796. of the Revised Code and any other documentation deemed necessary by the state fire marshal.*

5619.3 Applicant. *An applicant for an exhibitor license shall be at least twenty-one years of age and shall submit proof of age satisfactory to the state fire marshal. The applicant shall be in compliance with Chapter 4123. of the Revised Code.*

5619.4 Application period.

5619.4.1 New applications. *All applications for new exhibitor licenses shall be submitted and received in the office of the state fire marshal thirty days in advance of the requested*

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examination. The applicant shall designate the appropriate classification of licensed exhibitor on the application material submitted to the state fire marshal.

5619.4.1.1 Licensed exhibitor of indoor/outdoor fireworks (Type I). *Any individual who applies to be examined and is licensed in the classification of a Type I fireworks exhibitor shall only be authorized to conduct the following fireworks exhibitions:*

5619.4.1.1.1 *An outdoor display exhibition of 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432) in accordance with the provisions of Chapter 3743. of the Revised Code, this chapter and NFPA 1123 and the applicable requirements of NFPA 1126.*

5619.4.1.1.2 *An indoor display exhibition of 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432) in accordance with NFPA 1126.*

5619.4.1.1.3 *An indoor or outdoor use of pyrotechnic effect simulation equipment.*

5619.4.1.2 Licensed exhibitor of indoor fireworks (Type II). *Any individual who applies to be examined and is licensed as an exhibitor of indoor fireworks shall only be authorized to use 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432) before a proximate audience in accordance with the provisions of Chapter 3743. of the Revised Code, this chapter and NFPA 1126.*

5619.4.1.3 ~~Flame~~ Licensed exhibitor of flame effects ~~exhibitor~~ (Type III). *Any individual who applies to be examined and is licensed in the classification of an exhibitor of flame effects ~~exhibitor~~ shall only be authorized to conduct a flame effects exhibition and related activities ~~operate flame effects before an audience~~ in accordance with the provisions of this ~~chapter~~ code and NFPA 160.*

5619.4.2 Renewal applications. *All applications for renewal of an exhibitor license shall be actually received in the office of the state fire marshal no later than the expiration date. Renewal applications actually received after the above required submittal dates shall be considered new applications and shall meet the examination requirement of Section 5619.7. ~~The state fire marshal shall revoke or deny the renewal of a license or permit issued under Chapter 3743. of the Revised Code after July 1, 1997, if any of the conditions in Sections 5619.4.2.1 through 5619.4.2.6 apply:~~*

5619.4.3 Processing, denial, or revocation of an exhibitor of fireworks license*. The state fire marshal may suspend consideration of an application for an exhibitor of fireworks license (when permitted as a ministerial act) or, in accordance with Chapter 119. of the Revised Code, deny the issuance of an initial exhibitor of fireworks license, revoke an existing exhibitor of fireworks license, or deny the renewal of an existing exhibitor of fireworks license if any of the conditions in Sections 5619.4.3.1 through 5619.4.3.12 occur.*

5619.4.~~2~~3.1 *The applicant or holder of the license or permit, or any individual holding, owning, or controlling a five per cent or greater beneficial or equity interest in the holder of the license or permit, is convicted of or pleads guilty to a ~~felony~~ disqualifying offense in accordance with Section 9.79 of the Revised Code under the laws of this state, another*

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state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country;

5619.4.23.2 *The applicant or licensed exhibitor failed to provide the information required by the application form prescribed by the state fire marshal or information as otherwise requested by the state fire marshal in order to properly further process an application;*

5619.4.23.3 *The application materials were not accompanied by the requisite fee;*

5619.4.23.4 *The exhibitor is not twenty-one years of age;*

5619.4.23.5 *The application for renewal of an exhibitor license is not actually received in the office of the state fire marshal by the expiration date of the existing license or at least thirty days in advance of the requested examination, as applicable; ~~or~~*

5619.4.23.6 *The application for the renewal is not accompanied by the documentation evidencing compliance with the continuing education requirements in accordance with Section 5613.3.3.*

5619.4.3.7 The applicant withdraws its application prior to an investigation or inspection by the state fire marshal to determine if the license shall be issued.

5619.4.3.8 The license holder surrenders its license;

5619.4.3.9 The applicant or licensee has made a misrepresentation or filed false statements in its application or licensee information, or failed to timely, completely, and accurately provide the state fire marshal with updates of such information during its application or period of licensure.

5619.4.3.10 The applicant or licensee is prohibited from engaging in any of the activities authorized by such license by operation of law, an action, directive, rule, or order of any federal or state agency, any court order, or similar requirement.

5619.4.3.11 There is substantial evidence that the exhibitor of fireworks license applicant, a filed exhibitor of fireworks license application, or the actions of the applicant or licensee are not in full compliance with Chapters 3737. or 3743. of the Revised Code, any rules promulgated or referenced standards incorporated or adopted in accordance with those chapters (including the applicable portions of NFPA 1123, NFPA 1124 or NFPA 1126), any permit issued in accordance with Section 3743.54 of the Revised Code or Sections 5608 or 5610 of this code, or any other applicable federal, state, or local laws; or

5619.4.3.12 There is substantial evidence that the applicant or licensee, including a reciprocal exhibitor of fireworks license applied for or received under Section 4796.03 of the Revised Code, has engaged in negligence or intentional misconduct, or had a license or certification denied, license or certification suspended, license or certification revoked, or license or certification surrendered, when such actions are related to the applicant's or license holder's work in the same profession, occupation, or occupational activity in any other state or country.

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5619.4.4 Notification to the state fire marshal required. *An applicant or licensed exhibitor of fireworks, including a reciprocal exhibitor of fireworks license applied for or received under Section 4796.03 of the Revised Code, shall immediately notify the state fire marshal of any negligence, intentional misconduct, license or certification denial, license or certification suspension, license or certification revocation, or license or certification surrender related to the applicant's or license holder's work in the same profession, occupation, or occupational activity in any other state or country, or for any such activities occurring in Ohio within the scope of its Ohio license.*

5619.5 Fees for application. *Application fees for exhibitors are nonrefundable. The application fee is forfeited to the state fire marshal when the applicant fails to meet the requirements of Chapter 3743. of the Revised Code or the "Ohio Fire Code," when an applicant fails to achieve a passing grade on any examination~~, or when an applicant fails to reapply for a repeat examination~~. The fee under such circumstances shall be deemed necessary for the processing of the application, and the administering of the examination of the applicant. Said fee shall be deposited into the state fire marshal's rotary fund. The state fire marshal shall also assess the applicant any fee charged by the superintendent of the bureau of criminal identification and investigation for the results of a background check.*

5619.6 Qualification requirements. *Every applicant for a new exhibitor license shall submit with his application one of the following or such applicant shall be denied an exhibitor license pursuant to Chapter 119. of the Revised Code:*

5619.6.1 *Written documentation issued within the 36 months prior to the application of the applicant's proficiency in handling and discharging fireworks, and that the applicant is capable of handling the responsibilities associated with exhibitions as prescribed by Section 5608, in a manner that emphasizes the safety and security of the public. The above documentation shall be endorsed by the signature of a licensed exhibitor, manufacturer or wholesaler of fireworks in Ohio. If an endorsement signature of a licensed exhibitor, manufacturer or wholesaler in Ohio is not provided, the state fire marshal may require additional documentation demonstrating that the applicant has safely conducted as appropriate, 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432) and flame effects exhibitions in Ohio, indicating the date, location, and type of exhibition.*

5619.6.2 *A certified copy or other copy acceptable to the state fire marshal of a valid license issued by another state authorizing the fireworks exhibitor to conduct all types of fireworks exhibitions and discharging any and all types as appropriate, 1.1G fireworks (UN0333), 1.2G fireworks (UN0334), 1.3G fireworks (UN0335), 1.4G fireworks (UN0336), 1.4G special effects fireworks (UN0431), 1.4S fireworks (UN0337) or 1.4S special effects fireworks (UN0432) and flame effects in that state.*

5619.6.3 *Written documentation demonstrating competency by experience or training in the ~~operation~~ presentation, operation, and use of flame effects.*

5619.7 Examination requirements. *Every applicant for a new exhibitor license shall take and pass a written examination administered by the state fire marshal prior to the issuance of the license. The state fire marshal may administer the examination by procuring or engaging a third party to provide testing services. The third-party examiner may ~~access~~ assess fees in addition to those imposed by the state fire marshal. Every applicant shall present acceptable photographic*

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identification to the state fire marshal or the marshal's approved test provider for the purpose of applicant identification verification when arriving for and prior to taking an examination.

***5619.7.1** The state fire marshal shall not issue an initial license or permit under Chapter 3743. of the Revised Code if the applicant for the license or permit, or any individual holding, owning, or controlling a five per cent or greater beneficial or equity interest in the applicant for the license or permit, has been convicted of or pleads guilty to a ~~felony~~ disqualifying offense in accordance with Section 9.79 of the Revised Code under the laws of this state, another state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country.*

***5619.8 Examination.** The written examination required by this rule for a fireworks exhibitor license shall consist of questions pertaining to laws relating to fireworks, rules relating to fireworks, and relevant safety practices and procedures. The written examination for a flame effect exhibitor license shall consist of questions relating to the proper ~~operation~~ presentation, operation, or use of flame effects before an audience and relevant safety practices and procedures.*

***5619.8.1** To satisfactorily pass the written examination, the applicant must obtain a minimum grade of seventy per cent or such applicant shall be denied an exhibitor license pursuant to Chapter 119. of the Revised Code.*

***5619.8.2** If an applicant does not pass the required written application, the applicant may retake the test in accordance with a timetable for retesting established by the state fire marshal.*

***5619.8.3** Applicants reapplying to take a repeat examination shall file a new application and a license fee as required in Section ~~5620.1~~5619.7.*

***5619.8.4** The state fire marshal or the state fire marshal's designee may authorize fire officials to participate in the fireworks exhibitor license exam process for training purposes consistent with policies the state fire marshal may establish for such processes.*

***5619.9 Location of examination.** The examination required by this chapter shall be administered at locations, dates, and times as designated by the state fire marshal.*

***5619.10 Employee registration.** Each fireworks exhibitor licensed under Section 3743.51 of the Revised Code shall register with the state fire marshal all employees who assist the licensed exhibitor in conducting fireworks exhibitions unless such employees have already been registered by another licensed exhibitor. The employees must be registered with the state fire marshal at least fourteen days prior to assisting the licensed exhibitor in conducting a fireworks exhibition. Individuals involved only in the setup or clean up of the discharge site before or after the exhibition and do not handle 1.3G fireworks, are not required to be registered. The state fire marshal shall maintain a record of licensed exhibitors and registered employees and make it available, upon request, to any law enforcement agency. A licensed exhibitor shall file an application, on a form prescribed by the state fire marshal, to register a new employee not later than seven days after the date on which the employee is hired unless the employee is already registered.*

***Exception:** Any individual that is a valid Ohio licensed exhibitor of fireworks pursuant to the provisions of this chapter who wishes to act as an employee of another properly licensed exhibitor is not required to be registered pursuant to this section.*

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5619.10.1 Registration requirements. *The state fire marshal shall not register a person under this section unless the following requirements have been satisfied.*

5619.10.1.1 Registration fee. *Each application to register an employee of a licensed exhibitor of fireworks, regardless of time of registration as provided for in Section 5620.9.6.1 shall be accompanied by a nonrefundable registration fee of twenty-five dollars. The state fire marshal shall also assess the applicant any fee charged by the superintendent of the bureau of criminal identification and investigation for the results of a background check.*

5619.10.1.2 Background check. *To the extent authorized by division (A) of Section 3743.70 of the Revised Code, no person shall be registered under this section if the individual has been convicted of or pled guilty to a ~~felony~~ disqualifying offense in accordance with Section 9.79 of the Revised Code under the laws of this state, another state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country. All persons seeking to be registered under this section shall provide fingerprint or similar identifying information, and complete a civilian background check for criminal history as administered or approved by the state fire marshal. The state fire marshal may accept a currently valid certificate of clearance or other similar documentation issued by the bureau of alcohol, tobacco, firearms and explosives as satisfactory documentation of a person's criminal history. Applicants shall, upon request of the state fire marshal, provide the state fire marshal with certified copies, or other similar documentation, relating to the individual's civilian criminal background check.*

5619.10.2 Application. *Each application filed with the state fire marshal to register an employee of a licensed exhibitor of fireworks shall be accompanied by:*

5619.10.2.1 *Proof of age satisfactory to the state fire marshal verifying the employee is at least eighteen years of age.*

5619.10.2.2 *Verification of the completion of a minimum of three hours of in-service education in the safe operation of a public display. Verification includes any of the following:*

1. *A signed statement from the licensed exhibitor on a form including the information as prescribed by the state fire marshal;*
2. *Any other information as requested by the state fire marshal.*

5619.10.2.3 *Documentation of the completed civilian background check as required by this rule.*

5619.10.3 Qualification requirements. *The application for employee registration shall be denied by the state fire marshal when any of the following occur:*

5619.10.3.1 *The licensed fireworks exhibitor fails to provide the information required by the application form prescribed by the state fire marshal or as otherwise required by this section.*

5619.10.3.2 *The application materials were not accompanied by the requisite fee;*

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5619.10.3.3 *The employee to be registered is not eighteen years of age;*

5619.10.3.4 *The employee to be registered has been convicted of or pleads guilty to a ~~felony~~ disqualifying offense in accordance with Section 9.79 of the Revised Code under the laws of this state, another state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country.*

5619.10.4 Effective dates of registration. *Employee registrations under this rule shall not be effective until the proper issuance of documentation by the state fire marshal.*

5619.10.5 Proof of registration. *Each registered assistant shall carry the proof of registration issued by the state fire marshal while assisting the licensed exhibitor in conducting a fireworks exhibition and shall make it available to any fire or law enforcement official upon request.*

5619.10.5.1 *Each registered assistant shall display prominently upon their person any visible identification required by the fire code official at all times when within the discharge perimeter.*

5619.10.6 Registration expiration. *After the effective date of this rule, each registration shall be for a period of one year unless otherwise provided for in this section.*

5619.10.6.1 *The registration of an employee may occur at any of the following times:*

5619.10.6.1.1 *In conjunction with an initial exhibitor application;*

5619.10.6.1.2 *Initial employee registration in accordance with Section 5619.~~9~~;10*

5619.10.6.1.3 *An application for exhibitor renewal in accordance with Section 5619.4.2.*

5619.10.6.2 *If the time of employee registration occurs pursuant to Section 5619.9.6.1.2, the period of such employee's registration shall be limited to a period no longer than the remaining portion of the registering exhibitor's license.*

5619.10.6.3 *Each application for registration shall be prescribed by the state fire marshal and accompanied by the registration fees, proof of age, and verification of in-service education as required for initial registration in accordance with this section. Any such subsequent registration may be denied pursuant to Section 5619.9.3.*

5619.10.7 *Any change in employee registration information submitted to the state fire marshal other than during the exhibitor's renewal application period described in Section 5619.9.6 shall be accompanied by a fee equivalent to the registration fees prescribed in Section 5619.9.1.*

Section 5620 Fire safety requirements in buildings

5620.1 General. *The layout, arrangement and construction of buildings and structures in which fireworks are manufactured, processed, stored, and offered for sale, shall comply with the applicable requirements of the "Ohio Building Code" and "Ohio Fire Code", for the appropriate high hazard occupancy use group classification, and shall be provided with fire protection, fire*

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extinguishing equipment and explosion relief venting as required by the "Ohio Building Code" and "Ohio Fire Code".

***5620.1.1** Buildings and structures and their service equipment shall be constructed, maintained and operated as required by this chapter, NFPA 1123 and NFPA 1124 (2006 or 2017 edition as applicable per Section 5601.1.3).*

***5620.1.2** In addition to the provisions of this section, fireworks retail and representative sales showrooms shall comply with Section 5621.*

***5620.1.3** Consistent with division (D) of Section 3743.25 and division (B) of Section 3781.11of the Revised Code, the provisions of Section 3743.25 of the Revised Code, and this Chapter, including all safety and construction provisions for showrooms and storage areas, apply to all areas of a licensed premise regardless of whether such location is subject to the provisions of Section 3781.061 of the Revised Code or similar provisions, or any political subdivision laws or regulations that provide a lower threshold of safety than required by Chapter 3743. of the Revised Code or any rules promulgated thereunder, in the building code, or the fire code.*

***5620.2** If, during the effective period of its licensure, a licensed manufacturer or wholesaler, or a person that intends to either apply for licensure as or operate as a fireworks manufacturer or wholesaler, wishes to perform any construction, locate or relocate any buildings or structures, or make any structural change or renovation, on an intended or existing licensed premises, the state fire marshal and the building code official(s) having jurisdiction shall be notified in writing.*

***5620.2.1** The state fire marshal may require the submission of documentation, including, but not limited to, plans covering the proposed construction or structural change, location or relocation or renovation or change in manufacturing, if the state fire marshal determines such documentation is necessary for evaluation purposes prior to the issuance of a preliminary authorization for construction.*

***5620.2.2** Upon receipt of the notification and additional documentation required by the state fire marshal, the state fire marshal shall issue a preliminary authorization for construction and shall inspect the premises to determine if the proposed construction or structural change, location or relocation, or renovation or change in manufacturing is in accordance with Chapter 3743. of the Revised Code and the chapters adopted by the state fire marshal.*

***5620.2.2.1** When the person or licensee submits construction documents and preliminary authorization for construction to the building official having jurisdiction and obtains a set of construction documents approved by the building official, a copy of such approved documents shall be submitted to the state fire marshal by the licensee.*

***5620.2.3** Upon the inspection and a review of the submitted documentation, if the state fire marshal determines that the construction, location, relocation, structural change or renovation or change in manufacturing conforms to Chapter 3743. of the Revised Code and the chapters adopted by the state fire marshal, the state fire marshal shall issue a final written authorization for the construction, location, relocation, structural change or renovation or change in manufacturing.*

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5620.2.4 *No construction, relocation, structural change or renovation shall commence until the person or licensee has received the final written authorization issued by the state fire marshal.*

5620.3 Building requirements. *For every structure on a licensed premises, each required means of egress shall be accessible in accordance with the building code and any newly installed or modified exit door assembly shall be provided with panic hardware.*

5620.4 Separation distances. *Each structure on a licensed premises shall comply with the separation distance requirements of NFPA 1124 (2006 or 2017 edition as per Section 5601.1.3).*

5620.4.1 *A building used by a licensed manufacturer or licensed wholesaler need not comply with any requirements of Section 5621 which concern the structure of a building or with the distance requirements of division* (G) *of Section 3743.06 or division* (H) *of Section 3743.19 of the Revised Code if the building was erected on or before May 30, 1986, and was legally being used for fireworks activities under authority of a valid license issued by the state fire marshal as of December 1, 1990, pursuant to Sections 3743.03, 3743.04, 3743.16, and 3743.17 of the Revised Code.*

5620.5 Safety requirements. *Each structure on a licensed premises shall have and maintain floor plans showing occupancy load limits and internal circulation and egress patterns that are approved by the state fire marshal and the superintendent of the division of industrial compliance that are submitted under seal as required by Section 3791.04 of the Revised Code.*

5620.6 Smoking. *Smoking or the carrying of pipes, cigarettes, or cigars, matches, lighters, other flame-producing items, or open flame on, or the carrying of a concealed source of ignition into, the premises of a wholesaler or fireworks plant is prohibited, except that a wholesaler or manufacturer may permit smoking on a licensed premises only in specified lunchrooms and/or restrooms in buildings and other structures in which no manufacturing, handling, sales, or storage of fireworks takes place. "No Smoking" signs shall be posted on the premises as required by the state fire marshal.*

5620.7 Doors. *All exit doors of all buildings on the licensed premises shall swing outward.*

5620.8 Occupancy of Structures on a licensed premises.

5620.8.1. *All structures on a licensed premises shall only be occupied in accordance with the Revised Code, the building code, section 102.3 of the fire code, and this Chapter.*

5620.8.2 *No fireworks representative sample or retail showroom structures shall be occupied without having a verified and building code compliant certificate of occupancy for the showroom.*

5620.8.3 *No non-showroom structures or building areas subject to the building code or fire code shall be occupied without having a verified and building code compliant certificate of occupancy for the area.*

Section 5621 Fireworks storage

5621.1 *All fireworks and pyrotechnic devices shall be stored and maintained in compliance with the provisions of the Revised Code, Sections 5620.1, 5621, 5626, and 5627 and in accordance*

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with the provisions of NFPA 1124. To the extent not addressed by the Revised Code, Section 5620.1, 5621 5626 and 5627 and NFPA 1124, fireworks storage must also be in accordance with Section 5604. All licensed manufacturer and wholesalers shall store fireworks only on the licensed premises or on an approved storage location that is part of a licensed premises. Residential storage of 1.4G fireworks purchased at retail by consumers for personal use per section 3743.45 of the Revised Code are only required to comply with the storage provisions of Section 5626.

5621.2 *"1.3G" fireworks, black powder, and other raw bulk explosive materials shall be stored in magazines in accordance with the provisions of this chapter.*

5621.3 Trailers and magazines for the storage of fireworks. *Fireworks may be stored in trailers if the trailers are properly enclosed, secured, placarded, and grounded and are separated from any structure to which the public is admitted by a distance that will allow fire-fighting equipment to have full access to the structures on the licensed premises in accordance with Chapter 5 or as approved in writing by the local fire code official. In no instance shall trailers used for the storage of fireworks be located at a distance less than the minimum separation distances specified in NFPA 1124. Such trailers may be moved into closer proximity to any structure only to accept or discharge cargo for a period not to exceed forty-eight hours. Only two such trailers may be placed in such closer proximity at any one time. At no time may trailers be used for conducting sales of any class of fireworks. Members of the public shall be prohibited from access to the contents of any storage trailers at all times. Trailers and magazines used for the storage of fireworks shall be completely enclosed with an approved steel chain link fence or similar barrier at least 6 feet high. The state fire marshal shall approve the installation and location of such fences or similar barriers. The installation and location of such fences or similar barriers shall properly maintain the required fire department access and properly prohibit unauthorized public access. Such fences or similar barriers shall be separated from all storage trailers and magazines containing fireworks by at least 10 feet and shall have a gate that is locked and secured against unauthorized entry.*

5621.3.1 *The storage of any 1.3G fireworks in semi-trailers is limited to the normal loading and unloading of shipments of fireworks that have been shipped in accordance with DOTn regulations.*

Exception: *Semi-trailers which have been converted to a magazine approved for the storage of explosive materials.*

5621.3.2 *Fireworks may be stored in trailers at approved storage locations only in accordance with the provisions of division (J) of Section 3743.04 and division (H) of Section 3743.17 of the Revised Code and this chapter.*

Section 5622 Fireworks showrooms

5622.1 General requirements.

5622.1.1 Applicability limitations. *The provisions of Section 5622 concerning the structure of the buildings used on a licensed premises or with the distance requirements of division* (G) *of Section 3743.06 or division* (H) *of Section 3743.19 of the Revised Code does not apply to buildings that were erected on or before May 30, 1986 and were occupied by a licensed manufacturer or wholesaler with a license for that location prior to December 1, 1990.*

5622.1.2 Safety provisions. *Except as authorized in division (C)(2)(c) of section 3743.25 of the Revised Code, the safety requirements established in division* (C) *of Section 3743.25 of*

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the Revised Code and Section 5620 are not subject to any variance, waiver or exclusion pursuant to Chapter 3743. of the Revised Code or any applicable building code.

5622.1.3 Number of sales structures. *Each licensed premises shall only contain one sales structure.*

5622.1.4 Public access. *The only structures, or portions thereof, on a licensed premises that the public may enter are approved retail sales or representative sample showrooms meeting the provisions of this chapter. The public is prohibited from accessing any other structures, buildings, magazines or storage trailers on the licensed premises.*

5622.1.5 Age limitations. *No person shall sell fireworks of any kind to a person under eighteen years of age. No person under eighteen years of age shall enter a fireworks sales showroom unless that person is accompanied by a parent, legal guardian, or other responsible adult. No person under eighteen years of age shall touch or possess fireworks on a licensed premises without the consent of the licensee. A licensee may eject any person from a licensed premises that is in any way disruptive to the safe operation of the premises.*

5622.1.6 Safety officer. *A uniformed safety officer shall be present at all times that any fireworks building is open to the public during the period commencing fourteen days before, and ending two days after, each fourth of July. The officer shall be highly visible, stationed at the showroom entrance, and shall enforce the provisions of Chapter 3743. of the Revised Code and any applicable fire and building codes, including but not limited to maximum occupancy load and no smoking regulations to the extent the officer is authorized by law, and be one of the following:*

1. *A deputy sheriff;*
2. *A law enforcement officer of a municipal corporation, township, or township or joint township police district;*
3. *A private uniformed security guard registered under Section 4749.06 of the Revised Code.*

5622.1.7 Fuses. *If any fireworks item is removed from its original package or otherwise has an exposed fuse, then the fuse of the item shall be covered completely by repackaging or secure bagging or the firework shall be removed from direct public access and located behind a counter or in a closed display case until it is sold.*

5622.1.8 Location requirements. *All retail sales and representative sample showrooms shall be located on grade level only.*

5622.1.9 Occupant load. *A sufficiently sized and legible copy of the approved maximum occupant load shall be prominently posted within every retail sales or representative sales showroom structure near the main entrance.*

5622.2 Construction and maintenance requirements.

5622.2.1 General.

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5622.2.1.1 Awnings and tents. *Awnings and tents shall not be used as facilities for the sale or storage of fireworks. An awning or tent attached to a retail sales or representative sample showroom may be used for storing nonflammable shopping convenience items such as shopping carts or baskets or for providing a shaded area for patrons waiting to enter the public sales area.*

5622.2.1.2 Fire protection systems. *Each fire alarm, fire detection, smoke control, fire suppression or other fire protection system installed in each building on the licensed premises shall be inspected, tested and maintained in an operable condition in accordance with the requirements of the Revised Code and the building code and this code.*

1. *If any fire alarm, fire detection, smoke control or other fire protection system, or critical component of any such systems, is not functioning or has been turned off for repair or maintenance, the building shall be closed to members of the public unless the state fire marshal approves a fire watch while the system is being repaired or maintained.*

2. *Suppression system. A fire suppression system as defined in Section 3781.108 of the Revised Code may be turned off only for repair, drainage of the system to prevent damage by freezing during the period of time, approved by the state fire marshal, that the facility is closed to all public access during the winter months, or maintenance of the system. If any repair or maintenance is necessary during the times when the facility is open for public access and business as approved by the state fire marshal, the licensee shall notify in advance the state fire marshal, the appropriate insurance company and fire chief or fire prevention officer regarding the nature of the maintenance or repair and the time when it will be performed.*

3. *If any fire suppression system as defined in Section 3781.108 of the Revised Code is not functioning or has been turned off for repair or maintenance, the fireworks wholesale showroom shall be closed to members of the public unless the state fire marshal approves a fire watch while the system is being repaired or maintained.*

5622.2.1.3 Separation. *All fireworks sales structures shall be separated by construction or distance from the storage facilities. Storage areas for fireworks that are in the same building where fireworks are displayed and sold to the public shall be separated from the areas to which the public has access by an appropriately rated fire wall in accordance with the building code. If the licensee installs and properly maintains a sprinkler system that utilizes early suppression fast response sprinkler heads throughout the structure and the sprinkler system is designed and installed in compliance with NFPA 13, a fire barrier wall may be substituted for a fire wall between the areas to which the public has access and the storage portions within the structure.*

5622.2.1.4 Storage. *All licensed premises shall have an approved storage building, structure or magazine located on the premises as required by the provisions of this chapter. A license shall not be issued to any manufacturer or wholesaler for a showroom area that does not have an approved storage building, structure or magazine that meets the provisions of this chapter.*

5622.3 Retail sales showroom.

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5622.3.1 Retail sales showroom safety requirements. *All manufacturer and wholesaler retail sales showroom structures, to which the public may have access and in which employees are required to work, on all licensed premises, shall comply with the following safety requirements:*

5622.3.1.1 Fire protection systems. *A retail sales showroom that is constructed, undergoes major alteration or upon which expansion is undertaken on and after June 30, 1997, shall be equipped with interlinked fire detection, fire suppression, smoke exhaust, and smoke evacuation systems that are approved by the superintendent of the division of industrial compliance in the department of commerce. The fire suppression system shall be a wet sprinkler system designed and installed in accordance with NFPA 13.*

A fireworks retail sales showroom structure that exists on July 1, 1997, shall be retrofitted on or before June 1, 1998, and otherwise shall be equipped with interlinked fire detection, smoke exhaust, and smoke evacuation systems that are approved by the superintendent of the division of industrial compliance.

5622.3.1.2 Maximum size. *A retail sales showroom that first begins to operate on or after June 30, 1997, or that resumes operations at any time after a period of inactive status of licensure greater than one year, and to which the public has access for retail purposes shall not exceed seven thousand five hundred square feet in floor area.*

5622.3.1.2.1 Required suppression. *A retail sales showroom to which the public has access for retail purposes that, through construction of a new showroom, expansion of an existing showroom, or similar means, and after February 7, 2022, first exceeds five thousand square feet, shall be equipped with a sprinkler system that meets the criteria for sprinkler systems in extra hazard (group 2) occupancies under NFPA 13(Standard for the Installation of Sprinkler Systems (2019 edition)).*

5622.3.1.2.1.1 Variance. *Notwithstanding division (D) of Section 3743.25 of the Revised Code or Section 5622.1.2, the state fire marshal may provide a variance to the requirements of division (C)(2)(b) of Section 3743.25 of the Revised Code pursuant to section 3743.59 of the Revised Code for a sprinkler system that matches or exceeds the degree of safety provided by a sprinkler system that meets the criteria for sprinkler systems in extra hazard (group 2) occupancies under NFPA 13 (Standard for the Installation of Sprinkler Systems (2019 edition)).*

5622.3.1.3 Floor plans. *A newly constructed or existing fireworks showroom structure that existed on September 23, 2008, but that is constructed, altered or added to in a manner requiring the submission of plans, drawings, specifications, or data pursuant to Section 3791.04 of the Revised Code, shall comply with a graphic floor plan layout that is approved by the state fire marshal and superintendent of the division of industrial compliance showing width of aisles, parallel arrangement of aisles to exits, number of exits per wall, maximum occupancy load, evacuation plan for occupants, height of storage or display of merchandise, and other information as may be required by the state fire marshal and superintendent.*

5622.3.1.4 Egress plans. *All fireworks showroom structures shall be in compliance with floor plans showing occupancy load limits and internal circulation and egress patterns that are approved by the state fire marshal and superintendent of industrial compliance, and that are submitted under seal as required by Section 3791.04 of the Revised Code.*

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5622.3.1.4.1 *A sufficiently sized and legible copy of the approved egress floor plan shall be prominently posted within the showroom structure near the main entrance.*

5622.3.1.4.2 *Any proposed change to the approved egress floor plan shall be submitted to the state fire marshal and superintendent of the division of industrial compliance for approval. Changes shall not be made to aisle widths, egress patterns, location or overall height of showroom fixtures or other elements of the approved egress floor plan without first obtaining the written approval of the state fire marshal and superintendent of the division of industrial compliance.*

5622.3.1.5 Occupancy load. *The maximum occupant load for any retail sales showroom shall not exceed one occupant per sixty square feet of gross floor area. The maximum occupant load may be increased to one occupant per thirty square feet of gross floor area if both of the following conditions are satisfied:*

1. *A minimum of one means of egress approved by the building official and the state fire marshal is provided for each twenty-five occupants or fraction thereof.*

2. *A minimum of three means of egress approved by the building official and the state fire marshal are located to provide direct access in separate directions from any point in the area served so as to minimize the possibility that adequate exit capacity would be blocked by any one fire or other emergency condition.*

5622.4 Representative sample showroom. *A licensed premises may contain one structure or portions thereof, to which the public may have access for the purpose of conducting sales from a representative sample showroom. All such representative sample showrooms shall be:*

5622.4.1 Occupancy. *Constructed, altered and maintained in accordance with the building code for a use and occupancy group that permits mercantile sales and this code and approved by the building official having jurisdiction over the subject facility via a valid certificate of occupancy and the state fire marshal for such use.*

5622.4.2 Notice. *Prior to any such construction, alteration, or use of a structure, or portion thereof, for public view of product representations, the intended or existing licensee shall notify the state fire marshal in writing of the intent to alter, construct or utilize a structure, or portion thereof, for public viewing of product representations and obtain authorizations for such use and for the construction of or alteration of such structures, or portions thereof, in accordance with Section 5620.2.*

5622.4.3 *Operated in accordance with the certificate of occupancy, the use group classifications and maximum occupant load requirements of the building code, this code, and the approval described in this section.*

5622.4.4 *A representative sample showroom shall not contain any pyrotechnics, pyrotechnic materials, explosives, explosive materials, fireworks, or any similar hazardous materials or substances. When the public has access to a representative sample showroom, such structures or portions thereof may only contain a product representation that consists of paper materials, packaging materials, catalogs, photographs or similar product depiction. The public may not access any other portions of such structures.*

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5622.4.5 *A representative sample showroom shall be used only for the public viewing of firework product representations, including paper materials, packaging materials, catalogs, photographs, or other similar product depictions.*

5622.5 Sales. General.

5622.5.1 Sales from a licensed building. *At no time shall a licensed manufacturer or wholesaler sell any class of fireworks outside a licensed building. A licensed manufacturer or wholesaler shall only sell 1.4G fireworks from a representative sample showroom or a retail sales showroom. The sale of fireworks from a storage building or magazine is prohibited and the general public shall be prohibited from such areas.*

5622.5.2 *The sale of fireworks from motor vehicles is prohibited.*

5622.5.3 Sales from a representative sample showroom. *The delivery of product to a purchaser of fireworks at a licensed premises that has a representative sample showroom structure shall not occur inside any structure on a licensed premises, but shall occur on the licensed premises.*

5622.5.4 Retail sales. *A retail sale includes the transfer of the possession of the 1.4G fireworks from the licensed manufacturer or wholesaler to the purchaser of the fireworks.*

All retail sales of 1.4G fireworks by a licensed manufacturer or wholesalers shall only occur from the inside of an approved retail sales showroom or a representative sample showroom, located on a licensed premises and from no other structure or device outside a licensed building.

5622.5.5 Wholesale sales. *All wholesale sales of fireworks by a licensed manufacturer or wholesaler shall only occur from a licensed premises to persons who intend to resell the fireworks purchased at wholesale. A wholesale sale by a licensed manufacturer or wholesaler may occur as follows:*

1. *The direct sale and shipment of fireworks to a person outside of this state.*
2. *From an approved retail sales showroom as described in this section.*
3. *From a representative sample showroom as described in this section.*
4. *By delivery of wholesale fireworks to a purchaser at a licensed premises outside of a structure or building on that premises. All other portions of the wholesale sales transaction may occur at any location on a licensed premises.*
5. *Any other method as described in this chapter.*

Section 5623 Fireworks wholesale and retail business hours

5623.1 Waiver. *An application from a licensed wholesaler to waive the business hour requirements of division* (H) *of Section 3743.19 of the Revised Code shall contain all of the following information as certified by the applicant:*

5623.1.1 *The name, address, and license number of the wholesaler.*

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5623.1.2 *The reason for closing the business.*

5623.1.3 *The exact date the business will be closed and the exact date the business will reopen.*

5623.1.4 *An inventory list of the fireworks that will be stored on the premises during the time that the business is closed.*

5623.1.5 *A name, telephone number and address where the licensed wholesaler may be contacted in the event of an emergency.*

5623.1.6 *The name, address and telephone number of a responsible person who shall have access and keys to all buildings on the premises.*

5623.1.7 *The manner in which the building(s) and site have been secured to prevent trespassing, theft, or unauthorized entry into the building(s) or structure(s).*

5623.1.8 *The name and signature of the local fire official and law enforcement officer who have been notified of the anticipated closing date.*

5623.1.9 *The name and ~~signature of~~contact information for the fire and building officials who have been notified if the fire suppression system is to be turned off while the facility is closed, and who will be contacted by the licensee when the system is restored to service.*

5623.2 *If a licensed wholesaler is granted a waiver pursuant to this section and the wholesaler reopens the premises listed in the waiver for fireworks sales prior to the expiration date of the waiver period, the licensed wholesaler shall notify in writing the state fire marshal, local fire official and the local law enforcement officer of the date the wholesaler reopens.*

5623.3 *If a licensed wholesaler reopens pursuant to Section 5623.2, any waiver granted to the wholesaler under this section shall automatically expire.*

Section 5624 Storage locations

5624.1 *A licensed manufacturer or wholesaler may expand its licensed premises within the state to include not more than two storage locations that are located upon one or more real estate parcels that are noncontiguous to the license premises as that licensed premises exists on the date a licensee submits an application as described below, if all of the following apply:*

5624.1.1 *The licensee submits an application to the state fire marshal and an application fee of one hundred dollars per storage location for which the licensee is requesting approval.*

5624.1.2 *The identity of the holder of the license remains the same at the storage location.*

5624.1.3 *The storage location has received a valid certificate of zoning compliance as applicable and a valid certificate of occupancy for each building or structure at the storage location issued by the authority having jurisdiction to issue the certificate for the storage location, and those certificates permit the distribution and storage of fireworks regulated under this rule at the storage location and in the buildings or structures. The storage location shall be in compliance with all other applicable federal, state, and local laws and regulations.*

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5624.1.4 *Every building or structure located upon the storage location is separated from occupied residential and nonresidential buildings or structures, railroads, highways, or any other buildings or structure on the licensed premises in accordance with the distances specified in these rules.*

5624.1.5 *Neither the licensee nor any person holding, owning, or controlling a five per cent or greater beneficial or equity interest in the licensee has been convicted of or pleaded guilty to a ~~felony~~ disqualifying offense in accordance with Section 9.79 of the Revised Code under the laws of this state, any other state, or the United States or has a comparable conviction or plea to an equivalent offense under the laws of another country, after September 29, 2005.*

5624.1.6 *The state fire marshal approved the application for expansion.*

5624.2 Permitted uses of storage location. *The storage location shall be considered part of the original licensed premises and shall use the same distinct number assigned to the original licensed premises with any additional designations as the state fire marshal deems necessary in accordance with Section 3743.03 of the Revised Code.*

5624.3 *A licensee who obtains approval for the use of a storage location in accordance with division* (I) *of Section 3743.04 of the Revised Code shall use the storage location exclusively for the following activities, in accordance with this rule:*

5624.3.1 *Packaging, assembling, or storing of fireworks, by a licensed manufacturer, which shall only occur in buildings or structures approved for such hazardous uses by the building code official having jurisdiction for the storage location or, for 1.4G fireworks, in containers or trailers approved for such hazardous uses by the state fire marshal if such containers or trailers are not subject to regulation by the building code. All such storage shall be in accordance with NFPA 1124.*

5624.3.2 *Distributing fireworks to other parcels of real estate located on the manufacturer's licensed premises, to licensed wholesalers or other licensed manufacturers in this state or to similar licensed persons located in another state or country.*

5624.3.3 *Distributing fireworks to a licensed exhibitor of fireworks pursuant to a properly issued permit in accordance with this chapter.*

5624.4 *A licensee who obtains approval for the use of a storage location in accordance with division* (G) *of Section 3743.17 of the Revised Code shall use the storage location exclusively for the following activities, in accordance with this chapter:*

5624.4.1 *Packaging, assembling, or storing fireworks, by a licensed wholesaler, which shall occur only in buildings or structures approved for such hazardous uses by the building code official having jurisdiction for the storage location or, for 1.4G fireworks, in containers or trailers are not subject to regulation by the building code. All such storage shall be in accordance with NFPA 1124.*

5624.4.2 *Distributing fireworks to other parcels of real estate located on the manufacturer's licensed premises, to licensed wholesalers or other licensed manufacturers in this state or to similarly licensed persons located in another state or country.*

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5624.4.3 *Distributing fireworks to a licensed exhibitor of fireworks pursuant to a properly issued permit in accordance with this chapter.*

5624.5 Limitations on sales activity at a storage location. *A licensed manufacturer or wholesaler shall not engage in any sales activity, including the retail sale of fireworks otherwise permitted under division* (C)(2) *or* (C)(3) *of Section 3743.04 of the Revised Code or pursuant to Section 3743.44 or 3743.45 of the Revised Code, at the storage location approved in accordance with this chapter.*

5624.6 Prohibitions against public access. *Each licensee responsible for a storage location shall prohibit public access to the storage location in accordance with this code.*

5624.6.1 *Storage locations shall be secured against unauthorized entry and safeguarded against inappropriate public access.*

5624.6.1.1 *Manufacturer's storage locations consisting only of approved trailers or similar approved structures shall include provisions that preclude public access by providing a 6-foot-high chain link fence a minimum of 10 feet from such trailer or structure that completely surrounds the trailer or similar structure in such a manner as to prohibit public access (or equivalent means) as approved by the state fire marshal.*

5624.6.1.2 *Storage locations consisting only of storage buildings shall include provisions that preclude public access to all storage and use areas where fireworks are stored or present within such storage buildings including but not limited to, proper separation assemblies with approved locks and security devices. All such security measures and installation of locks or devices shall be in accordance with the building code and approved by the state fire marshal.*

5624.6.1.3 *Storage locations consisting of buildings, structures and trailers shall include provisions that preclude public access by means of fences, proper separation assemblies, locks, security devices, or equivalent means to prevent accidental or intentional contact with the fireworks present at the storage location, in accordance with the provisions of this section, the building code, and this code as approved by the state fire marshal.*

5624.6.2 *The public shall not access a storage location unless such access is otherwise permitted by this chapter.*

5624.7 *A storage location approved by the state fire marshal in accordance with divisions (G) and (I) of Section 3743.04 of the Revised Code may not be relocated for a minimum period of five years.*

Section 5625 Sale of fireworks

5625.1 *If a person is required by the Ohio Revised Code or this chapter to possess or display a license or permit issued or authorized pursuant to Chapter 3743. of the Revised Code to acquire, display, possess, store or transport fireworks, such person shall maintain a copy of that license at all times that person engages in any activity regulated by the rule. For all license or permit holders, other than a licensed manufacturer or wholesaler of fireworks, a copy of such license or permit must be maintained with the fireworks associated with the license or permit and provided to any law enforcement or fire officials upon request.*

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Section 5626 Consumer / 1.4G Fireworks

5626.1 Scope. *This section applies to the possession, storage, handling, discharge and use of 1.4G fireworks by consumers pursuant to Sections 3743.45 and 3743.451 of the Revised Code. Such fireworks may also be subject to other provisions of this code. To the extent that any matter regarding the possession, storage, handling, discharge or use of 1.4G fireworks by consumers pursuant to Sections 3743.45 and 3743.451 of the Revised Code are addressed in this section or conflict with other provisions of this chapter, the provisions of this section control.*

5626.2 Definitions*. For purposes of Section 5626 the following take on exclusive meaning as follows:*

"1.4G fireworks." *1.4G fireworks, as that term is defined in the Revised Code and this code, that are purchased, handled, stored, possessed, used, or discharged by consumers pursuant to section 3743.27 or section 3743.45 of the Revised Code. This term includes consumer fireworks.*

"1.4G fireworks discharge site." *The area where any 1.4G firework is discharged including the point of discharge and the area immediately surrounding that point.*

Consumer fireworks discharge incident. *Any act or omission that occurs at a location where 1.4G fireworks are purchased, possessed, handled, stored, used or discharged that results in injury or death or a substantial risk of injury or death to any person or results in property damage in excess of one thousand dollars and that involves either*

1. *the discharge, handling or other use, or the results of the discharge, handling or other use, of 1.4G fireworks or associated materials, or*

2. *the failure of any person to comply with any applicable requirement imposed by Chapter 3743. of the Revised Code or this code.*

"Discharge." *Includes the use, explosion, detonation, ignition or any other discharge or use of 1.4G fireworks in any manner.*

"Fireworks establishment." *Any fireworks manufacturer, wholesaler, retailer, or storage premise subject to licensure under Chapter 3743. of the Revised Code.*

"Spectator." *Any person other than a person who is directly engaged in the discharge of 1.4G fireworks.*

5626.3 General. *The possession, storage, handling, and discharge in this state of 1.4G fireworks shall be in accordance with Sections 3743.27, 3743.45 and 3743.451 of the Revised Code, this section and, as applicable, this chapter.*

5626.3.1 Local regulation. *The provisions of this section are not to be construed in any way to limit the authority of a local governing body to restrict or ban the use of fireworks within their territorial jurisdiction pursuant to division (D) of Section 3743.45 of the Revised Code and Section 5626.3.1.1. Any such duly enacted law, rule or regulation supersedes any less restrictive provision set forth herein and controls within the territorial boundaries of that jurisdiction.*

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5626.3.1.1 *In accordance with division (D) of section 3743.45 of the Revised Code, a county, with respect to the unincorporated territory of the county, a township, with respect to the unincorporated territory of the township, or a municipal corporation may do either of the following:*

1. *Restrict the dates and times a person may discharge, ignite, or explode 1.4G fireworks purchased pursuant to Section 3743.45 of the Revised Code and this section.*

2. *Ban the discharge, ignition, or explosion of 1.4G fireworks purchased pursuant to Section 3743.45 of the Revised Code and this section. A resolution adopted by a board of township trustees under division (D) of Section 3743.45 of the Revised Code prevails over a conflicting resolution adopted under division (D) of Section 3743.45 of the Revised Code by the board of county commissioners in the county within which the township is located.*

5626.3.2 Other laws and regulations. *This section does not limit the enforcement of any ordinance, resolution, or statute that regulates noise, disturbance of the peace, or disorderly conduct.*

5626.3.3 Public exhibition. *1.4G fireworks discharged pursuant to and in accordance with Sections 3743.27 and 3743.45 of the Revised Code and this section, if conducted on a not for profit basis by the person conducting the discharge, shall not be considered a public exhibition subject to licensure and permit requirements of sections 3743.50 through 3743.56 of the Revised Code as long as no 1.4G firework is used in the same display as any 1.3G firework.*

5626.3.4 Licensed exhibition. *1.4G fireworks shall not be possessed, stored, handled or discharged at a licensed fireworks exhibition by anyone other than a licensed exhibitor.*

5626.3.5 Inducing panic. *1.4G fireworks shall not be possessed, stored, handled or discharged in any manner that would or would have a high likelihood of inducing panic as set forth in section 2917.31 of the Revised Code.*

5626.3.6 Safety compliance. *Unless otherwise specified by the Revised Code or this code, all 1.4G fireworks shall be used and discharged in accordance with the manufacturer's instructions and recommended practices and in accordance with the most recent CPSC guidelines available at the time of use or discharge.*

5626.3.6.1 Tampering. *Persons who obtain possession of any 1.4G firework shall not in any manner tamper with, dismantle or alter the 1.4G firework other than normal discharge.*

5626.3.7 Liability. *Any person who possesses, stores, handles or discharges 1.4G fireworks or any person who is responsible for such possession, storage, handling or discharge shall be liable in accordance with all applicable laws, rules and regulations and subject to any immunities and defenses thereto in Ohio law for any injury, death, or property damage resulting therefrom.*

5626.4 Possession, storage, and handling. *Any person who intends to obtain possession in this state of 1.4G fireworks purchased in this state shall obtain possession of the 1.4G fireworks*

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only from a licensed retailer, licensed manufacturer, or licensed wholesaler and shall be subject to section 3743.45 of the Revised Code and this code.

***5626.4.1** In addition to compliance with all applicable provisions of the Revised Code and this code, all 1.4G fireworks shall be*

1. *Possessed only in accordance with Chapter 3743. of the Revised Code and this code;*
2. *Handled carefully and with due consideration of the explosive nature of fireworks;*
3. *Stored in compliance with all applicable provisions of this code and not in a manner that endangers the public at large;*
4. *Stored in an amount not greater than 125 pounds net weight pyrotechnic composition within any structure, building or vehicle;*
5. *Stored at least 150 feet from other explosives, explosive material, or hazardous materials that are subject to Chapter 50;*
6. *Stored in a cool, dry place away from ignition sources including but not limited to heat, shock, friction and sparks, and at least 25 feet from hot work activity, open flames, and flammable and combustible liquids including, but not limited to, gasoline, diesel fuel, and kerosene;*

***Exception to ~~(iv) and (v)~~Items 4 and 5:** Quantity limits may be increased and separation distances may be decreased by the fire marshal for 1.4G fireworks that are properly permitted in accordance with Section 105.1.1.1.1 and Section 5601.2 and stored in a magazine in accordance with Section 5604 and any applicable zoning regulations.*

***5626.4.2** 1.4G fireworks shall not be stored in sleeping areas, within means of egress, in mechanical or service areas of any occupancy group or residential location, or outside in open areas unless the 1.4G fireworks are properly permitted in accordance with Section 105.1.1.1.1 and Section 5601.2 and stored in a magazine in accordance with Section 5604.*

***5626.4.3** 1.4G fireworks shall not be stored at any I occupancy or within any residential facility licensed under title 37 of the Revised Code.*

***5626.4.4** 1.4G fireworks acquired pursuant to Section 3743.45 of the Revised Code shall not be stored for any period exceeding 180 days after acquisition unless such storage is properly permitted in accordance with Section 105.1.1.1.1 and Section 5601.2 and stored in a magazine in accordance with Section 5604.*

***5626.5 Discharge of 1.4G fireworks.** The discharge of 1.4G fireworks, including the 1.4G fireworks discharge site, trajectory, fallout, and spectator separation, shall comply with Chapter 3743. of the Revised Code and this code.*

***5626.5.1 Days of discharge.** Unless otherwise limited or prohibited by state or local laws, rules or regulations, any person authorized under section 3743.45 of the Revised Code and this section to possess 1.4G fireworks in this state may discharge those fireworks in*

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accordance with section 3743.45 of the Revised Code and this section on private property, with express authorization from the property owner, and only on the following days each year:

1. *The first day of January;*
2. *Chinese new year's day;*
3. *The fifth day of May;*
4. *The last Monday in May, and the Saturday and Sunday immediately preceding that day;*
5. *The nineteenth day of June;*
6. *The third, fourth, and fifth days of July;*
7. *The first Friday, Saturday, and Sunday before and after the fourth day of July;*
8. *The first Monday of September, and the Saturday and Sunday immediately preceding that day;*
9. *Diwali;*
10. *The thirty-first day of December.*

5626.5.2. Times of discharge. *Unless further limited by local laws, rules or regulations, the discharge of 1.4G fireworks as set forth in Section 3743.45 of the Revised Code and this section shall only occur on the days listed in Section 5626.5.1 and only between the hours of 4:00 p.m. and 11: 00 p.m. on each day.*

Exceptions:

1. *On the thirty-first day of December 1.4G fireworks may be discharged until 11:59 p.m.*
2. *On the first day of January 1.4G fireworks may also be discharged between 12:00 a.m. and 1:00 a.m.*

5626.5.3 Drought or hazardous conditions*. Regardless of any other provision of this section, the discharge of 1.4G fireworks is prohibited in accordance with the following:*

5626.5.3.1 *If adverse weather conditions prevail or begin such that an unreasonable hazard to persons or property exists due to such conditions, including but not limited to high winds, precipitation or other atmospheric conditions, the discharge of 1.4G fireworks shall be postponed or discontinued until the hazard has been eliminated.*

5626.5.3.2 *If any unsafe condition is detected, such as hazardous debris falling into a spectator area, any person discharging 1.4G fireworks shall immediately cease the discharge of 1.4G fireworks until the unsafe condition is eliminated or corrected.*

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5626.5.3.3 *1.4G fireworks shall not be discharged in any area where a burn ban, fire weather watch or red flag warning has been issued by a governing authority during any time such a ban, watch or warning is in effect or until such time as the issuing authority has lifted the ban, watch or warning.*

5626.5.4 Weather protection*. Pyrotechnic materials used in the discharge of 1.4G fireworks shall be protected from adverse weather conditions.*

5626.5.5 Clean up. *Any person who discharges 1.4G fireworks shall conduct an inspection of all affected premises to locate debris resulting from the discharge of 1.4G fireworks and promptly remove and properly dispose of all such debris. Such inspection and clean up shall occur immediately after the discharge or within 12 hours of the discharge if the discharge occurs after dark.*

5626.5.6 Prohibited conduct*. All of the following are prohibited:*

1. *The handling and discharge of 1.4G fireworks by any person under the age of eighteen;*
2. *The presence of any person under the age of eighteen within 150 feet of the point of discharge of 1.4G firework aerial devices;*
3. *The provision of or other distribution of 1.4G fireworks to any person under the age of eighteen;*
4. *The indoor discharge of 1.4G fireworks;*
5. *The presence of tents within a 1.4G fireworks discharge site while fireworks are being discharged;*
6. *The storage of 1.4G fireworks within the 1.4G fireworks discharge site in such a manner that accidental ignition would have a high likelihood of occurring;*
7. *The pointing, aiming or discharging of 1.4G fireworks at or towards any person or object including bystanders, spectators, emergency services personnel, vehicles, aircraft, watercraft or any structure;*
8. *The discharge of 1.4G fireworks in any area that is not consistent with sections 3743.45 and 3743.451 of the Revised Code and this section.*
9. *The discharge of 1.4G fireworks within the boundaries of any federal, state or local forest, park, public recreation area or place of nature conservancy;*
10. *The discharge of 1.4G fireworks in a manner that would be deemed hazardous to property or endanger a person or animal;*
11. *The discharge of 1.4G fireworks within 150 feet of property that houses livestock, measured from the point of discharge to the nearest point of the property line, unless the person who intends to discharge the fireworks provides at least five days written notice to the owner of the property where the livestock is housed which states the date, time, and location where the fireworks will be discharged;*

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12. The discharge of 1.4G fireworks on public property or private school property;

13. The ignition or discharge of 1.4G fireworks in any street, highway, alley or public way;

14. The presence of smoking materials, matches, lighters, or open flame devices within 50 feet (15 m) of any area where 1.4G fireworks or other pyrotechnic materials are present.

***Exception:** Matches, lighters, or open flame devices to be specifically used to lawfully ignite 1.4G fireworks for discharge purposes may be within the 1.4G fireworks discharge site.*

15. The discharge of 1.4G fireworks in a manner that violates any applicable federal, state, or local law, including any zoning regulations.

***5626.5.7 Separation distances.** 1.4G fireworks discharge sites shall remain clear of ignitable materials or any other hazards and shall be separated from spectators, structures and other hazards in accordance with Sections 5626.5.7.1 through 5626.5.7.4.1. Separation distances in Sections 5626.5.7.1 through 5626.5.7.4.1 shall be applied independently and completely to every aspect of each 1.4G firework discharge subject to Sections 5626.5.7.1 through 5626.5.7.4.1. When determining separation distances, any conflict or ambiguity shall be resolved in a manner that provides the greatest degree of public safety and property protection.*

***5626.5.7.1 Separation distances from spectators**. The minimum separation distance from any spectator to the point of discharge of each 1.4G firework shall be at least as great as those specified in Sections 5626.5.7.1.1 through 5626.5.7.1.2.*

***5626.5.7.1.1 Aerial devices.** For 1.4 G firework aerial devices including, but not limited to, shells, roman candles, cakes, and bottle rockets, the minimum required discharge radius shall be at least 150 feet.*

***5626.5.7.1.2 Ground devices.** For non-aerial 1.4G firework devices discharged at ground level primarily for ground effect including but not limited to fountains, firecrackers or ground effect devices, the minimum required discharge radius shall be at least 50 feet.*

***5626.5.7.2 ~~Aerial shell s~~Separation distances from buildings and structures**. Except for greater distances as otherwise provided in Sections 5626.5.7.3 through 5626.5.7.4.1, the minimum separation distance from the point of discharge of each 1.4G firework aerial shell to the nearest point of any structure or building shall be at least 150 feet, and for any ground device, the minimum separation distance from the point of discharge of each 1.4G firework ground device to the nearest point of any structure or building shall be at least 50 feet.*

***5626.5.7.3 Increased separation distances for certain structures and areas.** Notwithstanding the presence of spectators, the minimum separation distance from the point of discharge of each 1.4G firework to the locations specified below shall be determined and applied as follows:*

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5626.5.7.3.1 Multitenant properties, hotels, motels, dormitories, fraternities, and sororities*. The distance from the point of discharge of any 1.4G fireworks to the nearest point of a structure or building that is used as a multitenant structure, hotel, motel, dormitory, fraternity, or sorority shall be at least three times the distance required in Sections 5626.5.7.1.1 through 5626.5.7.1.2.*

5626.5.7.3.2 Hospitals, educational facilities, health care facilities, Institutional Group occupancies, and residential facilities licensed under Title 37 of the Revised Code*. The distance from the point of discharge of any 1.4G firework to the nearest point of a structure or building that is used as a hospital, educational facility, health care facility Institutional Group occupancy, or a residential care facility licensed under Title 37 of the Revised Code shall be at least twice the distance required in Sections 5626.5.7.1.1 through 5626.5.7.1.2.*

5626.5.7.3.3 Military installations, railroads, airports and fireworks establishments. *The distance from the point of discharge to any railroad or the nearest point of a property line of property that is used as a military installation, airport or fireworks establishment shall be at least three times the distance required in Sections 5626.5.7.1.1 through 5626.5.7.1.2. If a flight restriction is in place surrounding a facility the required distances shall be calculated based on the restriction.*

5626.5.7.3.4 Bulk storage areas. *The distance between the point of discharge of any 1.4G firework to the nearest point of a bulk storage area containing materials that have a flammability, explosive, or toxic hazard shall be at least twice the distance required in Sections 5626.5.7.1.1 through 5626.5.7.1.2.*

5626.5.7.3.4.1 *The fuel tanks on vehicles or other motorized equipment located in the 1.4G fireworks discharge site shall not be considered bulk storage.*

5626.5.7.4 Aerial shells. *Any area selected as a 1.4G fireworks discharge site for the discharge of 1.4G firework aerial shells shall be located so that the post ignition trajectory of the shells shall not come within 25 feet (7.6 m) of any overhead object, structure, or vehicle.*

5626.5.7.4.1 *The fallout area for 1.4G firework aerial shells shall be an open area. Spectators, unauthorized vehicles, watercraft, or readily combustible materials shall not be located within the fallout area during any period in which fireworks are being discharged.*

5626.6 Consumer fireworks discharge incident. *Any consumer fireworks discharge incident shall be reported to the fire code official and law enforcement official immediately.*

5626.6.1 Report*. The fire code official shall immediately make a report regarding the fireworks incident and shall forward a copy of the report to the state fire marshal within 72-hours of the incident. The report shall provide the time, date and location where the consumer fireworks discharge incident occurred, the name address and telephone number of all of the following as applicable: the person who was conducting the discharge, any person who discharged fireworks that resulted in any injury or death, the owner of the property where the discharge occurred, the owner of the property where the injury or damage occurred, the*

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person(s) injured or fatally injured as a result of the discharge, and any other person present during the discharge.

5626.6.2 Tampering. *The disturbance, dismantling, repositioning, moving or altering of any firework item, any associated equipment or other material, or any other item within the 1.4G fireworks discharge site, or any evidence related to a consumer fireworks discharge incident is prohibited.*

Exception: *Items may, as authorized by a fire official or law enforcement official on site, be moved as necessary to prevent further injury or death to any member of the public or a threat of imminent fire or explosion.*

Section 5627 Fountain Device Retailers

5627.1 Scope*. Except as noted herein, this section applies to the licensure, acquisition, handling, possession, sales, storage and use (including discharge) of the subset of 1.4G fireworks that are further defined as fountain devices by any person other than a licensed manufacturer of fireworks or a licensed wholesaler of fireworks. Such fountain devices may also be subject to other provisions of this code. To the extent that any matter regarding the licensure, handling, possession, sales, storage, or use of fountain devices purchased pursuant to Chapter 3743. of the Revised Code are addressed in this section or the provisions in this section conflict with provisions otherwise contained in this code, the provisions of this section control.*

5627.2 Definitions.

5627.2.1 *For the purposes of Section 5627, this chapter, and as used elsewhere in this code, the following words and terms shall be defined as follows:*

"Fountain device." *A specific type of 1.4G firework that meets all of the following criteria:*

1. *It is nonaerial and nonreport producing;*
2. *It is recognized and manufactured in accordance with Sections 3.1.1 and 3.5 of APA standard 87-1 (2001 edition);*
3. *It is a ground-based or hand-held sparkler with one or more tubes containing a nonexplosive pyrotechnic mixture that produces a shower of sparks upon ignition, with or without additional effects that may include a colored flame, audible crackling effect, audible whistle effect, or smoke; and*
4. *It contains not more than seventy-five grams of the nonexplosive pyrotechnic mixture in any individual tube and not more than five hundred grams or less for multiple tubes.*

"Fountain device retailer" *or* ***"licensed retailer."*** *A person licensed pursuant to Section 3743.26 of the Revised Code.*

*"****Fountain device sales location.****" The approved building where licensed fountain device sales occur and any approved contiguous designated external fountain device storage areas on the same premise as the approved building.*

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*"**Retail sale" or "sell at retail**." A sale of fireworks to a purchaser who intends to use the fireworks, and not resell them.*

***5627.2.2** For the purposes of Section 5627, the following take on exclusive meaning as follows:*

***"CFRS facility."** A consumer fireworks retail sales facility as defined in NFPA 1124 (2006 edition).*

***"Highly flammable materials."** A "flammable gas", "flammable liquid", "flammable liquified gas" "flammable material", or" flammable solid" as defined in this code that are capable of being readily ignited from common sources of heat or similar causes. Examples of highly flammable materials include aerosols, acetone, rubbing alcohol, hand sanitizers, pool chemicals, automotive fluids, and other similar products, regardless of form or packaging, existing in a structure licensed for fountain device retail sales.*

***"Open for business."** Having the intent and ability to engage in any lawful licensed fountain device retailer activity authorized by Sections 3743.26 to 3743.29 of the Revised Code.*

***"Store."** A store as define in NFPA 1124 (2006 edition), except that a fountain device retailer's sales location may be considered to be a "store" and not a CFRS facility, and not subject to CFRS facility requirements, if its sales structure is used primarily for the sales of fountain devices and the total inventory of the fountain devices within the sales structure does not exceed 125 pounds (56.8 kg) net explosive weight of pyrotechnic composition.*

***5627.2.3** The following terms are defined in Chapter 2:*

"Net explosive weight."

"Pyrotechnic composition."

***5627.3 General.** A licensed retailer's acquisition, possession, storage, and sale of fountain devices may only occur in compliance with the Revised Code and this section.*

***5627.3.1** The possession and discharge of all fountain devices lawfully acquired from a licensed manufacturer of fireworks, a licensed wholesaler of fireworks, or a licensed fountain device retailer by the public may only occur in accordance with the provisions of Sections 3743.27, 3743.28, 3743.29, 3743.45, 3743.451 and 3743.65 of the Revised Code, Section 5626, and any other applicable federal, state and political subdivision laws, including any prohibitions or limitations on such discharges. All other possession and discharge of fountain devices, except for uses by a licensed exhibitor of fireworks in accordance with a properly issued exhibition permit pursuant to Section 3743.54 of the Revised Code, is prohibited.*

***5627.3.2.** All retail sales of fountain devices by a licensed manufacturer of fireworks, a licensed wholesaler of fireworks, or a licensed fountain device retailer to the public shall be subject to the fee provisions and any associated audit or compliance requirements of Section 3743.22 of the Revised Code and any associated rules.*

5627.4 Application and licensure.

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5627.4.1 Requirements for fountain device retailer license.

5627.4.1.1 Application periods. *Except as otherwise specified in division (C) of section 3743.26 of the Revised Code for a person not yet "open for business" or as authorized under division (D) of Section 3743.26 of the Revised Code, any person who wishes to receive an initial license as a fountain device retailer in this state shall submit an application for licensure to the state fire marshal before the first day of October. Applications for an initial fountain device retailer license by a person not yet "open for business" immediately before the first day of October, but that becomes "open for business" at another time during the year, may be submitted at any time during a calendar year as provided for in Section 3743.26 of the Revised Code. Applicants for a fountain device retailer license authorized under division (D) of Section 3743.26 of the Revised Code for calendar year 2022 shall be filed in accordance with that section.*

5627.4.1.2 Application form. *All fountain device retailer license applications shall be on a form prescribed by the state fire marshal. All of the following shall be submitted with the fountain device retailer license application:*

1. *A license fee in the amount of twenty-five dollars;*
2. *An affidavit affirming that the applicant is in compliance with NFPA 1124 (2006 edition), or will be in compliance before engaging in the storage or retail sale of fountain devices;*
3. *Proof of comprehensive general liability insurance coverage, specifically including fire and smoke casualty on premises, in an amount not less than one million dollars for each occurrence for bodily injury liability and wrongful death at its business location. Proof of such insurance shall be submitted together with proof of coverage in an amount not less than one million dollars for products liability on all inventory located at the business location.*

5627.4.2 Separate application for each location*. A separate application for licensure as a fountain device retailer shall be submitted for each location at which a person wishes to engage in the retail sale of fountain devices. Only one fountain device retailer license, carrying a distinct license number as designated by the state fire marshal, may be issued per structure and any parcels associated with the licensed structure at any particular location within the State.*

5627.4.3 Minimum license holder qualifications*. The background check and ~~felony conviction~~disqualifying offense-based licensure prohibitions established in Section 3743.70 of the Revised Code shall not apply to fountain device retailers.*

5627.4.4 License year and renewal. *Unless otherwise specified in the Revised Code, the license year for a licensed fountain device retailer is the first day of December of a calendar year through the thirtieth day of November of the following year. If a licensed retailer wishes to continue or resume engaging in the retail sale of fountain devices at a particular location after its effective license for that location expires, regardless of the length of time elapsed from the date of expiration, the licensee shall apply before the first day of October immediately prior to the start of the new license year for a new license pursuant to this section. The state fire marshal shall send a written notice of the expiration of a license to a licensed fountain device*

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retailer not later than the first day of September for any year that the licensed fountain device retailer has an active license.

5627.5 Conditions of fountain device retailer licensure.

5627.5.1 License Period. *The state fire marshal shall, on the first day of December and, except as provided in divisions (C) and (D) of Section 3737.26 of the Revised Code, at no other time, issue qualifying applicants a license to sell fountain devices at retail.*

Except as provided in divisions (C) and (D) of Section 3737.26 of the Revised Code, a licensed retailer's license is effective for one year beginning on the first day of December and shall expire on the 30th day of November of the year after it was issued.

5627.5.2 Fees. *Every license fee required in accordance with this section shall be paid with cash or by money order, postal note, cashier's check, credit card, certified check or personal check payable to the "Treasurer, State of Ohio" and be paid at or mailed to the "Division of State Fire Marshal," at the address specified on the application material.*

5627.5.3 Expired license. *Fountain device retailer license renewal applications received after the required submittal dates shall be considered new applications and meet the new license requirement of Sections 3743.26 and 3743.27 of the Revised Code and Section 5627.4 of this section.*

5627.5.4 Duplicate license. *If a valid fountain device retailer license is lost or accidentally destroyed, an application for a duplicate license shall be made in writing to the state fire marshal and be accompanied by a ten-dollar fee.*

5627.5.5 Misuse of license*. No person who has been issued a fountain device retailer license shall give or permit any other person to use such license and such license is not transferable or assignable to any other holder at the same location, nor shall any license be extended beyond the dates set out thereon.*

5627.5.6 Forfeiture of fee*. When a license has been denied, suspended, or revoked pursuant to Chapter 119. of the Revised Code and this chapter, the fee for such license shall be forfeited and deposited into the appropriate state fire marshal's fund and applied as a fee for license processing.*

5627.5.7 Denial or revocation of license*. The state fire marshal may suspend consideration of an application or deny the issuance of an initial fountain device retailer license, revoke an existing fountain device retailer license, or deny the renewal of a fountain device retailer license if any of the following occur:*

1. *The applicant has failed to submit proof of comprehensive general liability insurance or licensee has failed to maintain the same.*

2. *The applicant has failed to provide the required information on the application form provided by the state fire marshal including, but not limited to failure to include the identification of a statutory agent, if applicable, or other designated agent for service of process at the time of application and prompt notification of any changes in the statutory agent.*

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3. *The applicant has failed to include the required fee for the license with the application.*

4. *The applicant owes fees or assessments of any type to the state fire marshal for other fireworks related pending applications or existing licenses.*

5. *The applicant withdraws its application prior to an investigation or inspection by the state fire marshal to determine if the license shall be issued.*

6. *The applicant or licensee has made a misrepresentation or filed false statements in its application.*

7. *There is substantial evidence that the fountain device retailer license applicant, the operations of the licensee, or any conditions at the licensed premises are not in full compliance with Chapters 3737, 3743, 3781. and 3791. of the Revised Code, any rules promulgated in accordance with those chapters, or any other applicable federal, state or local laws, including building or zoning regulations.*

5627.6 Sales Locations – General. *A licensed fountain device retailer is authorized to possess fountain devices and sell fountain devices at retail only in accordance with the following:*

1. *A licensed retailer's possession and storage of fountain devices shall comply with NFPA 1124 (2006 edition).*

2. *A licensed retailer shall only acquire fountain devices for sale to the public from a licensed manufacturer or a licensed wholesaler.*

3. *A licensed retailer may only sell fountain devices in its inventory at retail to the public. A licensed retailer shall not resell such fountain devices at wholesale to any person or to other fountain device retailers but may transfer product to other licensed locations owned by the same licensee.*

4. *A licensed retailer shall prominently display its current fountain device retailer license at the fountain device sales location authorized by that license.*

5. *A licensed retailer shall only possess and sell fountain devices as packaged merchandise with covered fuses.*

6. *A licensed retailer's possession, storage, and sale of fountain devices shall comply with the state fire marshal's rules adopted pursuant to Section 3743.28 of the Revised Code, the fire code and all other applicable federal, state, and local laws rules and regulations.*

7. *A licensed retailer shall possess and sell fountain devices only at the location described in the application for licensure and approved by the state fire marshal, and the sale shall be from the inside of a licensed building and from no structure or device outside a licensed building. At no time shall a licensed retailer sell fountain devices outside of a licensed building, including from tents or under awnings, or engage in representative sample operations.*

8. *Mail order, internet based, or customer delivery-based sales that involve the delivery of fountain devices to a purchaser at any location other than from the licensed fountain device sales premise are prohibited.*

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9. Retail sales of fountain devices, at locations other than a licensed premise for a licensed manufacturer of fireworks or a licensed wholesaler of fireworks, shall be limited to mercantile occupancies, or locations providing higher level of public safety, as defined in the building code.

10. Retail sales of fountain devices shall be in accordance with this section's sales floor requirements.

11. Fountain device retailers shall notify the local fire code official having jurisdiction over the licensed sales location of its initial licensure under this section and intended maximum amounts of fountain device inventory at the licensed location. The local fire code official may require the fountain device retailer to periodically renew such notifications, including any renewals or terminations of the fountain device retailer license.

12. A licensed retailer shall own or control via a lease or similar document the building where fountains are offered for sale or stored under that licensed retailer's license, including all egress pathways, merchandise sales areas, employee supervision areas, and other licensed areas subject to this section. To determine compliance with this section, the state fire marshal may accept from a licensed retailer with common ownership of more than five licensed locations a submission of a certification of ownership or control for all of that licensed retailer's locations on a form issued by or otherwise deemed acceptable to the state fire marshal.

5627.6.1 Sales Locations - General Safety Requirements.

5627.6.1.1 Portable Fire Extinguishers. *Portable fire extinguishers shall be provided and maintained as required for extra (high) hazard occupancy in accordance with NFPA 10.*

5627.6.1.2 Fire Safety and Evacuation Plan*. An approved fire safety and evacuation plan shall be prepared in writing, posted and maintained in accordance with this code.*

5627.6.1.3 Housekeeping.

5627.6.1.3.1 *Fountain sales areas and storage rooms shall be kept free of accumulations of debris and rubbish.*

5627.6.1.3.2 *Any loose pyrotechnic composition shall be removed immediately and safely and properly disposed of by the licensee.*

5627.6.1.3.3 *Vacuum cleaners or other mechanical cleaning devices shall not be used.*

5627.6.1.3.4 *Brooms, brushes, and dustpans used to sweep up any loose powder or dust shall be made of non-sparking materials.*

5627.6.1.3.5 *Fountain devices that are damaged shall be immediately removed from the sales floor, not offered for sale, and safely and properly disposed of by the licensee.*

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5627.6.1.3.6 *Damaged fountain devices shall be permitted to be returned to the dealer or shall be disposed of according to the manufacturer's instructions.*

5627.6.1.4 Smoking. *Smoking shall not be permitted inside any licensed fountain device sales location structure or within 50 feet (15.5 m) of any external fountain device storage area.*

5626.6.1.4.1 No Smoking Signs. *At least one sign that reads as follows, in letters at least 2 inches (51 mm) high on a contrasting background, shall be conspicuously posted at each entrance or within 10 feet (3.05 m) of every aisle directly serving the fountain device sales area: "FIREWORKS — NO SMOKING"*

5627.6.1.5 Signage prohibiting fireworks discharge. *At least one sign that reads as follows, in letters at least 4 inches (102 mm) high on a contrasting background, shall be conspicuously posted on the exterior of each side of the fountain device sales location:*

NO FIREWORKS DISCHARGE

WITHIN 300 FEET

5627.6.2 Records of inventory. *Fountain device retailers shall maintain a current and accurate inventory of all fountain device inventory on the premises. Such records shall be made available to the state fire marshal or the local fire code official having jurisdiction upon request.*

5627.6.3 Suspension of sales and seasonal inventory*. The fire code official with jurisdiction may require any fountain device retailer within that official's jurisdiction to provide written notice that the retailer is temporarily suspending sales for a period of longer than thirty days, has depleted its seasonal inventory of fountain devices, or otherwise no longer has fountain devices on its premises during the period of its licensure.*

5627.7 Construction requirements for sales locations. *All structures used for the possession and sale of fountain devices after the effective date of this chapter, whether such structures are newly constructed or fountain device sales are initiated in an existing structure, may only be constructed, occupied, operated and maintained in accordance with and as required by this code and the building code.*

All fountain device sales locations shall comply with the Sections 5627.7.1 and 5627.7.2.

5627.7.1 Fountain device sales locations. *All fountain device sales locations shall meet or exceed the requirements for mercantile occupancies open to the public, or for categories providing higher level of public safety, as defined in the building code.*

5627.7.2 Coordination of Codes: *The provisions of Section 5627 supersede any of the more restrictive provisions of Chapter 7 of NFPA 1124 (2006 edition) applicable to Fountain Device Retailers that address the same specific subject matter.*

5627.7.3 Fountain device sales locations. *Fountain device sales locations, including sales structures associated with the license, shall comply with the requirements of Sections 5627.7.3.1 through 5627.7.3.7.1 as specified.*

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5627.7.3.1 Permits and certificates of occupancy. *All fountain device sales locations shall obtain and comply with all applicable construction, maintenance, and operational permit and certificate of occupancy requirements, or conditions thereof, as required by state or local laws, ordinances, or regulations, this code and the building code.*

5627.7.3.2 Plans*. For any new construction of or the alteration or modification of an existing fountain device sales location, initial occupancy or use of a structure as a fountain device sales location, or as a part of any licensure process, the state fire marshal may require the submission of plans designating the following for all fountain device sales locations:*

1. *Minimum distances from the following to the nearest point of the sales structure:*

   1.1 *Public ways.*

   1.2 *Buildings.*

   1.3 *Other firework sales facilities.*

   1.4 *Motor vehicle fuel–dispensing station dispensers.*

   1.5 *Retail propane-dispensing station dispensers.*

   1.6 *Flammable and combustible liquid aboveground tank storage.*

   1.7 *Flammable gas and flammable liquefied gas, bulk aboveground storage, and dispensing areas within 300 ft (91.5 m) of the facility used for the retail sales of consumer fireworks.*

2. *Vehicle access and parking areas.*

3. *Location and type of portable fire extinguishers.*

4. *Floor plan and layout of storage and displays to indicate compliance with this chapter and applicable state or local laws, ordinances, or regulations.*

5. *Means of egress.*

6. *Construction details.*

5627.7.3.3 Means of Egress. *The minimum number of exits provided from the retail sales area for all fountain device sales locations shall be in accordance with the building code and with Sections 5627.7.3.3.1 through 5627.7.3.3.3.*

5627.7.3.3.1 *Required means of egress from the retail sales area shall not be allowed to pass through storage rooms.*

5627.7.3.3.2 Maintenance. *The means of egress shall be maintained in accordance with Section 1031 as applicable.*

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5627.7.3.3.3 Exit signs. *Exit signs shall be installed and maintained in accordance with Section 1013 and Section 1104.5 as applicable and be visible under emergency illumination conditions in the event of a power supply failure.*

5627.7.3.4 Aisle Width *Aisle width for all fountain device sales locations shall comply with Sections 5627.7.3.4.1 and 5627.7.3.4.2.*

5627.7.3.4.1 *Aisles shall have a minimum clear width of 48 inches (1.2 m).*

5627.7.3.4.2 *The required width of aisles shall be maintained unobstructed at all times when the facility is occupied by the public.*

5627.7.3.5 Aisle Arrangements *Dead-end aisles shall be prohibited for all fountain device sales locations.*

5627.7.3.6 Doors and Doorways*. Doors and doorways used in the means of egress for all fountain device sales locations shall comply with Sections 5627.7.3.6.1 through 5627.7.3.6.3.*

5627.7.3.6.1 *Egress doors shall be not less than 36 inches (910 mm) in width [providing a minimum of 32 inches (813 mm) clear width].*

5627.7.3.6.2 *Every egress door that has a latching device shall be provided with panic hardware complying with the building code and this code.*

5627.7.3.6.3 *Means of egress doors shall be of the side-hinge swinging type and shall be arranged to swing in the direction of egress travel.*

5627.7.3.7 Alteration, modification or change of use of sales structure. *Any alteration, modification, or change of use of any structure used for the retail sale of fountain devices may only occur in compliance with and in accordance with this code and the building code.*

5627.7.3.7.1 Equipment. *Any alteration or any installation of new equipment within any fountain device sales location associated with or in areas containing fountain devices may only be done in accordance with the requirements of this code and the building code.*

5627.8 Employee education and training. *All fountain device retailer employees who are responsible for the storage, display or sale of fountain devices or who visually supervise fountain device displays in accordance with division (A)(4) of Section 3743.27 of the Revised Code, or other responsible persons as designated by the fountain device retailer, shall be adequately trained in all of the following before performing their assigned job duties:*

1. *The safe handling, packaging and storage of fountain devices.*

2. *Safe and proper fountain device display location placement, operations, and associated conditions.*

3. *Fountain device shelving, separation and height requirements.*

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4. Basic fire safety measures, including but not limited to the location and proper use of fire extinguishers and the procedures for contacting emergency personnel.

5. The statutes and rules that govern the possession, display, storage, handling and sale of fountain devices, and permitted fountain device licensee activities.

5627.8.1 Timing and frequency. *Employee training shall occur prior to any employees' or designated persons' handling, oversight, or sales of fountain devices. The training shall be repeated and updated as deemed necessary by the licensed retailer to ensure compliance with the minimum standards of this section. A properly trained individual is authorized to train other employees of the same licensee.*

5627.8.2 Records. *Each fountain device retailer shall maintain current training records onsite at the fountain device sales location for each employee who is responsible for the storage, display or sale of fountain devices or who visually supervises fountain device displays that identifies the person providing the training specified in this section to the employees, the dates of training, the employees trained, and any other information required by the state fire marshal. Such records shall be made available to the state fire marshal, fire code officials and law enforcement officials upon request.*

5627.9 Fountain device displays. *All fountain devices offered for sale at a licensed fountain device sales location may only occur in compliance with Sections 5627.9.1 through 5627.9.3.*

5627.9.1 Location and quantity. *Fountain device displays shall be limited to three hundred square feet. No single fountain device display shall exceed one hundred fifty square feet, and each display must be placed at least ~~fifty~~ twenty-five feet from any other fountain device display and any other highly flammable materials including but not limited to aerosols, acetone, rubbing alcohol, hand sanitizers, pool chemicals, automotive fluids, and other similar products.*

5627.9.2 Supervision. *Fountain device displays shall be under the visual supervision of an employee of the licensed retailer or other responsible party while the licensed retail location is open to the public.*

5627.9.3 Entrances and exits. *No fountain device display shall be located within a means of egress or in any manner that blocks entrances or exits, and shall at a minimum meet the following distances from entrances and exits:*

1. No fountain devices shall be displayed for sale or stored within 5 ft (1.5 m) of any public entrance in an enclosed building or structure.

2. No fountain devices shall be displayed for sale or stored within 2 ft (0.6 m) of any exit or private entrance in an enclosed building or structure.

5627.9.4 Sales shelving gondolas. *All fountain device display shelving gondolas shall comply with Sections 5627.9.4.1 through 5627.9.4.2.1.1.*

5627.9.4.1 Flame Breaks*. All fountain device displays shall have and maintain flame breaks in accordance with the following:*

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1. From the display surface to not less than 6 inches (150 mm) above the full height of the displayed merchandise or to the underside of the display surface directly above.

2. For the full depth of the displayed merchandise.

5627.9.4.1.1 *Where displays of merchandise face aisles that run along both long sides of the display fixtures or display surface, a flame break shall be installed lengthwise between the abutting display fixtures or along the approximate longitudinal centerline of the display surface so as to separate the merchandise facing one of the aisles from the merchandise that abuts it facing the other aisle.*

5627.9.4.1.2 *Where a merchandise display level contains packaged fountain merchandise, such merchandise shall be permitted to be displayed in a continuous length on the same level, where the display does not exceed 32 feet (9.8 m) without the flame break required in Section 5627.9.4.1.*

5627.9.4.1.3 *An aisle having a minimum width of 48 inches (1.2 m) shall be permitted to substitute for the flame break required in Section 5627.9.4.1.*

5627.9.4.1.4 *Flame breaks shall be allowed to be omitted in fountain device sales locations protected throughout with an automatic sprinkler system installed in accordance with NFPA 13.*

5627.9.4.2 Shelving*. All fountain device displays shall have and maintain shelving in accordance with Sections 5627.9.4.2.1 through 5627.9.4.2.1.1.*

5627.9.4.2.1 Holes or other openings. *Shelving or other surfaces used to support fountain display merchandise shall be permitted to have not more than 10 per cent of the area of the shelf contain holes or other openings.*

5627.9.4.2.1.1 *The 10 percent limitation on the area of holes or other openings in the shelf used to support fountain display merchandise shall not be applicable under the following conditions:*

1. Where both of the facing vertical surfaces of the abutting display fixtures are constructed of perforated hardboard panels not less than 1⁄4 inches (6 mm) thick and separated from each other by an open space not less than 1 1⁄2 inches (38 mm) wide

2. Where such merchandise is suspended from or fastened to the shelf or surface or is displayed as packaged merchandise on the surface or in bins

5627.9.4.3 Horizontal Barriers*. Combustible materials and merchandise shall not be stored directly above fountain devices in retail sales displays unless a horizontal barrier is installed directly above the fountain devices as prescribed in Section 7.4.2.2.5 of NFPA 430.*

5627.9.4.4 Sales Displays *The requirements of this section shall apply to fountain device sales areas, unless otherwise specifically indicated.*

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***5627.9.4.4.1 Height of Sales Displays**. To provide for visual access of the retail sales area by the employees and customers, partitions, counters, shelving, cases, and similar space dividers shall not exceed 6 feet (1.8 m) in height above the floor surface inside the perimeter of the retail sales area.*

***5627.9.4.4.1.1** Merchandise on display or located on shelves or counters or other fixtures shall not be displayed to a height greater than 6 feet (1.8 m) above the floor surface within the fountain sales area.*

***5627.9.4.4.1.2** Where located along the perimeter of the fountain sales area, the maximum height of sales displays shall be limited to 12 feet (3.66 m).*

***5627.9.4.4.1.3** Freestanding display racks, pallets, tables, or bins containing packaged fountain merchandise shall be permitted without flame breaks, provided the dimensions of the area occupied by the fountain merchandise do not exceed 4 feet (1.2 m) in width, 8 feet (2.4 m) in length, and 6 feet (1.8 m) in height, and the displayed fountain merchandise is separated from other displays of merchandise by aisles having a minimum clear width of 4 feet (1.2 m).*

***5627.9.4.4.2 Covered Fuses**. Only consumer fountain devices meeting the criteria for covered fuses shall be permitted where retail sales of fountain devices are conducted.*

***5627.9.4.4.2.1** A fountain device shall be considered as having a covered fuse if the fountain device is contained within a packaged arrangement, container, or wrapper that is arranged and configured such that the fuse of the fountain device cannot be touched directly by a person handling the item without the person having to puncture or tear the packaging or wrapper, unseal or break open a package or container, or otherwise damage or destroy the packaging material, wrapping, or container within which the fountains are contained.*

***5627.10 Sales to the public.** The sale of fountain devices may only occur in compliance with Chapter 3743. of the Revised Code and Sections 5627.10.1 through 5627.10.7.*

***5627.10.1** A licensed retailer shall only possess and sell fountain devices as packaged merchandise with covered fuses.*

***5627.10.2 Sales to minors prohibited.** No licensed retailer shall sell fountain devices to a person who is under eighteen years of age.*

***5627.10.3 Age verification**. The age of a person purchasing fountain devices shall be verified prior to the completion of the sale via evidence that the person is at least 18 years of age. Acceptable forms of identification that can be used for age verification include an unexpired, government issued photo identification including a driver's license, identification card, passport, military identification card or immigration card. Such verification can be accomplished via a transaction scan consistent with Sections 2927.021, 2927.022, 4301.61 and 4601.611 of the Revised Code.*

***5627.10.4 Sales to persons under the influence of drugs or alcohol prohibited.** No licensed retailer shall knowingly sell fountain devices to a person who is obviously under the influence of alcohol or a drug of abuse, as defined in Section 4506.01 of the Revised Code.*

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5627.10.5 Safety pamphlet. *Licensed fountain device retailers shall furnish a copy of a safety pamphlet to each purchaser of 1.4G fireworks.*

Exception*: A safety pamphlet does not have to be furnished to a purchaser who is a licensed retailer, licensed manufacturer, licensed wholesaler, or licensed exhibitor of fireworks in this state.*

5627.10.5.1 Safety pamphlet requirements. *At a minimum, the safety pamphlet shall contain all of the following information, printed in a legible and appropriately sized text:*

"Do not allow children to play with fireworks. Sparklers, a firework often considered by many to be the ideal "safe" device for children, burn at very high temperatures and should not be handled by children. Children may not understand the danger involved with fireworks and may not act appropriately while using the devices or in case of emergency.

Set off fireworks outdoors in a clear area, away from houses, dry leaves, or grass and other flammable materials.

Keep a bucket of water nearby for emergencies and for pouring on fireworks that fail to ignite or explode.

Do not try to relight or handle malfunctioning fireworks. Soak them with water and throw them away.

Be sure other people are out of range before lighting fireworks.

Never light fireworks in a container, especially a glass or metal container.

Keep unused fireworks away from firing areas.

Store fireworks in a cool, dry place.

Check instructions for special storage directions.

Observe state and local law.

Never have any portion of your body directly over a firework while lighting.

Do not experiment with homemade fireworks."

5627.10.6 Safety glasses*. Licensed fountain device retailers shall have safety glasses available for sale for a nominal charge, or provided to consumers for free, at the fountain device display.*

Exception*: Safety glasses do not have to be made available for a purchaser who is a licensed retailer, licensed manufacturer, licensed wholesaler, or licensed exhibitor of fireworks in this state.*

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5627.10.6.1 Safety glasses standard. *Safety glasses made available pursuant to Section 5627.10.6 shall meet or exceed ANSI Z87.1 standards.*

5627.10.7 Discharge. *No person shall discharge fireworks within 300 feet of any portion of a fountain device sales facility.*

5627.11 Storage. *Storage of all fountain devices may only occur in compliance with Sections 5627.11.1 through 5626.11.5.5.*

5627.11.1 *Licensed fountain device retailers may store fountain devices to be sold at the licensed location that are not otherwise located in the approved public display areas of the licensee at the following locations:*

1. *nonpublic interior areas of sales structures or*

2. *an approved magazine or trailer outside of the licensed structure but on the same premise.*

5627.11.2 –Approved packaging. *All fountain devices shall be stored in DOTn approved cartons and packaging, in accordance with NFPA 1124.*

5627.11.3 Further distribution prohibited. *Fountain devices may not be stored for further distribution by a licensed retailer at any premise other than the licensed fountain device sales location.*

5627.11.4 Interior storage within licensed structure*. Interior storage within a licensed fountain device retailer sales location may only occur in compliance with Sections 5627.11.4.1 through 5627.11.4.3.2.*

5627.11.4.1 Size*. Interior storage within a licensed fountain device sales location shall be limited to a total storage space not exceeding 600 square feet.*

5627.11.4.2 Quantity. *The maximum total quantity of fountain devices that may be stored in the interior of a fountain device sales location shall not exceed 125 pounds [56.8 kg] net weight of pyrotechnic composition unless approved by the building code official having jurisdiction and the state fire marshal.*

5627.11.4.2.1 *Where the actual net weight of the pyrotechnic composition of fountain devices are not known, 25 percent of the gross weight of the fountain devices, including packaging, shall be permitted to be used to determine the net weight of the pyrotechnic composition.*

5627.11.4.3 Rooms*. Storage rooms containing fountain devices shall be protected with an automatic sprinkler system installed in accordance with NFPA 13 or separated from the retail sales area by a fire barrier having a fire resistance rating of not less than 1 hour.*

5627.11.4.3.1 *Door and window openings in a fire barrier wall shall be protected by self-closing fire doors or fixed fire windows having a fire protection rating of not less than 1 hour and shall be installed in accordance with NFPA 80.*

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5627.11.4.3.2 *Any other openings or penetrations in a fire barrier wall shall be protected in accordance with the building code.*

5627.11.5 Exterior storage. *Fountain devices stored on the exterior of a fountain device sales location shall be contained in either a trailer or a storage magazine. Such exterior storage at a licensed fountain device sales location may only occur in compliance with Sections 5627.11.5.1 through 5627.11.5.5.*

5627.11.5.1 Trailers. *Fountain devices may be stored in trailers if the trailers are properly enclosed, secured, placarded, disabled and grounded and are separated from any structure to which the public is admitted by a distance that will allow fire-fighting equipment to have full access to the structures on the licensed premises in accordance with Chapter 5 or as approved in writing by the local fire code official. In no instance shall trailers used for the storage of fountain devices be located at a distance less than the minimum separation distances specified in NFPA 1124. Such trailers may be moved into closer proximity to any structure only to accept or discharge cargo for a period not to exceed forty-eight hours. Only two such trailers may be placed in such closer proximity at any one time. At no time may trailers be used for conducting sales of fountain devices.*

5627.11.5.2 Type 4 Storage Magazines. *The use of type 4 storage magazines in lieu of an approved trailer is acceptable and must meet the requirements of 27 C.F.R. 555.210 and this code.*

5627.11.5.3 Public access prohibited. *Members of the public shall be prohibited from access to the contents of any storage trailers at all times.*

5627.11.5.4 Enclosure required. *Trailers and magazines used for the storage of fountain devices shall be completely enclosed in accordance with Section 5621.3.*

5627.11.5.5 Parking*. No motor vehicle or trailer used for the storage of fountain devices shall be parked within 10 feet (3 m) of a fountain sales facility, except when delivering, loading, or unloading fountains or other merchandise and materials used, stored, or displayed for sale in the facility.*

5627.12 Inspections and Enforcement. *The state fire marshal may inspect any proposed fountain device sales location for licensure purposes before a license is issued or renewed, and any licensed fountain device retailer at any time for purposes of license compliance determinations and enforcement of state and local laws applicable to fountain device retailers or the sale of fountain devices. Such inspections may include sales and inventory locations, fountain device retailer records, sales fee records and practices, storage areas, fire protection systems and inspection, maintenance and testing records of fire protection system(s), and any premise areas subject to licensure.*

The state fire marshal may take any actions authorized by Sections 3743.26 to 3743.29 of the Revised Code and this code to enforce any applicable laws and rules for fountain devices.

Section 5628 Consumer grade fireworks fee

5628.1 Scope*. The provisions of this section shall govern the administration of the fee, pursuant to Section 3743.22 of the Revised Code, imposed on licensed retailers, licensed manufacturers, and licensed wholesalers selling 1.4G fireworks in this state. The fee shall equal four per cent of*

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the gross receipts of a licensed manufacturer, licensed wholesaler, and a licensed retailer from retail sales of 1.4G fireworks in this state made on or after May 18, 2022.

***5628.2 Definitions**. For the purposes of Section 5628, the following take on exclusive meaning and shall be defined as follows:*

*"**Fee."** The consumer fireworks (1.4G Fireworks) sales fee established in division (B) of Section 3743.22 of the Revised Code.*

***"Fee period."** The period beginning on the first day of October and ending on the thirtieth day of the following September.*

***"Gross receipts."** Excludes the amount of taxes a licensed retailer, licensed manufacturer, or licensed wholesaler collects from a consumer under Chapter 5739. of the Revised Code on behalf of the state or a political subdivision.*

***5628.3 Retail sale.** For the purpose of this section, a retail sale of 1.4G fireworks is made in this state only if the purchaser intends to use the fireworks, and not resell them, and receives the 1.4G fireworks at a location in this state.*

5628.4 General

***5628.4.1** A licensed retailer, licensed manufacturer, or licensed wholesaler may separately or proportionately bill or invoice a fee imposed under this section to another person.*

***5628.4.2** All money collected under this section shall be credited to the fireworks fee receipts fund. Seven-eighths of the money in the fund shall be used by the state fire marshal solely to fund firefighter training programs. Remaining money in the fund shall be used solely to pay expenses of the state fire marshal in performing the duties prescribed by this section.*

***5628.5 Reporting.** The fee and associated sales information shall be reported by licensed manufacturers, licensed wholesalers, and licensed retailers to the state fire marshal and be on a form prescribed by the state fire marshal in accordance with Section 3743.22 of the Revised Code and Sections 5628.5.1 through 5628.5.2.*

***5628.5.1 Remittance.** All fees due shall be remitted to the state fire marshal on or before the twenty-third day after the last day of each fee period. The amount of the fee due shall be computed on the basis of gross receipts from retail sales made in each fee period. A licensed retailer, licensed manufacturer, or licensed wholesaler whose license is issued, denied (for any period of appeal), suspended, canceled, or revoked, or not renewed after expiration during a fee period shall report and remit the fee based on sales of 1.4G fireworks made during any fee period, or portion thereof, when it conducted sales subject to this section.*

***5628.5.1.1 More frequent remittance.** The state fire marshal may establish processes to permit a licensee or required person to submit partial or full fee payments from each licensee or person for each fee period on a periodic basis during a fee period or may require a single remittance to the state fire marshal of all fees due for a fee period between the first day after and the close of business for the state fire marshal on the twenty-third day after the last day of each fee period.*

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5628.5.1.2 Deadline for remittance. *Regardless of submission processes used, all licensees and persons subject to Section 37433.22 of the Revised Code must submit the full amount of all fee remittances due under Section 3743.22 of the Revised Code for each fee period to the state fire marshal by 5 p.m. eastern standard time on the twenty-third day after the last day of the applicable fee period.*

5628.5.2 No sales during a fee period. *A licensed retailer, licensed manufacturer, or licensed wholesaler that does not record any sales of consumer fireworks during a fee period, or portion thereof specified by the state fire marshal, shall file a form(s) as prescribed by the state fire marshal and indicate that no sales were transacted in such fee period.*

5628.6 Enforcement. *If the state fire marshal determines that a licensed retailer, licensed manufacturer, or licensed wholesaler fails to timely report and remit the full amount of the fee as required by this section and Section 3743.22 of the Revised Code, the state fire marshal may do either of the following:*

1. *Order, in writing, the retailer, wholesaler, or manufacturer to report and remit to the state fire marshal, within a specified period of time, any such underpayment;*

2. *Revoke or deny renewal of the license of the retailer, manufacturer, or wholesaler, which shall subject a manufacturer or wholesaler to the consequences prescribed in division (D) of Section 3743.08 of the Revised Code or division (D) of Section 3743.21 of the Revised Code.*

5628.6.1 Collection action. *The state fire marshal may certify any delinquent amount owed by a licensed retailer, licensed manufacturer, or licensed wholesaler to the attorney general for purposes of collection in accordance with Section 131.02 of the Revised Code.*

5628.6.2 Information collected by the Ohio department of taxation. *The state fire marshal may request information in the possession of the department of taxation as necessary for the state fire marshal to verify the compliance of a licensed manufacturer of fireworks, a licensed wholesaler of fireworks, or a licensed retailer with Section 3743.22 of the Revised Code. No officer, employee, or agent of the state fire marshal shall disclose any information provided to the state fire marshal by the department of taxation under division (C)(19) of Section 5703.21 of the Revised Code.*

5628.6.3 Denial or revocation of a license. *Notwithstanding the foregoing, the fire marshal may deny any renewal or new license application filed by a person previously holding any license as a licensed retailer, licensed manufacturer, or licensed wholesaler after such a license was denied renewal, suspended, or revoked if the applicant is not in full compliance with all of the fee payment or other provisions of Section 3743.22 of the Revised Code or this section applicable to that previously issued license.*

Copyright Claim Information

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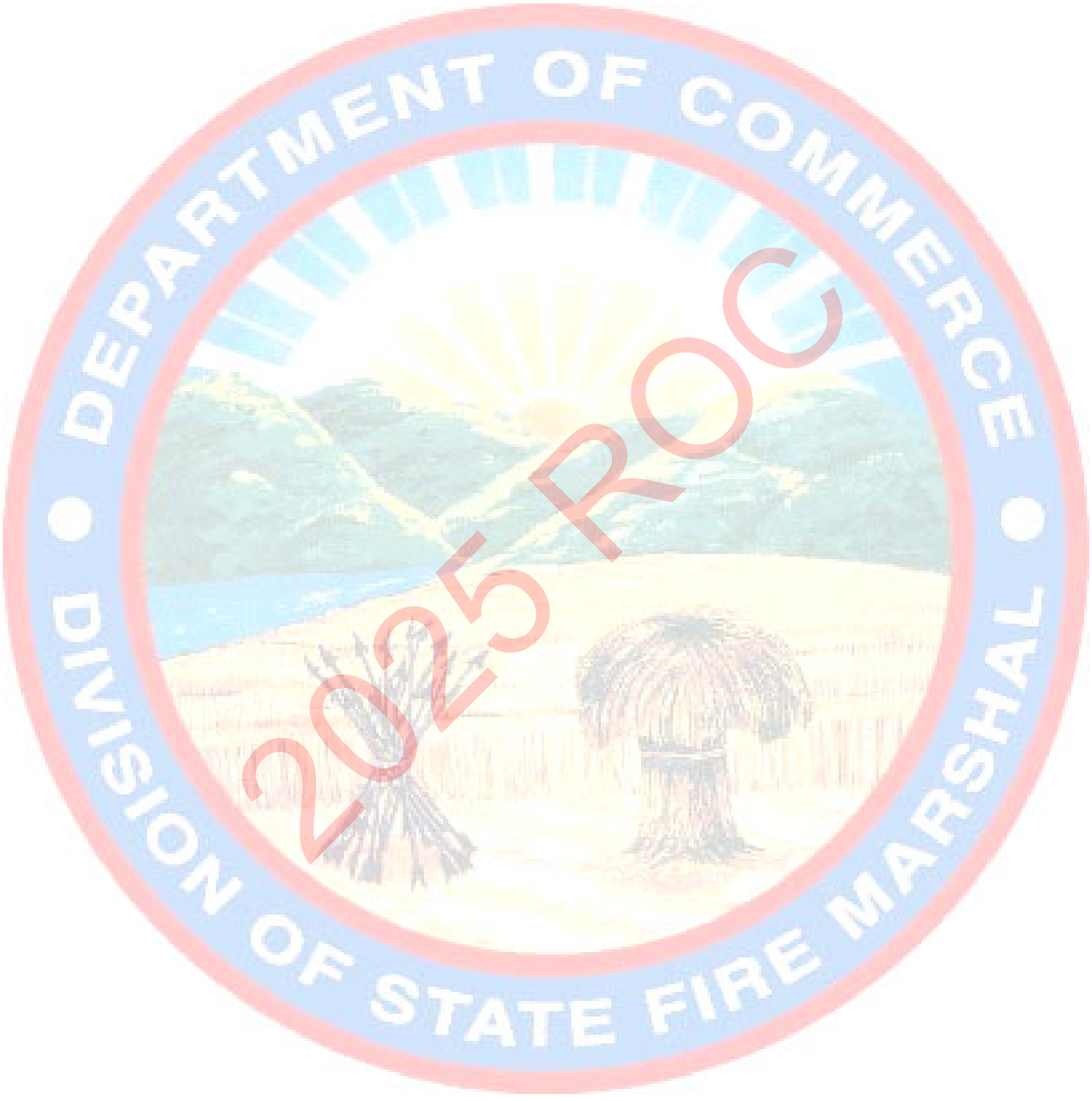

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1301:7-7-57 Flammable and combustible liquids.

Section 5701 General

5701.1 Scope and application. Prevention, control and mitigation of dangerous conditions related to storage, use, dispensing, mixing and handling of flammable and combustible liquids shall be in accordance with *NFPA 30, building code and mechanical code,* Chapter 50 and this chapter.

5701.1.1 *Notwithstanding Sections 102.1 and* 102.2 *and unless otherwise noted in this chapter, the provisions of this chapter shall not apply to facilities, equipment, structures or installations existing or approved for construction or installation prior to the effective date of this chapter, except in those cases where the fire code official demonstrates by a preponderance of the evidence that the existing facility, equipment, structure or installation creates a distinct hazard to life or adjacent property.*

5701.2 Nonapplicability. This chapter shall not apply to liquids as otherwise provided in other laws or regulations or chapters of this code, including:

1. Specific provisions for flammable *and combustible* liquids in ~~airports,~~ motor fuel-dispensing facilities, repair garages, airports and marinas in Chapter 23.

2. Medicines, foodstuffs, cosmetics and commercial or institutional products containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solution not being flammable, provided that such materials are packaged in individual containers not exceeding 1.3 gallons (5 L).

3. Quantities of alcoholic beverages in retail or wholesale sales or storage occupancies, provided that the liquids are packaged in individual containers not exceeding 1.3 gallons (5 L).

4. Storage and use of fuel oil in tanks and containers connected to oil-burning equipment. Such storage and use shall be in accordance with Section ~~603~~ 605. For abandonment of fuel oil tanks, this chapter applies.

5. ~~Refrigerant liquids and oils in r~~Refrigeration systems (see Section ~~606~~ 608).

6. Storage and display of aerosol products complying with Chapter 51.

7. Storage and use of liquids that do not have a fire point when tested in accordance with ASTM D92.

8. Liquids with a flash point greater than 95°F (35°C) in a water-miscible solution or dispersion with a water and inert (noncombustible) solids content of more than 80 per-cent by weight, which do not sustain combustion.

9. Liquids without flash points that can be flammable under some conditions, such as certain halogenated hydrocarbons and mixtures containing halogenated hydrocarbons.

10. *To the extent a subject area referenced in or regulated by this Chapter related to the storage of beer, distilled spirits and wines in barrels and casks is addressed elsewhere in*

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this code (including chapter 40 of this code), the ~~The~~ storage of beer, distilled spirits and wines in ~~wooden~~ barrels and casks *is exempt from this Chapter*.

11. Commercial cooking oil storage tank systems located within a building and designed and installed in accordance with Section ~~610~~ 607 and NFPA 30.

12. Application and release of pesticide and agricultural products and materials intended for use in weed abatement, erosion control, soil amendment or similar applications where applied in accordance with the manufacturer's instructions and label directions.

~~11.~~13. The off-site transportation of flammable or combustible liquids where in accordance with Department of Transportation (DOTn) regulation.

~~12.~~14. ~~Those~~ *Underground storage ~~tanks~~ tank (UST) systems regulated by rule 1301:7-9 of the Administrative Code. For the purposes of this provision "**Underground storage tank system**" means an underground storage tank and the connected underground piping, underground ancillary equipment, and containment system, if any. UST Systems also include below underground vent piping, underground tanks and underground piping up to and including the shear/impact valve, check valve or first isolation valve once the piping exits the underground.*

5701.3 Referenced documents. The applicable requirements of Chapter 50, other chapters of this code, the *building code* and the *mechanical code* pertaining to flammable liquids shall apply.

5701.4 Permits. Permits shall be required as set forth in *Chapter 1. In accordance with Section 105.1.1, permits required for the installation, alterations to tanks, piping or appurtenances, abandonment, removal or to place temporarily out of service a stationary flammable or combustible liquid storage tank shall be obtained from the fire marshal when such permit is not issued by another officer listed in Section 3737.14 of the Revised Code*.

Exceptions:

1. *A stationary flammable or combustible liquid storage tank with a capacity of 1,100 gallons or less utilized for residential heating oil or agricultural purposes.*

2. *A listed lockable engine mounted tank that is connected to stationary pieces of equipment if all of the following apply:*

   2.1 The tank has a capacity of 500 gallons or less; and

   2.2 The equipment remains locked at all times unless the equipment is being serviced or the tank is being filled; and

   2.3 All other provisions of this code, including other security provisions such as vehicle protection, are complied with.

3. *A stationary flammable or combustible liquid storage tank utilized at a construction site for a period of less than 90 days.*

5701.5 Material classification. Flammable and combustible liquids shall be classified in accordance with the definitions in Chapter 2.

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When mixed with lower flash-point liquids, Class II or III liquids are capable of assuming the characteristics of the lower flash-point liquids. Under such conditions, the appropriate provisions of this chapter for the actual flash point of the mixed liquid shall apply.

When heated above their flash points, Class II and III liquids assume the characteristics of Class I liquids. Under such conditions, the appropriate provisions of this chapter for flammable liquids shall apply.

Section 5702 Definitions

5702.1 Definitions. The following terms are defined in Chapter 2.

Alcohol-based hand rub.

Bulk plant or terminal.

Bulk transfer.

Combustible liquid.

Class II.

Class IIIA.

Class IIIB.

Fire point.

Flammable liquid.

Class IA.

Class IB.

Class IC.

Flash point.

Fuel limit switch.

Liquid storage room.

Liquid storage warehouse.

Mobile fueling.

Process transfer.

Refinery.

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Remote emergency shutoff device.

Remote solvent reservoir.

Solvent distillation unit.

Tank, primary.

5702.2 "Approved" as used in Chapter 57. *As used in this rule and notwithstanding the definition as set forth in Chapter 2, the term "approved," unless otherwise further specified or defined in this chapter, means: listed, labeled, or tested and documented in authenticated research reports from an authoritative source listed in Section ~~115.2~~118.2, or otherwise acceptable to the fire code official.*

Section 5703 General requirements

5703.1 Electrical. Electrical wiring and equipment shall be installed and maintained in accordance with Section ~~605~~ 603 and NFPA 70.

5703.1.1 Classified locations for flammable liquids. Areas where flammable liquids are stored, handled, dispensed or mixed shall be in accordance with Table 5703.1.1. A classified area shall not extend beyond an unpierced floor, roof or other solid partition.

The extent of the classified area is allowed to be reduced, or eliminated, where sufficient technical justification is provided to the fire code official that a concentration in the area in excess of 25 percent of the lower flammable limit (LFL) cannot be generated.

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Table 5703.1.1
Class I electrical equipment locations[a]

Location	Group D Division	Extent of classified area
Underground tank fill opening	1	Pits, boxes or spaces below grade level, any part of which is within the Division 1 or 2 classified area.
	2	Up to 18 inches above grade level within a horizontal radius of 10 feet from a loose-fill connection and within a horizontal radius of 5 feet from a tight-fill connection.
Vent-Discharging upward	1	Within 3 feet of open end of vent, extending in all directions.
	2	Area between 3 feet and 5 feet of open end of vent, extending in all directions.
Drum and container filling		
Outdoor or indoor with adequate ventilation	1	Within 3 feet of vent and fill opening, extending in all directions.
	2	Area between 3 feet and 5 feet from vent of fill opening, extending in all directions. Also up to 18 inches above floor or grade level within a horizontal radius of 10 feet from vent or fill opening.
Pumps, bleeders, withdrawal fittings, meters and similar devices		
Indoor	2	Within 5 feet of any edge of such devices, extending in all directions, and up to 3 feet above floor or grade level within 25 feet horizontally from any edge of such devices.
Outdoor	2	Within 3 feet of any edge of such devices, extending in all directions, and up to 18 inches above floor or grade level within 10 feet horizontally from an edge of such devices.
Pits		
Without mechanical ventilation	1	Entire area within pit if any part is within a Division 1 or 2 classified area.
With mechanical ventilation	2	Entire area within pit if any part is within a Division 1 or 2 classified area.
Containing valves, fittings or piping, and not within Division 1 or 2 classified area	2	Entire pit.
Drainage ditches, separators, impounding basins	1 or 2	Same as pits.
Indoor	2	Area up to 18 inches above ditch, separator or basin, and up to 18 inches above grade within 15 feet horizontal from any edge.
Outdoor		
Tank vehicle and tank car[b]		

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Loading through open dome	1 2	Within 3 feet of edge of dome, extending in all directions. Area between 3 feet and 15 feet from edge of dome, extending in all directions.
Loading through bottom connections with atmospheric venting	1 2	Within 3 feet of point of venting to atmosphere, extending in all directions. Area between 3 feet and 15 feet from point of venting to atmosphere, extending in all directions. Also up to 18 inches above grade within a horizontal radius of 10 feet from point of loading connection.
Tank vehicle and tank car[b] - continued		
Loading through closed dome with atmospheric venting	1 2	Within 3 feet of open end of vent, extending in all directions. Area between 3 feet and 15 feet from open end of vent, extending in all directions, and within 3 feet of edge of dome, extending in all directions.
Loading through closed dome with vapor control	2	Within 3 feet of point of connection of both fill and vapor lines, extending in all directions.
Bottom loading with vapor control or any bottom unloading		Within 3 feet of point of connection, extending in all directions, and up to 18 inches above grade within a horizontal radius of 10 feet from point of connection.
Storage and repair garage for tank vehicles	1 2	Pits or spaces below floor level. Area up to 18 inches above floor or grade level for entire storage or repair garage.
Garages for other than tank vehicles	Ordinary	Where there is an opening to these rooms within the extent of an outdoor classified area, the entire room shall be classified the same as the area classification at the point of the opening.
Outdoor drum storage	Ordinary	---
Indoor warehousing where there is no flammable liquid transfer	Ordinary	Where there is an opening to these rooms within the extent of an indoor classified area, the room shall be classified the same as if the wall, curb or partition did not exist.
Indoor equipment where flammable vapor/air mixtures could exist under normal operations	1 2	Area within 5 feet of any edge of such equipment, extending in all directions. Area between 5 feet and 8 feet of any edge of such equipment, extending in all directions, and the area up to 3 feet above floor or grade level within 5 feet to 25 feet horizontally from any edge of such equipment.[c]
Outdoor equipment where flammable vapor/air mixtures could exist under normal operations	1 2	Area within 3 feet of any edge of such equipment, extending in all directions. Area between 3 feet and 8 feet of any edge of such equipment extending in all directions, and the area up to 3 feet above floor or grade level within 3 feet to 10 feet horizontally from any edge of such equipment.

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Tank-above ground		
Shell, ends or roof and dike area	1	Area inside dike where dike height is greater than the distance from the tank to the dike for more than 50 per-cent of the tank circumference.
	2	Area within 10 feet from shell, ends or roof of tank. Area inside dikes to level of top of dike.
Vent	1	Area within 5 feet of open end of vent, extending in all directions.
	2	Area between 5 feet and 10 feet from open end of vent, extending in all directions.
Floating roof	1	Area above the roof and within the shell.
Office and restrooms	Ordinary	Where there is an opening to these rooms within the extent of an indoor classified location, the room shall be classified the same as if the wall, curb or partition did not exist.

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. Locations as classified in NFPA 70.
b. When classifying extent of area, consideration shall be given to the fact that tank cars or tank vehicles can be spotted at varying points. Therefore, the extremities of the loading or unloading positions shall be used.
c. The release of Class I liquids can generate vapors to the extent that the entire building, and possibly a zone surrounding it, are considered a Class I, Division 2, location.

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5703.1.2 Classified locations for combustible liquids. Areas where Class II or III liquids are heated above their flash points shall have electrical installations in accordance with Section 5703.1.1.

Exception: Solvent distillation units in accordance with Section 5705.4.

5703.1.3 Other applications. The fire code official is authorized to determine the extent of the Class I electrical equipment and wiring location where a condition is not specifically covered by these requirements or NFPA 70.

5703.2 Fire protection. Fire protection for the storage, use, dispensing, mixing, handling and on-site transportation of flammable and combustible liquids shall be in accordance with this chapter and applicable sections of Chapter 9.

5703.2.1 Portable fire extinguishers and hose lines. Portable fire extinguishers shall be provided in accordance with Section 906. Hose lines shall be provided in accordance with Section 905.

5703.3 Site assessment. In the event of a spill, leak or discharge from a tank system, a site assessment shall be completed by the owner or operator of such tank system if the fire code official determines that a potential fire or explosion hazard exists. Such site assessments shall be conducted to ascertain potential fire hazards and shall be completed and submitted to the fire department within a time period established by the fire code official, not to exceed 60 days.

5703.4 Spill control and secondary containment. Where the maximum allowable quantity per control area is exceeded, and where required by Section 5004.2, rooms, buildings or areas used for storage, dispensing, use, mixing or handling of Class I, II and IIIA liquids shall be provided with spill control and secondary containment in accordance with Section 5004.2.

5703.5 Labeling and signage. The fire code official is authorized to require warning signs for the purpose of identifying the hazards of storing or using flammable liquids. Signage for identification and warning such as for the inherent hazard of flammable liquids or smoking shall be provided in accordance with this chapter and Sections 5003.5 and 5003.6.

5703.5.1 Style. Warning signs shall be of a durable material. Signs warning of the hazard of flammable liquids shall have white lettering on a red background and shall read: DANGER-FLAMMABLE LIQUIDS. Letters shall be not less than 3 inches (76 mm) in height and ½ inch (12.7 mm) in stroke.

5703.5.2 Location. Signs shall be posted in locations as required by the fire code official. Piping containing flammable liquids shall be identified in accordance with ASME A13.1.

5703.5.3 Warning labels. Individual containers, packages and cartons shall be identified, marked, labeled and placarded in accordance with federal regulations and applicable state laws.

5703.5.4 Identification. Color coding or other approved identification means shall be provided *at the point of* loading and unloading for flammable or combustible liquids to identify the contents of the tank served by the riser.

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5703.6 Piping systems. Piping systems and their component parts, for flammable and combustible liquids shall be in accordance with Sections 5703.6.1 through 5703.6.11.

5703.6.1 Nonapplicability. The provisions of Section 5703.6 shall not apply to gas or oil well installations; piping that is integral to stationary or portable engines, including aircraft, watercraft and motor vehicles; and piping in connection with boilers and pressure vessels regulated by the *mechanical code*.

5703.6.2 Design and fabrication of piping systems and components. Piping system components shall be designed and fabricated in accordance with the applicable standard listed in Table 5703.6.2 and Chapter 27 of NFPA 30, except as modified by Section 5703.6.2.1.

Table 5703.6.2
Piping standards

Piping use	Standard
Power piping	ASME B31.1
Process piping	ASME B31.3
Pipeline transportation systems for liquid hydrocarbons and other liquids	ASME B31.4
Building services piping	ASME B31.9
Double containment piping	UL 971A, UL 1369

5703.6.2.1 Special materials. Low-melting-point materials (such as aluminum, copper or brass), materials that soften on fire exposure (such as nonmetallic materials) and nonductile material (such as cast iron) shall be acceptable for use underground in accordance with the applicable standard listed in Table 5703.6.2. Where such materials are used outdoors in above-ground piping systems or within buildings, they shall be in accordance with the applicable standard listed in Table 5703.6.2 and one of the following:

1. Suitably protected against fire exposure.
2. Located where leakage from failure would not unduly expose people or structures.
3. Located where leakage can be readily controlled by operation of ~~accessible~~ remotely located valves in a location provided with ready access.

In all cases, nonmetallic piping shall be used in accordance with Section 27.4.6 of NFPA 30.

5703.6.3 Testing. Unless tested in accordance with the applicable section of ASME B31.9, piping, before being covered, enclosed or placed in use, shall be hydrostatically tested to 150 percent of the maximum anticipated pressure of the system, or pneumatically tested to 110 percent of the maximum anticipated pressure of the system, but not less than 5 pounds per square inch gauge (psig) (34.47 kPa) at the highest point of the system. This test shall be maintained for a sufficient time period to complete visual inspection of joints and connections. For not less than 10 minutes, there shall be no leakage or permanent distortion. Care shall be exercised to ensure that these pressures are not applied to vented storage tanks. Such storage tanks shall be tested independently from the piping.

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5703.6.3.1 Existing piping. Existing piping shall be tested in accordance with this section where the fire code official has reasonable cause to believe that a leak exists. Piping that could contain flammable or combustible liquids shall not be tested pneumatically. Such tests shall be at the expense of the owner or operator.

Exception: Vapor-recovery piping is allowed to be tested using an inert gas.

5703.6.4 Protection from vehicles. Guard posts or other approved means shall be provided to protect piping, valves or fittings subject to vehicular damage in accordance with Section 312.

5703.6.5 Protection from external corrosion and galvanic action. Where subject to external corrosion, piping, related fluid-handling components and supports for both underground and above-ground applications shall be fabricated from noncorrosive materials and coated or provided with ~~corrosive~~corrosion protection. Dissimilar metallic parts that promote galvanic action shall not be *directly* joined.

5703.6.6 Valves. Piping systems shall contain a sufficient number of *valves, including* manual control valves and check, valves to operate the system properly and to *provide protection* under both normal and emergency conditions. Piping systems in connection with pumps shall contain a sufficient number of such valves to control properly the flow of liquids in normal operation and in the event of physical damage or fire exposure.

5703.6.6.1 Backflow protections. Connections to pipelines or piping by which equipment (such as tank cars, tank vehicles or marine vessels) discharges liquids into storage tanks shall be provided with check valves or block valves for automatic protection against backflow where the piping arrangement is such that backflow from the system is possible. Where loading and unloading is done through a common pipe system, a check valve is not required. However, a block valve, located ~~so as to be readily accessible~~in an area where it is provided with ready access or remotely operable, shall be provided.

5703.6.6.2 Manual drainage. Manual drainage-control valves shall be located at approved locations *appropriate for the facility that are* remote from the tanks, diked area, drainage system and impounding basin to ensure *valve* operation in a fire condition.

5703.6.7 Connections. Above-ground tanks with connections located below normal liquid level shall be provided with internal or external isolation valves located as close as practical to the shell of the tank. Except for liquids whose chemical characteristics are incompatible with steel, such valves, where external, and their connections to the tank shall be of steel.

5703.6.8 Piping supports. Piping systems shall be substantially supported and protected against physical damage and excessive stresses arising from settlement, vibration, expansion, contraction or exposure to fire. The supports shall be protected against exposure to fire by one of the following:

1. Draining liquid away from the piping system at a minimum slope of not less than 1 percent.

2. Providing protection with a fire-resistance rating of not less than 2 hours.

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3. Other approved methods.

5703.6.9 Flexible joints. Flexible joints shall be approved and shall be installed on underground liquid, vapor and vent piping at all of the following locations:

1. Where piping connects to underground tanks.

2. Where piping ends at pump islands and vent risers.

3. At points where differential movement in the piping can occur.

5703.6.9.1 Fiberglass-reinforced plastic piping. Fiberglass-reinforced plastic (FRP) piping is not required to be provided with flexible joints in locations where both of the following conditions are present:

1. Piping does not exceed 4 inches (102 mm) in diameter.

2. Piping has a straight run of not less than 4 feet (1219 mm) on one side of the connection where such connections result in a change of direction.

In lieu of the minimum 4-foot (1219 mm) straight run length, approved flexible joints are allowed to be used under dispensers and suction pumps, at submerged pumps and tanks, and where vents extend above ground.

5703.6.10 Pipe joints. Joints shall be liquid tight and shall be welded, flanged or threaded except that *approved* flexible connectors are allowed in accordance with Section 5703.6.9. Threaded or flanged joints shall fit tightly by using methods and materials *suitable* for the type of joint. Joints in piping systems used for Class I liquids shall be welded where located in concealed spaces within buildings.

Nonmetallic joints shall be approved and shall be installed in accordance with the manufacturer's instructions.

Pipe joints that are dependent on the friction characteristics or resiliency of combustible materials for liquid tightness of piping shall not be used in buildings. Piping shall be secured to prevent disengagement at the fitting.

5703.6.11 Bends. Pipe and tubing shall be bent in accordance with ASME B31.9.

Section 5704 Storage

5704.1 General. The storage of flammable and combustible liquids in containers and tanks shall be in accordance with this section and the applicable sections of Chapter 50.

***5704.1.1** The aboveground tank storage of flammable and combustible liquids, shall be prohibited on premises to which the public has access.*

Exceptions:

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1. *At a bulk plant or terminal, the public may access the facility premises but shall be prohibited from the bulk storage and transfer operation area in accordance with Section 5704.1.2.*

2. *At a property that contains a fleet vehicle motor fuel dispensing facility, the public may access the property but shall be prohibited from the fleet vehicle facility in accordance with Section 2306.3.*

3. *At premises that have an aboveground storage tank connected to stationary pieces of equipment such as internal combustion engine driven generators, fire pumps or other fixed pieces of equipment, the public may access the property but shall be prohibited from the aboveground fuel storage area in accordance with Section 5704.1.2.*

4. *At a property containing a flammable or combustible liquid storage tank serving an on-site electric generator used only for non-commercial purposes only at one-, two-, or three-family dwelling units where the flammable liquid storage tank(s) has a capacity of 60 gallons or greater or where the combustible liquid storage tank(s) has a capacity of 660 gallons or greater, the public may access the property but shall be prohibited access to the tank in accordance with Section 5704.1.2.*

5. *At a distillery, ~~members of~~ the public may access ~~the property~~a premises where the above ground tank storage of flammable and combustible liquids occurs for the purpose~~s~~ of ~~tours~~ touring ~~of~~ storage and production areas of the premises ~~as long as no more than five members of the public are present on the property at any given time and all members of the public are escorted and supervised by distillery personnel at all times while on the premises~~when such public access to the distillery structure or premises occurs in accordance with Section 4007. Above ground storage tanks at such distilleries must otherwise comply with the applicable provisions of this chapter.*

5704.1.2 Security. *Storage, dispensing, use and handling shall be secured against unauthorized entry and safeguarded against public access. Aboveground tanks that are not enclosed in vaults shall be enclosed by a fence, as listed below, at least 6 feet (1.8 m) high. The fence shall have a gate that is secured against unauthorized entry and shall either be:*

1. *Chain link or other non-combustible material, spaced at a minimum of three (3) feet from the tank on all sides; or*

2. *Fire-retardant coated wood or other fire-retardant combustible material, spaced at a minimum of 6 feet from the tank on all sides. No gaps shall be more than 3 inches in width.*

Exceptions:

1. Listed, lockable engine mounted tanks that are connected to stationary pieces of equipment shall not be required to be enclosed in vaults or to have fencing if all of the following apply:

1.1. The tank has a capacity of 500 gallons or less; and

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1.2. The equipment remains locked at all times unless the equipment is being serviced or the tank is being filled; and

1.3. All other provisions of this code, including other security provisions such as vehicle protection, are complied with.

2. ~~Storage and production areas of distilleries shall not be required to be safeguarded against public access to the extent authorized in Section 5704.1.1, Exception 5 and where such access is conducted in accordance with that section.~~A distillery shall not be required to be safeguarded against public access to the extent authorized in Section 4007 and only during such time that public access is occurring on the premises in accordance with that section. The property shall be safeguarded at all times when public access in accordance with Section 4007 is not occurring at the premises and shall otherwise be safeguarded against unauthorized entry in accordance with this section at all other times.

5704.2 Tank storage. The provisions of this section shall apply to:

1. The storage of flammable and combustible liquids in fixed above-ground and underground tanks.
2. The storage of flammable and combustible liquids in fixed above-ground tanks inside of buildings.
3. The storage of flammable and combustible liquids in portable tanks whose capacity exceeds 660 gallons (2498 L).
4. The installation of such tanks and portable tanks.

5704.2.1 Change of tank contents. Tanks subject to change in contents shall be in accordance with Section 5704.2.7. Prior to a change in contents, the fire code official is authorized to require testing of a tank *to verify compatibility of the proposed new contents with the existing tank*.

Tanks that have previously contained Class I liquids shall not be loaded with Class II or Class III liquids until such tanks and all piping, pumps, hoses and meters connected thereto have been completely drained and flushed.

5704.2.2 Use of tank vehicles and tank cars as storage tanks. Tank cars and tank vehicles shall not be used as *fixed* storage tanks.

5704.2.3 Labeling and signs. Labeling and signs for storage tanks and storage tank areas shall comply with Sections 5704.2.3.1 and 5704.2.3.2.

5704.2.3.1 Smoking and open flame. Signs shall be posted in storage areas prohibiting open flames and smoking. Signs shall comply with Section 5703.5.

5704.2.3.2 Label or placard. Tanks more than 100 gallons (379 L) in capacity, which are permanently installed or mounted and used for the storage of Class I, II or III liquids, shall bear a label and placard identifying the material therein. Placards shall be in accordance with NFPA 704.

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Exceptions:

1. Tanks of 300-gallon (1136 L) capacity or less located on private property and used for heating and cooking fuels in single-family dwellings.

2. Tanks located underground.

5704.2.4 Sources of ignition. Smoking and open flames are prohibited in storage areas in accordance with Section 5003.7.

Exception: Areas designated as smoking and hot work areas, and areas where hot work permits have been issued in accordance with this code.

5704.2.5 Explosion control. Explosion control shall be provided in accordance with Section 911 for indoor tanks.

5704.2.6 Separation from incompatible materials. Storage of flammable and combustible liquids shall be separated from incompatible materials in accordance with Section 5003.9.8.

Weeds, combustible materials and waste Class I, II or IIIA liquids shall not be accumulated in an unsafe manner at a storage site.

5704.2.7 Design, fabrication and construction requirements for tanks. The design, fabrication and construction of tanks shall comply with NFPA 30. Each tank shall bear a permanent nameplate or marking indicating the standard used as the basis of design.

5704.2.7.1 Materials used in tank construction. The materials used in tank construction shall be in accordance with NFPA 30. The materials of construction for tanks and their appurtenances shall be compatible with the liquids to be stored.

5704.2.7.2 Pressure limitations for tanks. Tanks shall be designed for the pressures to which they will be subjected in accordance with NFPA 30.

5704.2.7.3 Tank vents for normal venting. Tank vents for normal venting shall be installed and maintained in accordance with Sections 5704.2.7.3.1 through 5704.2.7.3.5.3.

5704.2.7.3.1 Vent lines. Vent lines from tanks shall not be used for purposes other than venting unless approved.

5704.2.7.3.2 Vent-line flame arresters and pressure-vacuum vents. *Where installed,* vent-line flame arresters or pressure-vacuum (PV) vents that remain closed unless venting under pressure or vacuum conditions shall be installed in normal vents of tanks containing Class IB and IC liquids.

Vent-line flame arresters shall be installed in accordance with their listing or API 2000 and maintained in accordance with Section 21.8.6 of NFPA 30 or API 2000. In-line flame arresters in piping systems shall be installed and maintained in accordance with their listing or API 2028. Pressure-vacuum vents shall be installed in accordance with

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Section 21.4.3 of NFPA 30 or API 2000 and maintained in accordance with Section 21.8.6 of NFPA 30 or API 2000.

Exception: Where determined by the fire code official that the use of ~~such~~these devices can result in damage to the tank.

5704.2.7.3.3 Vent pipe outlets. Vent pipe outlets for tanks storing Class I, II or IIIA liquids shall be located such that the vapors are released at a safe point outside of buildings and not less than 12 feet (3658 mm) above the finished ground level. Vapors shall be discharged upward or horizontally away from adjacent walls to assist in vapor dispersion. Vent outlets shall be located such that flammable vapors will not be trapped by eaves or other obstructions and shall be not less than 5 feet (1524 mm) from building openings or lot lines of properties that can be built ~~upon~~on. Vent outlets on atmospheric tanks storing Class IIIB liquids are allowed to discharge inside a building where the vent is a normally closed vent.

Exception: Vent pipe outlets on tanks storing Class IIIB liquid inside buildings and connected to fuel-burning equipment shall be located such that the vapors are released to a safe location outside of buildings.

5704.2.7.3.4 Installation of vent piping. Vent piping shall be designed, sized, constructed and installed in accordance with Section 5703.6. Vent pipes shall be installed such that they will drain toward the tank without sags or traps in which liquid can collect. Vent pipes shall be installed in such a manner so as not to be subject to physical damage or vibration.

5704.2.7.3.5 Manifolding. Tank vent piping shall not be manifolded unless required for special purposes such as vapor recovery, vapor conservation or air pollution control.

5704.2.7.3.5.1 Above-ground tanks. For above-ground tanks, manifolded vent pipes shall be adequately sized to prevent system pressure limits from being exceeded where manifolded tanks are subject to the same fire exposure.

5704.2.7.3.5.2 Underground tanks. For underground tanks, manifolded vent pipes shall be sized to prevent system pressure limits from being exceeded when manifolded tanks are filled simultaneously.

5704.2.7.3.5.3 Tanks storing Class I liquids. Vent piping for tanks storing Class I liquids shall not be manifolded with vent piping for tanks storing Class II ~~or~~and III liquids unless positive means are provided to prevent the vapors from Class I liquids from entering tanks storing Class II and III liquids, to prevent contamination and possible change in classification of less volatile liquid.

5704.2.7.4 Emergency venting. Stationary, above-ground tanks shall be equipped with additional venting that will relieve excessive internal pressure caused by exposure to fires. Emergency vents for Class I, II and IIIA liquids shall not discharge inside buildings. The venting shall be installed and maintained in accordance with Section 22.7 of NFPA 30.

Exceptions:

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1. Tanks larger than 12,000 gallons (45 420 L) in capacity storing Class IIIB liquids that are not within the diked area or the drainage path of Class I or II liquids do not require emergency relief venting.

2. Emergency vents on protected above-ground tanks complying with UL 2085 containing Class II or IIIA liquids are allowed to discharge inside the building.

5704.2.7.5 Tank openings other than vents. Tank openings for other than vents shall comply with Sections 5704.2.7.5.1 through 5704.2.7.5.8.

5704.2.7.5.1 Connections below liquid level. Connections for tank openings below the liquid level shall be liquid tight.

5704.2.7.5.2 Filling, emptying and vapor recovery connections. Filling, emptying and vapor recovery connections to tanks containing Class I, II or IIIA liquids shall be located outside of buildings in accordance with Section 5704.2.7.5.6 at a location free from sources of ignition and not less than 5 feet (1524 mm) away from building openings or lot lines of property that can be built ~~upon~~ on. Such openings shall be properly identified and provided with a liquid-tight cap that shall be closed when not in use.

Filling and emptying connections to indoor tanks containing Class IIIB liquids and connected to fuel-burning equipment shall be located at a finished ground level location outside of buildings. Such openings shall be provided with a liquid-tight cap that shall be closed when not in use. A sign in accordance with Section 5003.6 that displays the following warning shall be permanently attached at the filling location:

TRANSFERRING FUEL OTHER THAN CLASS IIIB COMBUSTIBLE LIQUID TO THIS TANK CONNECTION IS A VIOLATION OF THE FIRE CODE AND IS STRICTLY PROHIBITED

5704.2.7.5.3 Piping, connections and fittings. Piping, connections, fittings and other appurtenances shall be installed in accordance with Section 5703.6.

5704.2.7.5.4 Manual gauging. Openings for manual gauging, if independent of the fill pipe, shall be provided with a liquid-tight cap or cover. Covers shall be kept closed when not gauging. If inside a building, such openings shall be protected against liquid overflow and possible vapor release by means of a spring-loaded check valve or other approved device.

5704.2.7.5.5 Fill pipes and discharge lines. For top-loaded tanks, a metallic fill pipe shall be designed and installed to minimize the generation of static electricity by terminating the pipe within 6 inches (152 mm) of the bottom of the tank, and it shall be installed in a manner that avoids excessive vibration.

5704.2.7.5.5.1 Class I liquids. For Class I liquids other than crude oil, gasoline and asphalt, the fill pipe shall be designed and installed in a manner that will minimize the possibility of generating static electricity by terminating within 6 inches (152 mm) of the bottom of the tank.

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5704.2.7.5.5.2 Underground tanks. For underground tanks, fill pipe and discharge lines shall enter only through the top. Fill lines shall be sloped toward the tank. Underground tanks for Class I liquids having a capacity greater than 1,000 gallons (3785 L) shall be equipped with a tight fill device for connecting the fill hose to the tank.

5704.2.7.5.6 Location of connections that are made or broken. Filling, withdrawal and vapor-recovery connections for Class I, II and IIIA liquids that are made and broken shall be located outside of buildings, not more than 5 feet (1524 mm) above the finished ground level, in an approved location in close proximity to the parked delivery vehicle. Such location shall be away from sources of ignition and not less than 5 feet (1524 mm) away from building openings. Such connections shall be closed and liquid tight when not in use and shall be properly identified.

5704.2.7.5.7 Protection against vapor release. Tank openings provided for purposes of vapor recovery shall be protected against possible vapor release by means of a spring-loaded check valve or dry-break connections, or other approved device, unless the opening is a pipe connected to a vapor processing system. Openings designed for combined fill and vapor recovery shall ~~also~~ be protected against vapor release unless connection of the liquid delivery line to the fill pipe simultaneously connects the vapor recovery line. Connections shall be vapor tight.

5704.2.7.5.8 Overfill prevention. *A* means or method in accordance with Section 5704.2.9.7.5 *and 5704.2.9.~~6~~7.7* shall be provided to prevent the overfill of all Class I, II and IIIA liquid storage tanks. Storage tanks in refineries, bulk plants or terminals regulated by Section 5706.4 or 5706.7 shall have overfill protection in accordance with API 2350.

An approved means or method in accordance with Section 5704.2.9.~~6~~7.5 shall be provided to prevent the overfilling of Class IIIB liquid storage tanks connected to fuel-burning equipment inside buildings.

Exception: Outside above-ground tanks with a capacity of 1,320 gallons (5000 L) or less.

5704.2.7.6 Repair, alteration or reconstruction of tanks and piping. The repair, alteration or reconstruction, including welding, cutting and hot tapping of storage tanks and piping that have been placed in service, shall be in accordance with NFPA 30. Hot work, as defined in Section 202, on such tanks shall be conducted in accordance with Section 3510.

5704.2.7.7 Design of supports. The design of the supporting structure for tanks shall be in accordance with the *building code* and NFPA 30.

5704.2.7.8 Locations subject to flooding. Where a tank is located in an area where it is subject to buoyancy because of a rise in the water table, flooding or accumulation of water from fire suppression operations, uplift protection shall be provided in accordance with Sections 22.14 and 23.14 of NFPA 30.

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5704.2.7.9 Corrosion protection. Where subject to external corrosion, tanks shall be fabricated from corrosion-resistant materials, coated or provided with corrosion protection in accordance with Section 23.3.5 of NFPA 30.

5704.2.7.10 Leak reporting. A consistent or accidental loss of liquid, or other indication of a leak from a tank system, shall be reported immediately to the fire department, the fire code official and other authorities having jurisdiction.

5704.2.7.10.1 Leaking tank disposition. Leaking tanks shall be promptly emptied, repaired and returned to service, abandoned or removed in accordance with Section 5704.2.13 or 5704.2.14.

5704.2.7.11 Tank lining. Steel tanks are allowed to be lined only for the purpose of protecting the interior from corrosion, *repair* or providing compatibility with a material to be stored. Only those liquids tested for compatibility with the lining material are allowed to be stored in lined tanks.

5704.2.7.11.1. *The local fire code official shall determine whether or not the repair of leaking and/or deteriorating underground storage tanks containing flammable or combustible liquids shall be permitted within its jurisdiction. If such repair is permitted by the local fire code official, it shall be accomplished in the manner prescribed in Sections 5704.2.7.11.2 through 5704.2.7.11.5.*

5704.2.7.11.2. *Manufacturers desiring to have their product used in Ohio shall register the specifications for the internal coating systems for the repair of underground storage tanks containing flammable or combustible liquids with the state fire marshal. The specifications shall clearly describe the composition of the product, strength, limitations on use, preparation procedures, application procedures, quality control techniques, curing times and temperatures, field thickness testing procedures, field hardness testing procedures, and a method for determining whether an existing tank is repairable. This information, along with the results of the standards tests, shall be signed and sealed by a registered professional engineer.*

5704.2.7.11.3. *Each manufacturer who has registered an internal coating system must submit to the fire marshal a list of qualified applicators. It is the responsibility of the manufacturer to keep this list current. The list shall indicate that the applicator is qualified to seal metal tanks, nonmetallic tanks or both. The internal coating procedure shall be in accordance with API 1631.*

5704.2.7.11.4. *The applicator shall inform the following officials of the location of each project in the following manner:*

1. *The local fire official shall have in its possession a written notice stating the location of the project and the applicator's anticipated timetable for each stage of the project, prior to the commencement of the project. A copy of such written notice shall be mailed to the state fire marshal simultaneously with its delivery to the local fire official.*

2. *Any applicator who fails to make proper notification of the project location will be removed, for a period of six months, from the qualified applicator list on file with the state fire marshal. Reinstatement can be accomplished only by the*

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manufacturer resubmitting the applicator's name after the six-month period has elapsed.

3. *A current Certificate of Insurance covering the liability of the applicator shall be filed with the state fire marshal.*

4. *A sample of the Application for Tank Repairs may be obtained from the state fire marshal.*

5704.2.7.11.5. *A Certificate of Performance shall be utilized as follows:*

1. *A Certificate of Performance on each field application shall be submitted to the local fire official. The certificate (to be designed by the state fire marshal and printed and supplied by the contractor) shall be signed by the qualified applicator and will confirm that the tank preparation and product application complies with the sealant manufacturer's specifications which are registered with the state fire marshal.*

2. *A sample of the Certificate of Performance may be obtained from the state fire marshal.*

5704.2.8 Vaults. Vaults shall be allowed to be either above or below grade and shall comply with Sections 5704.2.8.1 through 5704.2.8.18.

5704.2.8.1 Listing required. Vaults shall be listed in accordance with UL 2245.

Exception: Where approved by the fire code official, below-grade vaults are allowed to be constructed on site, provided that the design is in accordance with the *building code* and that special inspections are conducted to verify structural strength and compliance of the installation with the approved design in accordance with Section 1707 of the *building code*. Installation plans for below-grade vaults that are constructed on site shall be prepared by, and the design shall bear the stamp of, a *registered design* professional. Consideration shall be given to soil and hydrostatic loading on the floors, walls and lid; anticipated seismic forces; uplifting by groundwater or flooding; and to loads imposed from above such as traffic and equipment loading on the vault lid.

5704.2.8.2 Design and construction. The vault shall completely enclose each tank. There shall not be openings in the vault enclosure except those necessary for access to, inspection of, and filling, emptying and venting of the tank. The walls and floor of the vault shall be constructed of reinforced concrete not less than 6 inches (152 mm) thick. The top of an above-grade vault shall be constructed of noncombustible material and shall be designed to be weaker than the walls of the vault, to ensure that the thrust of an explosion occurring inside the vault is directed upward before significantly high pressure can develop within the vault.

The top of an at-grade or below-grade vault shall be designed to relieve safely or contain the force of an explosion occurring inside the vault. The top and floor of the vault and the tank foundation shall be designed to withstand the anticipated loading, including loading from vehicular traffic, where applicable. The walls and floor of a vault installed below grade shall be designed to withstand anticipated soil and hydrostatic loading.

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Vaults shall be designed to be wind and earthquake resistant, in accordance with the *building code*.

5704.2.8.3 Secondary containment. Vaults shall be substantially liquid tight and there shall not be backfill around the tank or within the vault. The vault floor shall drain to a sump. For premanufactured vaults, liquid tightness shall be certified as part of the listing provided by a nationally recognized testing laboratory. For field-erected vaults, liquid tightness shall be *demonstrated by testing* in an approved manner.

5704.2.8.4 Internal clearance. There shall be sufficient clearance between the tank and the vault to allow for visual inspection and maintenance of the tank and its appurtenances. Dispensing devices are allowed to be installed on tops of vaults.

5704.2.8.5 Anchoring. Vaults and their tanks shall be suitably anchored to withstand uplifting by ground water or flooding, including when the tank is empty.

5704.2.8.6 Vehicle impact protection. Vaults shall be resistant to damage from the impact of a motor vehicle, or vehicle impact protection shall be provided in accordance with Section 312.

5704.2.8.7 Arrangement. Tanks shall be listed for above-ground use, and each tank shall be in its own vault. Compartmentalized tanks shall be allowed and shall be considered as a single tank. Adjacent vaults shall be allowed to share a common wall. The common wall shall be liquid and vapor tight and shall be designed to withstand the load imposed when the vault on either side of the wall is filled with water.

5704.2.8.8 Connections. Connections shall be provided to permit venting of each vault to dilute, disperse and remove vapors prior to personnel entering the vault.

5704.2.8.9 Ventilation. Vaults that contain tanks of Class I liquids shall be provided with an exhaust ventilation system installed in accordance with Section 5004.3. The ventilation system shall operate continuously or be designed to operate upon activation of the vapor or liquid detection system. The system shall provide ventilation at a rate of not less than 1 cubic foot per minute (cfm) per square foot of floor area [0.00508 $m^3/(s \bullet m^2)$], but not less than 150 cfm (4 m^3/min). The exhaust system shall be designed to provide air movement across all parts of the vault floor. Supply and exhaust ducts shall extend to within 3 inches (76 mm), but not more than 12 inches (305 mm), of the floor. The exhaust system shall be installed in accordance with the *mechanical code*.

5704.2.8.10 Liquid detection. Vaults shall be equipped with a detection system capable of detecting liquids, including water, and activating an alarm.

5704.2.8.11 Monitoring and detection. Vaults shall be provided with approved vapor and liquid detection systems and equipped with on-site audible and visual warning devices with battery backup. Vapor detection systems shall sound an alarm when the system detects vapors that reach or exceed 25 percent of the lower explosive limit (LEL) of the liquid stored. Vapor detectors shall be located not higher than 12 inches (305 mm) above the lowest point in the vault. Liquid detection systems shall sound an alarm upon detection of any liquid, including water. Liquid detectors shall be located in accordance with the manufacturer's instructions. Activation of either vapor or liquid detection systems shall

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cause a signal to be sounded at *a* constantly attended location within the facility serving the tanks or at an approved location. Activation of vapor detection systems shall ~~also~~ shut off dispenser pumps.

5704.2.8.12 Liquid removal. Means shall be provided to recover liquid from the vault. Where a pump is used to meet this requirement, the pump shall not be permanently installed in the vault. Electric-powered portable pumps shall be suitable for use in Class I, Division 1 or Zone 0 locations, as defined in NFPA 70.

5704.2.8.13 Normal vents. Vent pipes that are provided for normal tank venting shall terminate ~~at least~~not less than 12 feet (3658 mm) above ground level.

5704.2.8.14 Emergency vents. Emergency vents shall be vapor tight and shall be allowed to discharge inside the vault. Long-bolt manhole covers shall not be allowed for this purpose.

5704.2.8.15 Accessway. Vaults shall be provided with *a* personnel accessway with a minimum dimension of 30 inches (762 mm) and with a permanently affixed, nonferrous ladder. Accessways shall be designed to be nonsparking. Travel distance from any point inside a vault to an accessway shall not exceed 20 feet (6096 mm). At each entry point, a warning sign indicating the need for procedures for safe entry into confined spaces shall be posted. Entry points shall be secured against unauthorized entry and vandalism.

5704.2.8.16 Fire protection. Vaults shall be provided with a suitable means to admit a fire suppression agent.

5704.2.8.17 Classified area. The interior of a vault containing a tank that stores a Class I liquid shall be designated a Class I, Division 1 or Zone 0 location, as defined in NFPA 70.

5704.2.8.18 Overfill protection. Overfill protection shall be provided in accordance with Section 5704.2.9.7.~~6~~5. The use of a float vent valve shall be prohibited.

5704.2.9 Above-ground tanks. Above-ground storage of flammable and combustible liquids in tanks shall comply with Sections 5704.2 and Sections 5704.2.9.1 through 5704.2.9.~~6~~7.9. *Existing above-ground tank installations, even if previously approved, that are determined to constitute a hazard by the fire code official shall not be continued in service. Unsafe tanks shall be brought into compliance with the provisions of this code or removed as required by the fire code official and in accordance with this code.*

5704.2.9.1 *Deleted.*

5704.2.9.~~1~~ 2 Fire protection. Fire protection for above-ground tanks shall comply with Sections 5704.2.9.2.1 through 5704.2.9.2.4.

5704.2.9.~~1~~2.1 Required foam fire protection systems. Where required by the fire code official, foam fire protection shall be provided for above-ground tanks, other than pressure tanks operating at or above 1 pound per square inch gauge (psig) (6.89 kPa) where such tank, or group of tanks spaced less than 50 feet (15 240 mm) apart measured shell to shell, has a liquid surface area in excess of 1,500 square feet (139 m^2), and is in accordance with one of the following:

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1. Used for the storage of Class I or II liquids.

2. Used for the storage of crude oil.

3. Used for in-process products and is located within 100 feet (30 480 mm) of a fired still, heater, related fractioning or processing apparatus or similar device at a processing plant or petroleum refinery as herein defined.

4. Considered by the fire code official as posing an unusual exposure hazard because of topographical conditions; nature of occupancy, proximity on the same or adjoining property, and height and character of liquids to be stored; degree of private fire protection to be provided; and facilities of the fire department to cope with flammable liquid fires.

5704.2.9.~~1~~2.2 Foam fire protection system installation. Where foam fire protection is required, it shall be installed in accordance with NFPA 11.

5704.2.9.~~1~~2.2.1 Foam storage. Where foam fire protection is required, foam-producing materials shall be stored on the premises.

Exception: Storage of foam-producing materials off the premises is allowed as follows:

1. Such materials stored off the premises shall be of the proper type suitable for use with the equipment at the installation where required.

2. Such materials shall be readily available at the storage location at all times.

3. Adequate loading and transportation facilities shall be provided.

4. The time required to deliver such materials to the required location in the event of fire shall be consistent with the hazards and fire scenarios for which the foam supply is intended.

5. At the time of a fire, these off-premises supplies shall be accumulated in sufficient quantities before placing the equipment in operation to ensure foam production at an adequate rate without interruption until extinguishment is accomplished.

5704.2.9.~~1~~2.3 Fire protection of supports. Supports or pilings for above-ground tanks storing Class I, II or IIIA liquids elevated more than 12 inches (305 mm) above grade shall have a fire-resistance rating of not less than 2 hours in accordance with the fire exposure criteria specified in ASTM E1529.

Exceptions:

1. Structural supports tested as part of a protected above-ground tank in accordance with UL 2085.

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2. Stationary tanks located outside of buildings where protected by *a* water-spray system designed in accordance with Chapter 9 and NFPA 15.

3. Stationary tanks located inside of buildings equipped throughout with an automatic sprinkler system designed in accordance with Section 903.3.1.1.

5704.2.9.~~1~~2.4 Inerting of tanks storing boilover liquids. Liquids with boilover characteristics shall not be stored in fixed roof tanks larger than 150 feet (45 720 mm) in diameter unless an approved gas enrichment or inerting system is provided on the tank.

Exception: Crude oil storage tanks in production fields with no other exposures adjacent to the storage tank.

5704.2.9.~~2~~ 3 Supports, foundations and anchorage. Supports, foundations and anchorages for above-ground tanks shall be designed and constructed in accordance with NFPA 30 and the *building code*.

5704.2.9.~~3~~ 4 Stairways, platforms and walkways. Stairways, platforms and walkways shall be of noncombustible construction and shall be designed and constructed in accordance with NFPA 30 and the *building code*.

5704.2.9.~~4~~ 5 Above-ground tanks inside of buildings. Above-ground tanks inside of buildings shall comply with Sections 5704.2.9.~~4~~5.1 and 5704.2.9.~~4~~5.2.

5704.2.9.~~4~~5.1 Overfill prevention. Above-ground tanks storing Class I, II and IIIA liquids inside buildings shall be equipped with a device or other means to prevent overflow into the building including, but not limited to: a float valve; a preset meter on the fill line; a valve actuated by the weight of the tank's contents; a low-head pump that is incapable of producing overflow; or a liquid-tight overflow pipe not less than one pipe size larger than the fill pipe and discharging by gravity back to the outside source of liquid or to an approved location. Tanks containing Class IIIB liquids and connected to fuel-burning equipment shall be provided with a means to prevent overflow into buildings in accordance with Section 5704.2.7.5.8.

5704.2.9.~~4~~5.2 Fill pipe connections. Fill pipe connections for tanks storing Class I, II and IIIA liquids and Class IIIB liquids connected to fuel-burning equipment shall be in accordance with Section 5704.2.9.~~6~~7.6.

5704.2.9.~~5~~ 6 Above-ground tanks outside of buildings. Above-ground tanks outside of buildings shall comply with Sections 5704.2.9.~~5~~6.1 through 5704.2.9.~~5~~6.3.

5704.2.9.~~5~~6.1 Locations where above-ground tanks are prohibited. *The above-ground tank storage of flammable and combustible liquids, shall be prohibited on premises to which the public has access.*

Exceptions:

1. At a bulk plant or terminal, the public may access the facility premises but shall be prohibited from the bulk storage and transfer operation area in accordance with Section 5704.1.2.

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2. *At a property that contains a fleet vehicle motor fuel dispensing facility, the public may access the property but shall be prohibited from the fleet vehicle facility in accordance with Section 2306.3.*

3. *At premises that have an aboveground storage tank connected to stationary pieces of equipment such as internal combustion engine driven generators, fire pumps or other fixed pieces of equipment, the public may access the property but shall be prohibited from the aboveground fuel storage area in accordance with Section 5704.1.2.*

4. *At a property containing a flammable or combustible liquid storage tank serving an on--site electric generator used only for non-commercial purposes only at one-, two-, or three-family dwelling units where the flammable liquid storage tank(s) has a capacity of 60 gallons or greater or where the combustible liquid storage tank(s) has a capacity of 660 gallons or greater, the public may access the property but shall be prohibited access to the tank in accordance with Section 5704.1.2.*

5704.2.9.~~5~~6.1.1 Location of tanks with pressures 2.5 psig or less. Above-ground tanks operating at pressures not exceeding 2.5 psig (17.2 kPa) for storage of Class I, II or IIIA liquids, which are designed with a floating roof, a weak roof-to-shell seam or equipped with emergency venting devices limiting pressure to 2.5 psig (17.2 kPa), shall be located in accordance with Table 22.4.1.1(a) of NFPA 30.

Exceptions:

1. Vertical tanks having a weak roof-to-shell seam and storing Class IIIA liquids are allowed to be located at one-half the distances specified in Table 22.4.1.1(a) of NFPA 30, provided that the tanks are not within a diked area or drainage path for a tank storing Class I or II liquids.

2. Liquids with boilover characteristics and unstable liquids in accordance with Sections 5704.2.9.~~5~~6.1.3 and 5704.2.9.~~5~~6.1.4.

3. For protected above-ground tanks in accordance with Section 5704.2.9.~~6~~7 and tanks in at-grade or above-grade vaults in accordance with Section 5704.2.8, the distances in Table 22.4.1.1(b) of NFPA 30 shall apply and shall be reduced by one-half, but not to less than 5 feet (1524 mm).

5704.2.9.~~5~~6.1.2 Location of tanks with pressures exceeding 2.5 psig. Above-ground tanks for the storage of Class I, II or IIIA liquids operating at pressures exceeding 2.5 psig (17.2 kPa) or equipped with emergency venting allowing pressures to exceed 2.5 psig (17.2 kPa) shall be located in accordance with Table 22.4.1.3 of NFPA 30.

Exception: Liquids with boilover characteristics and unstable liquids in accordance with Sections ~~5704.2.9.5.1.4~~ 5704.2.9.6.1.3~~)~~ and ~~5704.2.9.5.1.5~~ 5704.2.9.6.1.4.

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5704.2.9.~~5~~6.1.3 Location of tanks ~~for~~storing boilover liquids. Above-ground tanks for *the* storage of liquids with boilover characteristics shall be located in accordance with Table 22.4.1.4 of NFPA 30.

5704.2.9.~~5~~6.1.4 Location of tanks storing unstable liquids. Above-ground tanks for the storage of unstable liquids shall be located in accordance with Table 22.4.1.5 of NFPA 30.

5704.2.9.~~5~~6.1.5 Location of tanks storing Class IIIB liquids. Above-ground tanks for the storage of Class IIIB liquids, excluding unstable liquids, shall be located in accordance with Table 22.4.1.6 of NFPA 30, except where located within a diked area or drainage path for a tank or tanks storing Class I or II liquids. Where a Class IIIB liquid storage tank is within the diked area or drainage path for a Class I or II liquid, distances required by Section 5704.2.9.~~5~~6.1.1 shall apply.

5704.2.9.~~5~~6.1.6 Reduction of separation distances to adjacent property. Where two tank properties of diverse ownership have a common boundary, the fire code official is authorized to, with the written consent of the owners of the two properties, apply the distances in Sections 5704.2.9.~~5~~6.1.2 through 5704.2.9.~~5~~6.1.5 assuming a single property.

5704.2.9.~~5~~6.2 Separation between adjacent stable or unstable liquid tanks. The separation between tanks containing stable liquids shall be in accordance with Table 22.4.2.1 of NFPA 30. Where tanks are in a diked area containing Class I or II liquids, or in the drainage path of Class I or II liquids, and are compacted in three or more rows or in an irregular pattern, the fire code official is authorized to require greater separation than specified in Table 22.4.2.1 of NFPA 30 or other means to make tanks in the interior of the pattern ~~accessible~~open for fire-fighting purposes.

The separation between tanks containing unstable liquids shall be not less than one-half the sum of their diameters.

Exception: Tanks used for storing Class IIIB liquids are allowed to be spaced 3 feet (914 mm) apart unless within a diked area or drainage path for a tank storing Class I or II liquids.

~~The separation between tanks containing unstable liquids shall be not less than one-half the sum of their diameters.~~

5704.2.9.~~5~~6.3 Separation between adjacent tanks containing flammable ~~and~~or combustible liquids and LP-gas. The minimum horizontal separation between an LP-gas container and a Class I, II or IIIA liquid storage tank shall be 20 feet (6096 mm) except in the case of Class I, II or IIIA liquid tanks operating at pressures exceeding 2.5 psig (17.2 kPa) or equipped with emergency venting allowing pressures to exceed 2.5 psig (17.2 kPa), in which case the provisions of Section 5704.2.9.5.2 shall apply.

Dikes, diversion curbs, grading or other method approved by the fire code official shall be provided to prevent the accumulation of Class I, II or IIIA liquids under adjacent LP-gas containers. Where flammable or combustible liquid storage tanks are within a diked area, the LP-gas containers shall be outside the diked area and not less than 10 feet (3048 mm) away from the centerline of the wall of the diked area.

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Exceptions:

1. Liquefied petroleum gas containers of 125 gallons (473 L) or less in capacity installed adjacent to fuel-oil supply tanks of 660 gallons (2498 L) or less in capacity.

2. Horizontal separation is not required between above-ground LP-gas containers and underground flammable and combustible liquid tanks.

5704.2.9.~~6~~ 7 Additional requirements for protected above-ground tanks. In addition to the requirements of this chapter for above-ground tanks, the installation of protected above-ground tanks shall be in accordance with Sections 5704.2.9.~~6~~7.1 through 5704.2.9.~~6~~7.9.

5704.2.9.~~6~~7.1 Tank construction. The construction of a protected above-ground tank and its primary tank shall be in accordance with Section 5704.2.7.

5704.2.9.~~6~~7.2 Normal and emergency venting. Normal and emergency venting for protected above-ground tanks shall be provided in accordance with Sections 5704.2.7.3 and 5704.2.7.4. The vent capacity reduction factor shall not be allowed.

5704.2.9.~~6~~7.3 Secondary containment. Protected above-ground tanks shall be provided with secondary containment, drainage control or diking in accordance with Section 5004.2. A means shall be provided to establish the integrity of the secondary containment in accordance with NFPA 30.

5704.2.9.~~6~~7.4 Vehicle impact protection. Where protected above-ground tanks, piping, electrical conduit or dispensers are subject to vehicular impact, they shall be protected therefrom, either by having the impact protection incorporated into the system design in compliance with the impact test protocol of UL 2085, or by meeting the provisions of Section 312, or where necessary, a combination of both. Where guard posts or other approved barriers are provided, they shall be independent of each above-ground tank.

5704.2.9.~~6~~7.5 Overfill prevention. Protected above-ground tanks shall not be filled in excess of 95 percent of their capacity. An overfill prevention system shall be provided for each tank. During tank-filling operations, the system shall comply with one of the following:

1. The overfill prevention system shall include the following:

   1.1 ~~Provide a~~An independent means of notifying the person filling the tank that the fluid level has reached 90 percent of tank capacity by providing an audible or visual alarm signal, providing a tank level gauge marked at 90 percent of tank capacity, or other approved means.

   1.2 Automatic~~ally~~ shut off of the flow of fuel to the tank when the quantity of liquid in the tank reaches 95 percent of tank capacity. For rigid hose fuel-delivery systems, an approved means shall be provided to empty the fill hose into the tank after the automatic shutoff device is activated.

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2. The system shall reduce the flow rate to not more than 15 gallons per minute (0.95 L/s) so that at the reduced flow rate, the tank will not overfill for 30 minutes, and automatically shut off flow into the tank so that none of the fittings on the top of the tank are exposed to product because of overfilling.

5704.2.9.~~6~~7.5.1 Information signs. A permanent sign shall be provided at the fill point for the tank, documenting the filling procedure and the tank calibration chart.

Exception: Where climatic conditions are such that the sign may be obscured by ice or snow, or weathered beyond readability or otherwise impaired, said procedures and chart shall be located in the office window, lock box or other area ~~accessible~~available to the person filling the tank.

5704.2.9.~~6~~7.5.2 Determination of available tank capacity. The filling procedure shall require the person filling the tank to determine the gallonage (literage) required to fill it to 90 percent of capacity before commencing the fill operation.

5704.2.9.~~6~~7.6 Fill pipe connections. The fill pipe shall be provided with a means for making a direct connection to the tank vehicle's fuel delivery hose so that the delivery of fuel is not exposed to the open air during the filling operation. Where any portion of the fill pipe exterior to the tank extends below the level of the top of the tank, a check valve shall be installed in the fill pipe not more than 12 inches (305 mm) from the fill hose connection.

5704.2.9.~~6~~7.7 Spill containers. A spill container having a capacity of not less than 5 gallons (19 L) shall be provided for each fill connection. For tanks with a top fill connection, spill containers shall be noncombustible and shall be fixed to the tank and equipped with a manual drain valve that drains into the primary tank. For tanks with a remote fill connection, a portable spill container shall be allowed.

5704.2.9.~~6~~7.8 Tank openings. Tank openings in protected above-ground tanks shall be through the top only.

5704.2.9.~~6~~7.9 Antisiphon devices. Approved antisiphon devices shall be installed in each external pipe connected to the protected above-ground tank where the pipe extends below the level of the top of the tank.

5704.2.10 Drainage and diking. The area surrounding a tank or group of tanks shall be provided with drainage control or shall be diked to prevent accidental discharge of liquid from endangering adjacent tanks, adjoining property or reaching waterways.

Exceptions:

1. The fire code official is authorized to alter or waive these requirements based on a technical report that demonstrates that such tank or group of tanks does not constitute a hazard to other tanks, waterways or adjoining property, after consideration of special features such as topographical conditions, nature of occupancy and proximity to buildings on the same or adjacent property, capacity, and construction of proposed tanks and character of liquids to be stored, and nature and quantity of private and public fire protection provided.

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2. Drainage control and diking is not required for listed secondary containment tanks.

5704.2.10.1 Volumetric capacity. The volumetric capacity of the diked area shall be not less than the greatest amount of liquid that can be released from the largest tank within the diked area. The capacity of the diked area enclosing more than one tank shall be calculated by deducting the volume of the tanks other than the largest tank below the height of the dike.

5704.2.10.2 Diked areas containing two or more tanks. Diked areas containing two or more tanks shall be subdivided in accordance with NFPA 30.

5704.2.10.3 Protection of piping from exposure fires. Piping shall not pass through adjacent diked areas or impounding basins, unless provided with a sealed sleeve or otherwise protected from exposure to fire.

5704.2.10.4 Combustible materials in diked areas. Diked areas shall be kept free from combustible materials, drums and barrels.

5704.2.10.5 Equipment, controls and piping in diked areas. Pumps, manifolds and fire protection equipment or controls shall not be located within diked areas or drainage basins or in a location where such equipment and controls would be endangered by fire in the diked area or drainage basin. Piping above ground shall be minimized and located as close as practical to the shell of the tank in diked areas or drainage basins.

Exceptions:

1. Pumps, manifolds and piping integral to the tanks or equipment being served, which is protected by intermediate diking, berms, drainage or fire protection such as water spray, monitors or *fire* resistive coating.

2. Fire protection equipment or controls that are appurtenances to the tanks or equipment being protected, such as foam chambers or foam piping and water or foam monitors and hydrants, or hand and wheeled extinguishers.

5704.2.11 Underground tanks. Underground storage of flammable and combustible liquids in tanks shall comply with Section 5704.2 and Sections 5704.2.11.1 through 5704.2.11.4.2.1.

5704.2.11.1 Location. Flammable and combustible liquid storage tanks located underground, either outside or under buildings, shall be in accordance with all of the following:

1. Tanks shall be located with respect to existing foundations and supports such that the loads carried by the latter cannot be transmitted to the tank.

2. The distance from any part of a tank storing liquids to the nearest wall of a basement, pit, cellar or lot line shall be not less than 3 feet (914 mm).

3. A minimum distance of 1 foot (305 mm), shell to shell, shall be maintained between underground tanks.

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5704.2.11.2 Depth and cover. Excavation for underground storage tanks shall be made with due care to avoid undermining of foundations of existing structures. Underground tanks shall be set on firm foundations and surrounded with not less than 6 inches (152 mm) of noncorrosive inert material, such as clean sand.

5704.2.11.3 Overfill protection and prevention systems. *Underground storage tanks* shall be equipped with a spill container and an overfill prevention system in accordance with NFPA 30.

5704.2.11.4 Leak prevention. Leak prevention for underground tanks shall comply with Sections 5704.2.11.4.1 and 5704.2.11.4.2.

5704.2.11.4.1 Inventory control. Daily inventory records for underground storage tank systems shall be maintained.

5704.2.11.4.2 Leak detection. Underground storage tank systems shall be provided with *a* method of leak detection that is designed and installed in accordance with NFPA 30.

5704.2.11.4.2.1 Location. The leak detection panel status shall be annunciated at an approved on-site location.

5704.2.12 Testing. Tank testing shall comply with Sections 5704.2.12.1 and 5704.2.12.2.

5704.2.12.1 Acceptance testing. Prior to being placed into service, tanks shall be tested in accordance with Section 21.5 of NFPA 30.

5704.2.12.2 Testing of underground tanks. Before being covered or placed in use, tanks and piping connected to underground tanks shall be tested for tightness in the presence of the fire code official. Piping shall be tested in accordance with Section 5703.6.3. The system shall not be covered until it has been approved.

5704.2.13 Abandonment and status of tanks. Tanks taken out of service shall be removed in accordance with Section 5704.2.14, or safeguarded in accordance with Sections 5704.2.13.1 through 5704.2.13.2.3, and API 1604.

5704.2.13.1 Underground tanks. Underground tanks taken out of service shall comply with Sections 5704.2.13.1.1 through 5704.2.13.1.5.

5704.2.13.1.1 Temporarily out of service. Underground tanks temporarily out of service shall have the fill line, gauge opening, vapor return and pump connection secured against tampering. Vent lines shall remain open and be maintained in accordance with Sections 5704.2.7.3 and 5704.2.7.4.

5704.2.13.1.2 Out of service for 90 days. Underground tanks not used for a period of 90 days shall be safeguarded in accordance with all the following or be removed in accordance with Section 5704.2.14.

1. Flammable or combustible liquids shall be removed from the tank *to the extent practical. No more than one-inch of liquid shall remain in the tank*.

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2. All piping, including fill line, gauge opening, vapor return and pump connection, shall be capped or plugged and secured from tampering.

3. Vent lines shall remain open and be maintained in accordance with Sections 5704.2.7.3 and 5704.2.7.4.

5704.2.13.1.3 Out of service for one year. Underground tanks that have been out of service for a period of one year shall be removed from the ground in accordance with Section 5704.2.14 or abandoned in place in accordance with Section 5704.2.13.1.4.

Exception: *Those underground tank systems that are out of service for more than one year where an extension of the one year out of service period has been granted by the state fire marshal. Any request for an extension of the out of service period shall be submitted in writing prior to the end of the one year out of service period, or extension thereof, to the state fire marshal. All such written requests for extension must contain the following information:*

1. *The name and address of the owner(s) of the property where the underground storage tank is located and the names and addresses of the underground storage tank owners and operators, if available;*

2. *The address of the site where the underground storage tank is located;*

3. *The date of the last use of the underground storage tank and the amount of additional time being requested; and*

4. *Documentation that the underground storage tank is safeguarded in accordance with Section 5704.2.13.1.2.*

5704.2.13.1.4 Tanks abandoned in place. Tanks abandoned in place shall be as follows:

1. Flammable and combustible liquids shall be removed from the tank and connected piping.

2. The suction, inlet, gauge, vapor return and vapor lines shall be disconnected.

3. The tank shall be filled completely with an approved inert solid material.

4. Remaining underground piping shall be capped or plugged.

5. A record of tank size, location and date of abandonment shall be retained.

6. All exterior above-grade fill piping shall be permanently removed when tanks are abandoned or removed.

5704.2.13.1.5 Reinstallation of underground tanks. Tanks that are to be reinstalled for flammable or combustible liquid service shall be in accordance with this chapter, ASME Boiler and Pressure Vessel Code (Section VIII), ~~API 12-P,~~ API 1615, UL 58 and UL 1316.

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5704.2.13.2 Above-ground tanks. Above-ground tanks taken out of service shall comply with Sections 5704.2.13.2.1 through 5704.2.13.2.3.

5704.2.13.2.1 Temporarily out of service. Above-ground tanks temporarily out of service shall have all connecting lines isolated from the tank and be secured against tampering.

Exception: In-place fire protection (foam) system lines.

5704.2.13.2.2 Out of service for 90 days. Above-ground tanks not used for a period of 90 days shall be safeguarded in accordance with Section 5704.2.13.1.2 or removed in accordance with Section 5704.2.14.

Exceptions:

1. Tanks and containers connected to oil burners that are not in use during the warm season of the year or are used as a backup heating system to gas.

2. In-place, active fire protection (foam) system lines.

5704.2.13.2.3 Out of service for one year. Above-ground tanks that have been out of service for a period of one year shall be removed in accordance with Section 5704.2.14.

Exceptions:

1. Tanks within operating facilities.

2. Above-ground tanks that have been emptied of liquid, rendered vapor free and safeguarded against trespassing when approved by the fire code official.

5704.2.14 Removal and disposal of tanks. Removal and disposal of tanks shall comply with Sections 5704.2.14.1 and 5704.2.14.2.

5704.2.14.1 Removal. Removal of above-ground and underground tanks shall be in accordance with all of the following:

1. Flammable and combustible liquids shall be removed from the tank and connected piping.

2. Piping at tank openings that is not to be used further shall be disconnected.

3. Piping shall be removed from the ground.

Exception: Piping is allowed to be abandoned in place where the fire code official determines that removal is not practical. Abandoned piping shall be capped and safeguarded as required by the fire code official.

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4. Tank openings shall be capped or plugged, leaving a ⅛-inch to ¼-inch-diameter (3.2 mm to 6.4 mm) opening for pressure equalization.

5. Tanks shall be purged of vapor and inerted prior to removal.

6. All exterior above-grade fill and vent piping shall be permanently removed.

Exception: Piping associated with bulk plants, terminal facilities and refineries.

5704.2.14.2 Disposal. Tanks shall be disposed of in accordance with federal, state and local regulations.

5704.2.15 Maintenance. Above-ground tanks, connected piping and ancillary equipment shall be maintained in a safe operating condition. Tanks shall be maintained in accordance with their listings. Damage to above-ground tanks, connected piping or ancillary equipment shall be repaired using materials having equal or greater strength and fire resistance or the equipment shall be replaced or taken out of service.

5704.3 Container and portable tank storage. Storage of flammable and combustible liquids in closed containers that do not exceed 60 gallons (227 L) in individual capacity and portable tanks that do not exceed 660 gallons (2498 L) in individual capacity, and limited transfers incidental thereto, shall comply with Sections 5704.3.1 through 5704.3.8.5.

5704.3.1 Design, construction and capacity of containers and portable tanks. The design, construction and capacity of containers for the storage of Class I, II and IIIA liquids shall be in accordance with this section and Section 9.4 of NFPA 30.

5704.3.1.1 Approved containers. Only approved containers and portable tanks shall be used.

5704.3.2 Liquid storage cabinets. Where other sections of this code require that liquid containers be stored in storage cabinets, such cabinets and storage shall be in accordance with Sections 5704.3.2.1 through 5704.3.2.2.

5704.3.2.1 Design and construction of storage cabinets. Design and construction of liquid storage cabinets shall be in accordance with Sections 5704.3.2.1.1 through 5704.3.2.1.4.

5704.3.2.1.1 Materials. Cabinets shall be listed in accordance with UL 1275, or constructed of wood or metal in accordance with the following:

1. Unlisted metal cabinets shall be constructed of steel having a thickness of not less than 0.044 inch (1.12 mm) (18 gage). The cabinet, including the door, shall be double walled with 1½-inch (38 mm) airspace between the walls. Joints shall be riveted or welded and shall be tight fitting.

2. Unlisted wooden cabinets, including doors, shall be constructed of not less than 1-inch (25 mm) exterior grade plywood. Joints shall be rabbeted and shall be fastened in two directions with wood screws. Door hinges shall be of steel or brass. Cabinets shall be painted with an intumescent-type paint.

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5704.3.2.1.2 Labeling. Cabinets shall be provided with a conspicuous label in red letters on contrasting background that reads: FLAMMABLE-KEEP FIRE AWAY.

5704.3.2.1.3 Doors. Doors shall be well fitted, self-closing and equipped with a three-point latch.

5704.3.2.1.4 Bottom. The bottom of the cabinet shall be liquid tight to a height of not less than 2 inches (51 mm).

5704.3.2.2 Capacity. The combined total quantity of liquids in a cabinet shall not exceed 120 gallons (454 L).

5704.3.3 Indoor storage. Storage of flammable and combustible liquids inside buildings in containers and portable tanks shall be in accordance with Sections 5704.3.3.1 through 5704.3.3.10.

Exceptions:

1. Liquids in the fuel tanks of motor vehicles, aircraft, boats or portable or stationary engines.

2. The storage of distilled spirits and wines in wooden barrels or casks.

5704.3.3.1 Portable fire extinguishers. Portable fire extinguishers shall be provided in accordance with specific sections of this chapter and Section 906.

5704.3.3.2 Incompatible materials. Materials that will react with water or other liquids to produce a hazard shall not be stored in the same room with flammable and combustible liquids except where stored in accordance with Section 5003.9.8.

5704.3.3.3 Clear means of egress. Storage of any liquids, including stock for sale, shall not be stored near or be allowed to obstruct physically the route of egress.

5704.3.3.4 Empty containers or portable tank storage. The storage of empty tanks and containers previously used for the storage of flammable or combustible liquids, unless free from explosive vapors, shall be stored as required for filled containers and portable tanks. Portable tanks and containers, when emptied, shall have the covers or plugs immediately replaced in openings.

5704.3.3.5 Shelf storage. Shelving shall be of approved construction, adequately braced and anchored. Seismic requirements shall be in accordance with the *building code*.

5704.3.3.5.1 Use of wood. Wood of not less than 1 inch (25 mm) nominal thickness is allowed to be used as shelving, racks, dunnage, scuffboards, floor overlay and similar installations.

5704.3.3.5.2 Displacement protection. Shelves shall be of sufficient depth and provided with a lip or guard to prevent individual containers from being displaced.

Exception: Shelves in storage cabinets or on laboratory furniture specifically designed for such use.

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5704.3.3.5.3 Orderly storage. Shelf storage of flammable and combustible liquids shall be maintained in an orderly manner.

5704.3.3.6 Rack storage. Where storage on racks is allowed elsewhere in this code, a minimum 4-foot-wide (1219 mm) aisle shall be provided between adjacent rack sections and any adjacent storage of liquids. Main aisles shall be not less than 8 feet (2438 mm) wide.

5704.3.3.7 Pile or palletized storage. Solid pile and palletized storage in liquid warehouses shall be arranged so that piles are separated from each other by not less than 4 feet (1219 mm). Aisles shall be provided and arranged so that ~~no~~ containers or portable tanks ~~is~~are not more than 20 feet (6096 mm) from an aisle. Main aisles shall be not less than 8 feet (2438 mm) wide.

5704.3.3.8 Limited combustible storage. Limited quantities of combustible commodities are allowed to be stored in liquid storage areas where the ordinary combustibles, other than those used for packaging the liquids, are separated from the liquids in storage by not less than 8 feet (2438 mm) horizontally, either by open aisles or by open racks, and where protection is provided in accordance with Chapter 9.

5704.3.3.9 Idle combustible pallets. Storage of empty or idle combustible pallets inside an unprotected liquid storage area shall be limited to a maximum pile size of 2,500 square feet (232 m^2) and to a maximum storage height of 6 feet (1829 mm). Storage of empty or idle combustible pallets inside a protected liquid storage area shall comply with NFPA 13. Pallet storage shall be separated from liquid storage by aisles that are not less than 8 feet (2438 mm) wide.

5704.3.3.10 Containers in piles. Containers in piles shall be stacked in such a manner as to provide stability and to prevent excessive stress on container walls. Portable tanks stored more than one tier high shall be designed to nest securely, without dunnage. Material-handling equipment shall be suitable to handle containers and tanks safely at the upper tier level.

5704.3.4 Quantity limits for storage. Liquid storage quantity limitations shall comply with Sections 5704.3.4.1 through 5704.3.4.4.

5704.3.4.1 Maximum allowable quantity per control area. For occupancies other than Group M wholesale and retail sales uses, indoor storage of flammable and combustible liquids shall not exceed the maximum allowable quantities per control area indicated in Table 5003.1.1(1) and shall not exceed the additional limitations set forth in this section.

For Group M occupancy wholesale and retail sales uses, indoor storage of flammable and combustible liquids shall not exceed the maximum allowable quantities per control area indicated in Table 5704.3.4.1.

Storage of hazardous production material flammable and combustible liquids in Group H-5 occupancies shall be in accordance with ~~*rule 1301:7-7-50*~~ Chapter 27.

Table 5704.3.4.1

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Maximum allowable quantity per control area of flammable and combustible liquids in wholesale and retail sales occupancies[a]

Type of liquid	Maximum allowable quantity per control area (gallons)		
	Sprinklered[b] in accordance with footnote densities and arrangements	Sprinklered in accordance with Tables 5704.3.6.3(4) through 5704.3.6.3(8) and Table 5704.3.7.5.1	Nonsprinklered
Class IA	60	60	30
Class IB, IC, II and IIIA	7,500[c]	15,000[c]	1,600
Class IIIB	Unlimited	Unlimited	13,200

For SI: 1 foot = 304.8 mm, 1 square foot = ~~0.00929~~0.0929 m^2, 1 gallon = 3.785 L, 1 gallon per minute per square foot = 40.75 L/min/m^2.

a. Control areas shall be separated from each other by not less than a 1-hour fire barrier ~~wall~~.
b. To be considered as sprinklered, a building shall be equipped throughout with an approved automatic sprinkler system with a design providing minimum densities as follows:
   1. For uncartoned commodities on shelves 6 feet or less in height where the ceiling height does not exceed 18 feet, quantities are those allowed with a minimum sprinkler design density of Ordinary Hazard Group 2.
   2. For cartoned, palletized or racked commodities where storage is 4 feet 6 inches or less in height and where the ceiling height does not exceed 18 feet, quantities are those allowed with a minimum sprinkler design density of 0.21 gallon per minute per square foot over the most remote 1,500-square-foot area.
c. Where wholesale and retail sales or storage areas exceed 50,000 square feet in area, the maximum allowable quantities are allowed to be increased by 2 percent for each 1,000 square feet of area in excess of 50,000 square feet, up to not more than 100 percent of the table amounts. A control area separation is not required. The cumulative amounts, including amounts attained by having an additional control area, shall not exceed 30,000 gallons.

5704.3.4.2 Occupancy quantity limits. The following limits for quantities of stored flammable or combustible liquids shall not be exceeded:

1. Group A occupancies: Quantities in Group A occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

2. Group B occupancies: Quantities in drinking, dining, office and school uses within Group B occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

3. Group E occupancies: Quantities in Group E occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

4. Group F occupancies: Quantities in dining, office, and school uses within Group F occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

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5. Group I occupancies: Quantities in Group I occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

6. Group M occupancies: Quantities in dining, office, and school uses within Group M occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1). The maximum allowable quantities for storage in wholesale and retail sales areas shall be in accordance with Section 5704.3.4.1.

7. Group R occupancies: Quantities in Group R occupancies shall not exceed that necessary for maintenance purposes and operation of equipment and shall not exceed quantities set forth in Table 5003.1.1(1).

8. Group S occupancies: Quantities in dining and office uses within Group S occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

5704.3.4.3 Quantities exceeding limits for control areas. Quantities exceeding those allowed in control areas set forth in Section 5704.3.4.1 shall be in liquid storage rooms or liquid storage warehouses in accordance with Sections 5704.3.7 and 5704.3.8.

5704.3.4.4 Liquids for maintenance and operation of equipment. In all occupancies, quantities of flammable and combustible liquids in excess of 10 gallons (38 L) used for maintenance purposes and the operation of equipment shall be stored in liquid storage cabinets in accordance with Section 5704.3.2. Quantities not exceeding 10 gallons (38 L) are allowed to be stored outside of a cabinet where in approved containers located in private garages or other approved locations.

5704.3.5 Storage in control areas. Storage of flammable and combustible liquids in control areas shall be in accordance with Sections 5704.3.5.1 through 5704.3.5.4.

5704.3.5.1 Basement storage. Class I liquids shall be allowed to be stored in basements in amounts not exceeding the maximum allowable quantity per control area for use-open systems in Table 5003.1.1(1), provided that ~~automatic suppression and other~~ fire protection systems are provided in accordance with Chapter 9. Class II and IIIA liquids shall ~~also~~ be allowed to be stored in basements, provided that automatic suppression and other fire protection are provided in accordance with Chapter 9.

5704.3.5.2 Storage pile heights. Containers having less than a 30-gallon (114 L) capacity that contain Class I or II liquids shall not be stacked more than 3 feet (914.4 mm) or two containers high, whichever is greater, unless stacked on fixed shelving or otherwise satisfactorily secured. Containers of Class I or II liquids having a capacity of 30 gallons (114 L) or more shall not be stored more than one container high. Containers shall be stored in an upright position.

5704.3.5.3 Storage distance from ceilings and roofs. Piles of containers or portable tanks shall not be stored closer than 3 feet (914 mm) to the nearest beam, chord, girder

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or other obstruction, and shall be 3 feet (914 mm) below sprinkler deflectors or discharge orifices of water spray or other overhead fire protection system.

5704.3.5.4 Combustible materials. In areas that are ~~inaccessible~~not open to the public, Class I, II and IIIA liquids shall not be stored in the same pile or rack section as ordinary combustible commodities unless such materials are packaged together as kits.

5704.3.6 Wholesale and retail sales uses. Flammable and combustible liquids in Group M occupancy wholesale and retail sales uses shall be in accordance with Sections 5704.3.6.1 through 5704.3.6.5 or Sections 10.10.2, ~~12.3.8~~ 12.3.6, 16.4.1 through 16.4.3, 16.5.1 through 16.5.2.12, Figures 16.4.1(a) through 16.4.1(c) and Tables 16.5.2.1 through 16.5.2.12 ~~and Figures 16.4.1(a) *to* 16.4.1(c)~~ of NFPA 30.

5704.3.6.1 Container type. Containers for Class I liquids shall be metal.

Exception: In sprinklered buildings, an aggregate quantity of 120 gallons (454 L) of water-miscible Class IB and Class IC liquids is allowed in ~~nonmetallic~~non-metallic containers, each having a capacity of 16 ounces (0.473 L) or less.

5704.3.6.2 Container capacity. Containers for Class I liquids shall not exceed a capacity of 5 gallons (19 L).

Exception: Metal containers not exceeding 55 gallons (208 L) are allowed to store up to 240 gallons (908 L) of the maximum allowable quantity per control area of Class IB and IC liquids in a control area. The building shall be equipped throughout with an automatic sprinkler system in accordance with Table 5704.3.4.1. The containers shall be provided with plastic caps without cap seals and shall be stored upright. Containers shall not be stacked or stored in racks and shall not be located in areas ~~accessible~~open to the public.

5704.3.6.3 Fire protection and storage arrangements. Fire protection and container storage arrangements shall be in accordance with Table 5704.3.6.3(1) or the following:

1. Storage on shelves shall not exceed 6 feet (1829 mm) in height, and shelving shall be metal.

2. Storage on pallets or in piles greater than 4 feet 6 inches (1372 mm) in height, or where the ceiling exceeds 18 feet (5486 mm) in height, shall be protected in accordance with Table 5704.3.6.3(4), and the storage heights and arrangements shall be limited to those specified in Table 5704.3.6.3(2).

3. Storage on racks greater than 4 feet 6 inches (1372 mm) in height, or where the ceiling exceeds 18 feet (5486 mm) in height shall be protected in accordance with Tables 5704.3.6.3(5), 5704.3.6.3(6), and 5704.3.6.3(7) as appropriate, and the storage heights and arrangements shall be limited to those specified in Table 5704.3.6.3(3).

Combustible commodities shall not be stored above flammable and combustible liquids.

Table 5704.3.6.3(1)
Maximum storage height in control area

Note: for copyright claim information, please see the notice on the last page of this rule.

Type of liquid	Nonsprinklered area (feet)	Sprinklered area[a] (feet)	Sprinklered with in-rack protection[a,b] (feet)
Flammable liquids:			
Class IA	4	4	4
Class IB	4	8	12
Class IC	4	8	12
Combustible liquids:			
Class II	6	8	12
Class IIIA	8	12	16
Class IIIB	8	12	20

For SI: 1 foot = 304.8 mm.

a. In buildings protected by an automatic sprinkler system, the storage height for containers and portable tanks shall not exceed the maximum storage height permitted for the fire protection scheme set forth in NFPA 30 or the maximum storage height demonstrated in a full-scale fire test, whichever is greater. NFPA 30 criteria and fire test results for metallic containers and portable tanks shall not be applied to nonmetallic containers and portable tanks.

b. In-rack protection shall be in accordance with Table 5704.3.6.3(5), 5704.3.6.3(6) or 5704.3.6.3(7).

Table 5704.3.6.3(2)
Storage arrangements for palletized or solid-pile storage in liquid storage rooms and warehouses

Class	Storage level	Maximum storage height			Maximum quantity per pile (gallons)		Maximum quantity per room[a] (gallons)	
		Drums	Containers[b] (feet)	Portable tanks[b] (feet)	Containers	Portable tanks	Containers	Portable tanks
IA	Ground floor	1	5	Not allowed	3,000	Not allowed	12,000	Not allowed
	Upper floors	1	5	Not allowed	2,000	Not allowed	8,000	Not allowed
	Basements	0	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed
IB	Ground floor	1	6.5	7	5,000	20,000	15,000	40,000
	Upper floors	1	6.5	7	3,000	10,000	12,000	20,000
	Basements	0	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed
IC	Ground floor[d]	1	6.5[c]	7	5,000	20,000	15,000	40,000
	Upper floors	1	6.5[c]	7	3,000	10,000	12,000	20,000
	Basements	0	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed
II	Ground floor[d]	3	10	14	10,000	40,000	25,000	80,000
	Upper floors	3	10	14	10,000	40,000	25,000	80,000
		1	5	7	7,500	20,000	7,500	20,000

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	Basements							
III	Ground floor Upper floors Basements	5 5 3	20 20 10	14 14 7	15,000 15,000 10,000	60,000 60,000 20,000	50,000 50,000 25,000	100,000 100,000 40,000

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L.

a. See Section 5704.3.8.1 for unlimited quantities in liquid storage warehouses.
b. In buildings protected by an automatic sprinkler system, the storage height for containers and portable tanks shall not exceed the maximum storage height permitted for the fire protection scheme set forth in NFPA 30 or the maximum storage height demonstrated in a full-scale fire test, whichever is greater. NFPA 30 criteria and fire test results for metallic containers and portable tanks shall not be applied to nonmetallic containers and portable tanks.
c. These height limitations are allowed to be increased to 10 feet for containers having a capacity of 5 gallons or less.
d. For palletized storage of unsaturated polyester resins (UPR) in relieving-style metal containers with 50 per-cent or less by weight Class IC or II liquid and no Class IA or IB liquid, height and pile quantity limits shall be permitted to be 10 feet and 15,000 gallons, respectively, provided that such storage is protected by sprinklers in accordance with NFPA 30 and that the UPR storage area is not located in the same containment area or drainage path for other Class I or II liquids.

Table 5704.3.6.3(3)
Storage arrangements for rack storage in liquid storage rooms and warehouses

Class	Type rack	Storage level	Maximum storage height[b] (feet)	Maximum quantity per room[a] (gallons)
			Containers	Containers
IA	Double row or single row	Ground floor Upper floors Basements	25 15 Not allowed	7,500 4,500 Not allowed
IB IC	Double row or single row	Ground floor Upper floors Basements	25 15 Not allowed	15,000 9,000 Not allowed
II	Double row or single row	Ground floor Upper floors Basements	25 25 15	24,000 24,000 9,000
III	Multirow Double row Single row	Ground floor Upper floors Basements	40 20 20	48,000 48,000 24,000

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L.

a. See Section 5704.3.8.1 for unlimited quantities in liquid storage warehouses.
b. In buildings protected by an automatic sprinkler system, the storage height for containers and portable tanks shall not exceed the maximum storage height permitted for the fire protection scheme set forth in NFPA 30 or the maximum storage height demonstrated in a full-scale fire test, whichever is greater. NFPA 30 and fire test results for metallic containers and portable tanks shall not be applied to nonmetallic containers and portable tanks.

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Table 5704.3.6.3(4)
Automatic sprinkler protection for solid-pile and palletized storage of liquids in metal containers and portable tanks[a]

Storage conditions		Ceiling sprinkler design and demand				Minimum hose stream demand (gpm)	Minimum duration sprinklers and hose streams (hours)
			Area (square feet)				
Class liquid	Container size and arrangement	Density (gpm/ft^2)	High temperature sprinklers	Ordinary temperature sprinklers	Maximum spacing (square feet)		
IA	5 gallons or less, with or without cartons, palletized or solid pile[b]	0.30	3,000	5,000	100	750	2
	Containers greater than 5 gallons, on end or side, palletized or solid pile	0.60	5,000	8,000	80	750	
IB, IC and II	5 gallons or less, with or without cartons, palletized or solid pile[b]	0.30	3,000	5,000	100	500	2
	Containers greater than 5 gallons on pallets or solid pile, one high	0.25	5,000	8,000	100		
II	Containers greater than 5 gallons on pallets or solid pile, more than one high, on end or side	0.60	5,000	8,000	80	750	2
IB, IC and II	Portable tanks, one high	0.30	3,000	5,000	100	500	2
II	Portable tanks, two high	0.60	5,000	8,000	80	750	2
III	5 gallons or less, with or without cartons, palletized or solid pile	0.25	3,000	5,000	120	500	1
	Containers greater than 5 gallons on pallets or solid pile, on end or sides, up to three high	0.25	3,000	5,000	120	500	1

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	Containers greater than 5 gallons, on pallets or solid pile, on end or sides, up to 18 feet high	0.35	3,000	5,000	100	750	2
	Portable tanks, one high	0.25	3,000	5,000	120	500	1
	Portable tanks, two high	0.50	3,000	5,000	80	750	2

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L, 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m, 1 gallon per minute per square foot = 40.75 L/min/m^2.

a. The design area contemplates the use of Class II standpipe systems. Where Class I standpipe systems are used, the area of application shall be increased by 30 per-cent without revising density.
b. For storage heights above 4 feet or ceiling heights greater than 18 feet, an approved design shall be provided.

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Table 5704.3.6.3(5)
Automatic sprinkler protection requirements for rack storage of liquids in metal containers of 5-gallon capacity or less with or without cartons on conventional wood pallets[a]

Class liquid	Ceiling sprinkler design and demand			In-rack sprinkler arrangement and demand					Minimum hose stream demand (gpm)	Minimum duration sprinkler and hose stream (hours)
	Density (gpm/ft^2)	Area (square feet)		Maximum spacing	Racks up to 9 feet deep	Racks more than 9 feet to 12 feet deep	30 psi (standard orifice) / 14 psi (large orifice)	Number of sprinklers operating		
		High temperature sprinklers	Ordinary temperature sprinklers							
I (maximum 25-foot height) Option 1	0.40	3,000	5,000	80 ft^2/head	1. Ordinary temperature, quick-response sprinklers, maximum 8 feet 3 inches horizontal spacing 2. One line sprinklers above each level of storage 3. Locate in longitudinal flue space, staggered vertical 4. Shields required where ~~multilevel~~multiple-level	1. Ordinary temperature, quick-response sprinklers, maximum 8 feet 3 inches horizontal spacing 2. One line sprinklers above each level of storage 3. Locate in transverse flue spaces, staggered vertical and within 20 inches of aisle 4. Shields required where	30 psi (0.5-inch orifice)	1. Eight sprinklers if only one level 2. Six sprinklers each on two levels if only two levels 3. Six sprinklers each on top three levels, if three or more levels 4. Hydraulically most remote	750	2

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						~~multilevel~~multiple-level				
I (maximum 25-foot height) Option 2	0.55	2,000[b]	Not applicable	100 ft²/head	1. Ordinary temperature, quick-response sprinklers, maximum 8 feet 3 inches horizontal spacing 2. See 2 above 3. See 3 above 4. See 4 above	1. Ordinary temperature, quick-response sprinklers, maximum 8 feet 3 inches horizontal spacing 2. See 2 above 3. See 3 above 4. See 4 above	14 psi (0.53-inch orifice)	See 1 through 4 above	500	2
I and II (maximum 14-foot storage height) (maximum three tiers)	0.55[c]	2,000[d]	Not applicable	100 ft²/head	Not Applicable None for maximum 6-foot-deep racks	Not applicable	Not applicable	Not applicable	500	2
II (maximum 25-foot height)	0.30	3,000	5,000	100 ft²/head	1. Ordinary temperature sprinklers 8 feet apart horizontally 2. One line sprinklers between levels at nearest 10-foot vertical intervals 3. Locate in longitudinal flue space, staggered vertical 4. Shields required where	1. Ordinary temperature sprinklers 8 feet apart horizontally 2. Two lines between levels at nearest 10-foot vertical intervals 3. Locate in transverse flue spaces, staggered vertical and within 20 inches of aisle 4. Shields required where	30 psi	Hydraulically most remote-six sprinklers at each level, up to a maximum of three levels	750	2

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					~~multilevel~~multiple-level	~~multilevel~~multiple-level				
III (40-foot height)	0.25	3,000	5,000	120 ft²/head	Same as for Class II liquids	Same as for Class II liquids	30 psi	Same as for Class II liquids	500	2

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 square foot = 0.0929 m², 1 pound per square inch = 6.895 kPa, 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m, 1 gallon per minute per square foot = 40.75 L/min/m².

a. The design area contemplates the use of Class II standpipe systems. Where Class I standpipe systems are used, the area of application shall be increased by 30 per cent without revising density.
b. Using listed or approved extra-large orifices, high-temperature quick-response or standard element sprinklers under a maximum 30-foot ceiling with minimum 7.5-foot aisles.
c. For friction lid cans and other metal containers equipped with plastic nozzles or caps, the density shall be increased to 0.65 gpm per square foot using listed or approved extra-large orifice, high-temperature quick-response sprinklers.
d. Using listed or approved extra-large orifice, high-temperature quick-response or standard element sprinklers under a maximum 18-foot ceiling with minimum 7.5-foot aisles and metal containers.

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Table 5704.3.6.3(6)
Automatic sprinkler protection requirements for rack storage of liquids in metal containers greater than 5-gallon capacity[a]

Class liquid	Ceiling sprinkler design and demand			In-rack sprinkler arrangement and demand					Minimum hose stream demand (gpm)	Minimum duration sprinkler and hose stream (hours)
	Density (gpm/ft^2)	Area (square feet)		Maximum spacing	On-side storage racks up to 9-foot-deep racks	On-end storage (on pallets) up to 9-foot-deep racks	Minimum nozzle pressure	Number of sprinklers operating		
		High temperature sprinklers	Ordinary temperature sprinklers							
IA (maximum 25-foot height)	0.60	3,000	5,000	80 ft^2/head	1. Ordinary temperature sprinklers 8 feet apart horizontally 2. One line sprinklers above each tier of storage 3. Locate in longitudinal flue space, staggered vertical 4. Shields required where ~~multilevel~~multiple-level	1. Ordinary temperature sprinklers 8 feet apart horizontally 2. One line sprinklers above each tier of storage 3. Locate in longitudinal flue space, staggered vertical 4. Shields required where ~~multilevel~~multiple-level	30 psi	Hydraulically most remote-six sprinklers at each level	1,000	2
IB, IC and II (maximum 25-foot height)	0.60	3,000	5,000	100 ft^2/head	1. See 1 above 2. One line sprinklers every three tiers of storage 3. See 3 above 4. See 4 above	1. See 1 above 2. See 2 above 3. See 3 above 4. See 4 above	30 psi	Hydraulically most remote-six sprinklers at each level	750	2
III (maximu	0.25	3,000	5,000	120 ft^2/head	1. See 1 above	1. See 1 above	15 psi	Hydraulically most	500	1

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m 40-foot height)					2. One line sprinklers every sixth level (maximum) 3. See 3 above 4. See 4 above	2. One line sprinklers every third level (maximum) 3. See 3 above 4. See 4 above		remote-six sprinklers at each level		

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2, 1 pound per square inch = 6.895 kPa, 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m, 1 gallon per minute per square foot = 40.75 L/min/m^2.

a. The design assumes the use of Class II standpipe systems. Where a Class I standpipe system is used, the area of application shall be increased by 30 per-cent without revising density.

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Table 5704.3.6.3(7)
Automatic AFFF water protection requirements for rack storage of liquids in metal containers greater than 5-gallon capacity[a,b]

Class liquid	Ceiling sprinkler design and demand			In-rack sprinkler arrangement and demand[c]				Duration AFFF supply (minimum)	Duration water supply (hours)
	Density (gpm/ft^2)	Area (square feet)		On-end storage of drums on pallets, up to 25 feet	Minimum nozzle pressure (psi)	Number of sprinklers operating	Hose stream demand[d] (gpm)		
		High-temperature sprinklers	Ordinary temperature sprinklers						
IA, IB, IC and II	0.30	1,500	2,500	1. Ordinary temperature sprinkler up to 10 feet apart horizontally 2. One line sprinklers above each level of storage 3. Locate in longitudinal flue space, staggered vertically 4. Shields required for ~~multilevel~~multiple-level	30	Three sprinklers per level	500	15	2

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2, 1 pound per square inch = 6.895 kPa, 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m, 1 gallon per minute per square foot = 40.75 L/min/m^2.

a. System shall be closed-head wet system with approved devices for proportioning aqueous film-forming foam.
b. Except as modified herein, in-rack sprinklers shall be installed in accordance with NFPA 13.
c. The height of storage shall not exceed 25 feet.
d. Hose stream demand includes 1½-inch inside hose connections, where required.

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Table 5704.3.6.3(8)
Automatic sprinkler protection requirements for Class I liquid storage in metal containers of 1-gallon capacity or less with uncartoned or case-cut shelf display up to 6.5 feet, and palletized storage above in a double-row rack array[a]

Storage height	Ceiling sprinkler design and demand				In-rack sprinkler arrangement and demand				Minimum hose stream demand (gpm)	Minimum duration sprinklers and hose stream (hours)
	Density (gpm/ft^2)	Area (square feet)		Maximum spacing	Racks up to 9 feet deep	Racks 9 to 12 feet	Minimum nozzle pressure	Number of sprinklers operating		
		High temperature	Ordinary temperature							
Maximum 20-foot storage height	0.60	2,000[b]	Not applicable	100 ft^2/head	1. Ordinary temperature, quick response sprinklers, maximum 8 feet 3 inches horizontal spacing 2. One line of sprinklers at the 6-foot level and the 11.5-foot level of storage 3. Locate in longitudinal flue space, staggered vertical 4. Shields required where ~~multilevel~~multiple-level	Not applicable	30 psi (standard orifice) or 14 psi (large orifice)	1. Six sprinklers each on two levels 2. Hydraulically most remote 12 sprinklers	500	2

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2, 1 pound per square inch = 6.895 kPa, 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m, 1 gallon per minute per square foot = 40.75 L/min/m^2.

a. This table shall not apply to racks with solid shelves.
b. Using extra-large orifice sprinklers under a ceiling 30 feet or less in height. Minimum aisle width is 7.5 feet.

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5704.3.6.4 Warning for containers. Cans, containers and vessels containing flammable liquids or flammable liquid compounds or mixtures offered for sale shall be provided with a warning indicator, painted or printed on the container and stating that the liquid is flammable, and shall be kept away from heat and an open flame.

5704.3.6.5 Storage plan. Where required by the fire code official, aisle and storage plans shall be submitted in accordance with Chapter 50.

5704.3.7 Liquid storage rooms. Liquid storage rooms shall comply with Sections 5704.3.7.1 through 5704.3.7.5.2.

5704.3.7.1 General. Quantities of liquids exceeding those set forth in Section 5704.3.4.1 for storage in control areas shall be stored in a liquid storage room complying with this section and constructed and separated as required by the *building code*.

5704.3.7.2 Quantities and arrangement of storage. The quantity limits and storage arrangements in liquid storage rooms shall be in accordance with Tables 5704.3.6.3(2) and 5704.3.6.3(3) and Sections 5704.3.7.2.1 through 5704.3.7.2.3.

5704.3.7.2.1 Mixed storage. Where two or more classes of liquids are stored in a pile or rack section both of the following shall apply:

1. The quantity in that pile or rack shall not exceed the smallest of the maximum quantities for the classes of liquids stored in accordance with Table 5704.3.6.3(2) or 5704.3.6.3(3).

2. The height of storage in that pile or rack shall not exceed the smallest of the maximum heights for the classes of liquids stored in accordance with Table 5704.3.6.3(2) or 5704.3.6.3(3).

5704.3.7.2.2 Separation and aisles. Piles shall be separated from each other by not less than 4-foot (1219 mm) aisles. Aisles shall be provided so that all containers are 20 feet (6096 mm) or less from an aisle. Where the storage of liquids is on racks, a minimum 4-foot-wide (1219 mm) aisle shall be provided between adjacent rows of racks and adjacent storage of liquids. Main aisles shall be ~~a minimum of~~not less than 8 feet (2438 mm) wide.

Additional aisles shall be provided for access to doors, required windows and ventilation openings, standpipe connections, mechanical equipment and switches. Such aisles shall be not less than 3 feet (914 mm) in width, unless greater widths are required for separation of piles or racks, in which case the greater width shall be provided.

5704.3.7.2.3 Stabilizing and supports. Containers and piles shall be separated by pallets or dunnage to provide stability and to prevent excessive stress to container walls. Portable tanks stored over one tier shall be designed to nest securely without dunnage.

Requirements for portable tank design shall be in accordance with Chapters 9 and 12 of NFPA 30. Shelving, racks, dunnage, scuffboards, floor overlay and similar installations shall be of noncombustible construction or of wood not less than a 1-inch

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(25 mm) nominal thickness. Adequate material-handling equipment shall be available to handle tanks safely at upper tier levels.

5704.3.7.3 Spill control and secondary containment. Liquid storage rooms shall be provided with spill control and secondary containment in accordance with Section 5004.2.

5704.3.7.4 Ventilation. Liquid storage rooms shall be ventilated in accordance with Section 5004.3.

5704.3.7.5 Fire protection. Fire protection for liquid storage rooms shall comply with Sections 5704.3.7.5.1 and 5704.3.7.5.2.

5704.3.7.5.1 Fire ~~extinguishing~~ protection systems. Liquid storage rooms shall be protected by automatic sprinkler systems installed in accordance with Chapter 9 and Tables 5704.3.6.3(4) through 5704.3.6.3(7) and Table 5704.3.7.5.1. In-rack sprinklers shall also comply with NFPA 13.

Automatic foam-water systems and automatic aqueous film-forming foam (AFFF) water sprinkler systems shall not be used except where approved.

Protection criteria developed from ~~the~~ fire modeling or full-scale fire testing conducted at *a* testing laboratory *listed in Chapter 1* are allowed in lieu of the protection as shown in Tables 5704.3.6.3(2) through 5704.3.6.3(7) and Table 5704.3.7.5.1 where approved.

Table 5704.3.7.5.1
Automatic AFFF-water protection requirements for solid-pile and palletized storage of liquids in metal containers of 5-gallon capacity or less[a,b]

Package type	Class liquid	Ceiling sprinkler design and demand					Storage height (feet)	Hose demand (gpm)[c]	Duration AFFF supply (minimum)	Duration water supply (hours)
		Density (gpm/ft^2)	Area (square feet)	Temperature rating	Maximum spacing	Orifice size (inch)				
Cartoned	IB, IC, II and III	0.40	2,000	286°F	100 ft^2/head	0.531	11	500	15	2
Uncartoned	IB, IC, II and III	0.30	2,000	286°F	100 ft^2/head	0.5 or 0.531	12	500	15	2

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m, 1 gallon per minute per square foot = 40.75 L/min/m^2, °C. = [(°F)-32]/1.8.

a. System shall be a closed-head wet system with approved devices for proportioning aqueous film-forming foam.
b. Maximum ceiling height of 30 feet.
c. Hose stream demand includes 1½-inch inside hose connections, where required.

5704.3.7.5.2 Portable fire extinguishers. Not less than one portable fire extinguisher complying with Section 906 and having a rating of not less than 20-B shall be located

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not less than 10 feet (3048 mm) or more than 50 feet (15 240 mm) from any Class I or II liquid storage area located outside of a liquid storage room.

Not less than one portable fire extinguisher having a rating of not less than 20-B shall be located outside of, but not more than 10 feet (3048 mm) from, the door opening into a liquid storage room.

5704.3.8 Liquid storage warehouses. Buildings used for storage of flammable or combustible liquids in quantities exceeding those set forth in Section 5704.3.4 for control areas and Section 5704.3.7 for liquid storage rooms shall comply with Sections 5704.3.8.1 through 5704.3.8.5 and shall be constructed and separated as required by the *building code*.

5704.3.8.1 Quantities and storage arrangement. The total quantities of liquids in a liquid storage warehouse shall not be limited. The arrangement of storage shall be in accordance with Table 5704.3.6.3(2) or 5704.3.6.3(~~3~~4).

5704.3.8.1.1 Mixed storage. Mixed storage shall be in accordance with Section 5704.3.7.2.1.

5704.3.8.1.2 Separation and aisles. Separation and aisles shall be in accordance with Section 5704.3.7.2.2.

5704.3.8.2 Spill control and secondary containment. Liquid storage warehouses shall be provided with spill control and secondary containment as set forth in Section 5004.2.

5704.3.8.3 Ventilation. Liquid storage warehouses storing containers greater than 5 gallons (19 L) in capacity shall be ventilated at a rate of not less than 0.25 cfm per square foot (0.075 m^3/ s • m^2) of floor area over the storage area.

5704.3.8.4 ~~Fire-extinguishing systems~~Automatic sprinkler systems. Liquid storage warehouses shall be protected by automatic sprinkler systems installed in accordance with Chapter 9 and Tables 5704.3.6.3(4) through 5704.3.6.3(7) and Table 5704.3.7.5.1 or Sections 16.4.1 *to* 16.4.3, 16.5.1 through 16.5.2.12, ~~and Tables 16.5.2.1 *to* 16.5.2.12 and~~ Figures 16.4.1(a) through 16.4.1(c) and Tables 16.5.2.1 through 16.5.2.12 of NFPA 30. In-rack sprinklers shall also comply with NFPA 13.

Automatic foam-water systems and automatic AFFF water sprinkler systems shall not be used except where approved.

Protection criteria developed from fire modeling or full-scale fire testing conducted at *a* testing laboratory *listed in Chapter 1* are allowed in lieu of the protection as shown in Tables 5704.3.6.3(2) through 5704.3.6.3(7) and Table 5704.3.7.5.1 where approved.

5704.3.8.5 Warehouse hose lines. In liquid storage warehouses, either 1½-inch (38 mm) lined or 1-inch (25 mm) hard rubber hose lines shall be provided in sufficient number to reach all liquid storage areas and shall be in accordance with Section 903 or 905.

5704.4 Outdoor storage of containers and portable tanks. Storage of flammable and combustible liquids in closed containers and portable tanks outside of buildings shall be in accordance with Section 5703 and Sections 5704.4.1 through 5704.4.8. Capacity limits for containers and portable tanks shall be in accordance with Section 5704.3.

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5704.4.1 Plans. Storage *of flammable and combustible liquids in closed containers and portable tanks outside of buildings* shall be in accordance with approved *site storage* plans. *Such site storage plans shall be submitted to the fire code official at the time of notification or with the permit application as required in Chapter 1.*

5704.4.2 Location on property. Outdoor storage of liquids in *closed* containers and portable tanks shall be in accordance with Table 5704.4.2. Storage of liquids near buildings located on the same lot shall be in accordance with this section.

Table 5704.4.2
Outdoor liquid storage in *closed* containers and portable tanks

Class of liquid	*Closed* container storage-maximum per pile		Portable tank storage-maximum per pile		Minimum distance between piles or racks (feet)	Minimum distance to lot line of property that can be built upon[c,d] (feet)	Minimum distance to public street, public alley or public way[d] (feet)
	Quantity[a,b] (gallons)	Height (feet)	Quantity[a,b] (gallons)	Height (feet)			
IA	1,100	10	2,200	7	5	50	10
IB	2,200	12	4,400	14	5	50	10
IC	4,400	12	8,800	14	5	50	10
II	8,800	12	17,600	14	5	25	5
III	22,000	18	44,000	14	5	10	5

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L.

a. For mixed class storage, see Section 5704.4.2.
b. For storage in racks, the quantity limits per pile do not apply, but the rack arrangement shall be limited to not more than 50 feet in length and two rows or 9 feet in depth.
c. If protection by a public fire department or private fire brigade capable of providing cooling water streams is not available, the distance shall be doubled.
d. ~~When~~Where the total quantity stored does not exceed 50 per-cent of the maximum allowed per pile, the distances are allowed to be reduced 50 per-cent, but not less than 3 feet.

5704.4.2.1 Mixed liquid piles. Where two or more classes of liquids are stored in a single pile, the quantity in the pile shall not exceed the smallest of maximum quantities for the classes of material stored.

5704.4.2.2 Access. Storage of *closed* containers or portable tanks shall be provided with fire apparatus access roads in accordance with Chapter 5.

(iii) **5704.4.2.3 Security.** The storage area shall be protected against tampering or trespassers ~~in accordance with Section 5704.1.2~~ where necessary and shall be kept *clear of* weeds, debris and other combustible materials not necessary to the storage.

5704.4.2.4 Storage adjacent to buildings. Not more than 1,100 gallons (4163 L) of liquids stored in closed containers and portable tanks is allowed adjacent to a building located on the same premises and under the same management, provided that one of the following requirements is met:

Note: for copyright claim information, please see the notice on the last page of this rule.

1. The building does not exceed one story in height. Such building shall be of fire-resistance-rated construction with noncombustible exterior surfaces or noncombustible construction and shall be used principally for the storage of liquids.~~; or~~

2. The exterior building wall adjacent to the storage area shall have a fire-resistance rating of not less than 2 hours, having no openings to above grade areas within 10 feet (3048 mm) horizontally of such storage and no openings to below-grade areas within 50 feet (15 240 mm) horizontally of such storage.

The quantity of liquids stored adjacent to a building protected in accordance with ~~Section 5704.4.2.4~~Item 2 is allowed to exceed 1,100 gallons (4163 L), provided that the maximum quantity per pile does not exceed 1,100 gallons (4163 L) and each pile is separated by a 10-foot-minimum (3048 mm) clear space along the common wall.

Where the quantity stored exceeds 1,100 gallons (4163 L) adjacent to a building complying with ~~Section 5704.4.2.4~~Item 1, or the provisions of ~~Section 5704.4.2.4~~Item 1 cannot be met, a minimum distance in accordance with Table 5704.4.2 column 7 ("Minimum ~~distance~~ Distance to ~~lot line of property that can be built upon~~Lot Line of Property That Can Be Built On") shall be maintained between buildings and the nearest *closed* container or portable tank.

5704.4.3 Spill control and secondary containment. Storage areas shall be provided with spill control and secondary containment in accordance with Section 5703.4.

Exception: *Closed* containers stored on containment pallets in accordance with Section 5004.2.3 and *closed* containers stored in cabinets and lockers with integral spill containment.

5704.4.4 Security. Storage areas shall be protected against tampering or trespassers by fencing or other approved control measures.

5704.4.5 Protection from vehicles. Guard posts or other means shall be provided to protect exterior storage tanks from vehicular damage. Where guard posts are installed, the posts shall be installed in accordance with Section 312.

5704.4.6 Clearance from combustibles. The storage area shall be kept free from weeds, debris and combustible materials not necessary to the storage. The area surrounding an exterior storage area shall be kept clear of such materials for a minimum distance of 15 feet (4572 mm).

5704.4.7 Weather protection. Weather protection for outdoor storage shall be in accordance with Section 5004.13.

5704.4.8 Empty *closed* containers and *portable* tank storage. The storage of empty *portable* tanks and *closed* containers previously used for the storage of flammable or combustible liquids, unless free from explosive vapors, shall be stored as required for filled *closed* containers and *portable* tanks. *Portable* tanks and *closed* containers when emptied shall have the covers or plugs immediately replaced in openings.

Section 5705 Dispensing, use, mixing and handling

Note: for copyright claim information, please see the notice on the last page of this rule.

5705.1 Scope. Dispensing, use, mixing and handling of flammable liquids shall be in accordance with Section 5703 and this section. Tank vehicle and tank car loading and unloading and other special operations shall be in accordance with Section 5706.

Exception: Containers of organic coatings having no fire point and which are opened for pigmentation are not required to comply with this section.

5705.2 Liquid transfer. Liquid transfer equipment and methods for transfer of Class I, II and IIIA liquids shall be approved and be in accordance with Sections 5705.2.1 through 5705.2.6.

5705.2.1 Pumps. Where ~~P~~positive-displacement pumps are used, they shall be provided with pressure relief discharging back to the tank, pump suction or other approved location, or shall be provided with interlocks to prevent over-pressure.

5705.2.2 ~~Pressurized~~Pressured systems. Where gases are introduced to provide for transfer of Class I liquids, or Class II and III liquids transferred at temperatures at or above their flash points by pressure, only inert gases shall be used. Controls, including pressure relief devices, shall be provided to limit the pressure so that the maximum working pressure of tanks, containers and piping systems cannot be exceeded. Where devices operating through pressure within a tank or container are used, the tank or container shall be a pressure vessel approved for the intended use. Air or oxygen shall not be used for pressurization.

Exception: Air transfer of Class II and ~~Class~~ III liquids at temperatures below their flash points.

5705.2.3 Piping, hoses and valves. Piping, hoses and valves used in liquid transfer operations shall be approved for the intended use.

5705.2.4 Class I, II and III liquids. Class I liquids or, when heated to or above their flash points, Class II and Class III liquids, shall be transferred by one of the following methods:

1. From safety cans complying with UL 30.
2. Through an approved closed piping system.
3. From containers or tanks by an approved pump taking suction through an opening in the top of the container or tank.
4. For Class IB, IC, II and III liquids, from containers or tanks by gravity through an approved self-closing or automatic-closing valve where the container or tank and dispensing operations are provided with spill control and secondary containment in accordance with Section 5703.4. Class IA liquids shall not be dispensed by gravity from tanks.
5. Approved liquid transfer systems.

Exception: Liquids in original shipping containers not exceeding a 5.3-gallon (20 L) capacity.

Note: for copyright claim information, please see the notice on the last page of this rule.

5705.2.5 Manual container filling operations. Class I liquids or Class II and Class III liquids that are heated up to or above their flash points shall not be transferred into containers unless the nozzle and containers are electrically interconnected. Acceptable methods of electrical interconnection include either of the following:

1. Metallic floor plates on which containers stand while filling, where such floor plates are electrically connected to the fill stem.

2. Where the fill stem is bonded to the container during filling by means of a bond wire.

5705.2.6 Automatic container-filling operations for Class I liquids. Container-filling operations for Class I liquids involving conveyor belts or other automatic-feeding operations shall be designed to prevent static accumulations.

5705.3 Use, dispensing and mixing inside of buildings. Indoor use, dispensing and mixing of flammable and combustible liquids shall be in accordance with Section 5705.2 and Sections 5705.3.1 through 5705.3.5.3.

5705.3.1 Closure of mixing or blending vessels. Vessels used for mixing or blending of Class I liquids and Class II or III liquids heated up to or above their flash points shall be provided with self-closing, tight-fitting, noncombustible lids that will control a fire within such vessel.

Exception: Where such devices are impractical, approved automatic or manually controlled fire-extinguishing devices shall be provided.

5705.3.2 Bonding of vessels. Where differences of potential could be created, vessels containing Class I liquids or liquids handled at or above their flash points shall be electrically connected by bond wires, ground cables, piping or similar means to a static grounding system to maintain equipment at the same electrical potential to prevent sparking.

5705.3.3 Heating, lighting and cooking appliances. Heating, lighting and cooking appliances that utilize Class I liquids shall not be operated within a building or structure.

Exception: Operation in single-family dwellings.

5705.3.4 Location of processing vessels. Processing vessels shall be located with respect to distances to lot lines of adjoining property that can be built on, in accordance with Tables 5705.3.4(1) and 5705.3.4(2).

Exception: Where the exterior wall facing the adjoining lot line is a blank wall having a fire-resistance rating of not less than 4 hours, the fire code official is authorized to modify the distances. The distance shall be not less than that set forth in the *building code* where Class IA or unstable liquids are involved, explosion control shall be provided in accordance with Section 911.

Table 5705.3.4(1)
Separation of processing vessels from lot lines

Processing vessels with emergency relief venting	Location[a]	
	Stable liquids	Unstable liquids

Note: for copyright claim information, please see the notice on the last page of this rule.

Not in excess of 2.5 psig	Table 5705.3.4(2)	2.5 times Table 5705.3.4(2)
Over 2.5 psig	1.5 times Table 5705.3.4(2)	4 times Table 5705.3.4(2)

For SI: 1 pound per square inch gauge = 6.895 kPa.

a. Where protection of exposures by a public fire department or private fire brigade capable of providing cooling water streams on structures is not provided, distances shall be doubled.

Table 5705.3.4(2)
Reference table for use with Table 5705.3.4(1)

Tank capacity (gallons)	Minimum distance from lot line of a lot ~~which~~that is or can be built upon, including the opposite side of a public way (feet)	Minimum distance from nearest side of any public way or from nearest important building on the same property (feet)
275 or less	5	5
276 to 750	10	5
751 to 12,000	15	5
12,001 to 30,000	20	5
30,001 to 50,000	30	10
50,001 to 100,000	50	15
100,001 to 500,000	80	25
500,001 to 1,000,000	100	35
1,000,001 to 2,000,000	135	45
2,000,001 to 3,000,000	165	55
3,000,001 or more	175	60

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L.

5705.3.5 Quantity limits for use. Liquid use quantity limitations shall comply with Sections 5705.3.5.1 through 5705.3.5.3.

5705.3.5.1 Maximum allowable quantity per control area. Indoor use, dispensing and mixing of flammable ~~or~~and combustible liquids shall not exceed the maximum allowable quantity per control area indicated in Table 5003.1.1(1) and shall not exceed the additional limitations set forth in Section 5705.3.5.

~~**Exception:** Cleaning with Class I, II and IIIA liquids shall be in accordance with *paragraph* (E)(3)(f)(5705.3.6) *of this rule*.~~

Use of hazardous production material flammable and combustible liquids in Group H-5 occupancies shall be in accordance with Chapter 27.

Exception: Cleaning with Class I, II and IIIA liquids shall be in accordance with Section 5705.3.6.

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5705.3.5.2 Occupancy quantity limits. The following limits for quantities of flammable and combustible liquids used, dispensed or mixed based on occupancy classification shall not be exceeded.

~~**Exception:** Cleaning with Class I, II or IIIA liquids shall be in accordance with Section 5705.3.6.~~

1. Group A occupancies: Quantities in Group A occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

2. Group B occupancies: Quantities in drinking, dining, office and school uses within Group B occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

3. Group E occupancies: Quantities in Group E occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

4. Group F occupancies: Quantities in dining, office and school uses within Group F occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

5. Group I occupancies: Quantities in Group I occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

6. Group M occupancies: Quantities in dining, office and school uses within Group M occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

7. Group R occupancies: Quantities in Group R occupancies shall not exceed that necessary for maintenance purposes and operation of equipment and shall not exceed quantities set forth in Table 5003.1.1(1).

8. Group S occupancies: Quantities in dining and office uses within Group S occupancies shall not exceed that necessary for demonstration, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 5003.1.1(1).

Exception: Cleaning with Class I, II or IIIA liquids shall be in accordance with ~~*paragraph* (E)(3)(f)(~~Section 5705.3.6~~) *of this rule*~~.

Note: for copyright claim information, please see the notice on the last page of this rule.

5705.3.5.3 Quantities exceeding limits for control areas. Quantities exceeding the maximum allowable quantity per control area indicated in Sections 5705.3.5.1 and 5705.3.5.2 shall be in accordance with the following:

1. For open systems, indoor use, dispensing and mixing of flammable and combustible liquids shall be within a room or building complying with the *building code* and Sections 5705.3.7.1 through 5705.3.7.5.3.

2. For closed systems, indoor use, dispensing and mixing of flammable and combustible liquids shall be within a room or building complying with the *building code* and Sections 5705.3.7 through 5705.3.7.4 ~~and Section 5705.3.7.6~~.

5705.3.6 Cleaning with flammable and combustible liquids. Cleaning with Class I, II and IIIA liquids shall be in accordance with Sections 5705.3.6.1 through 5705.3.6.2.7.

Exceptions:

1. Dry cleaning shall be in accordance with Chapter 21.

2. Spray-nozzle cleaning shall be in accordance with Section 2403.3.5.

5705.3.6.1 Cleaning operations. Class IA liquids shall not be used for cleaning. Cleaning with Class IB, IC or II liquids shall be conducted as follows:

1. In a room or building, ~~in accordance with~~ Section 5705.3.7; or

2. In a parts cleaner listed, labeled and approved for the purpose, ~~in accordance with~~ Section 5705.3.6.2.

Exception: Materials used in commercial and industrial process-related cleaning operations in accordance with other provisions of this code and not involving facilities maintenance cleaning operations.

5705.3.6.2 Approved machines. Parts cleaning and degreasing conducted in approved machines in accordance with Section 5705.3.6.1 shall be in accordance with Sections 5705.3.6.2.1 through 5705.3.6.2.7.

5705.3.6.2.1 Solvents. Solvents shall be classified and shall be compatible with the machines within which they are used.

5705.3.6.2.2 Machine capacities. The quantity of solvent shall not exceed the listed design capacity of the machine for the solvent being used with the machine.

5705.3.6.2.3 Solvent quantity limits. Solvent quantities shall be limited as follows:

1. Machines without remote solvent reservoirs shall be limited to quantities set forth in Section 5705.3.5.

2. Machines with remote solvent reservoirs using Class I liquids shall be limited to quantities set forth in Section 5705.3.5.

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3. Machines with remote solvent reservoirs using Class II liquids shall be limited to 35 gallons (132 L) per machine. The total quantities shall not exceed an aggregate of 240 gallons (908 L) per control area in buildings not equipped throughout with an automatic sprinkler system *in accordance with Chapter 9. The total quantities shall not exceed* an aggregate of 480 gallons (1817 L) per control area in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

4. Machines with remote solvent reservoirs using Class IIIA liquids shall be limited to 80 gallons (303 L) per machine.

5705.3.6.2.4 Immersion soaking of parts. Work areas of machines with remote solvent reservoirs shall not be used for immersion soaking of parts.

5705.3.6.2.5 Separation. Multiple machines shall be separated from each other by a distance of not less than 30 feet (9144 mm) or by a fire barrier with a minimum 1-hour fire-resistance rating.

5705.3.6.2.6 Ventilation. Machines shall be located in areas adequately ventilated to prevent accumulation of vapors.

5705.3.6.2.7 Installation. Machines shall be installed in accordance with their listings.

5705.3.7 Rooms or buildings for quantities exceeding the maximum allowable quantity per control area. Where required by Section 5705.3.5.3 or 5705.3.6.1, rooms or buildings used for the use, dispensing or mixing of flammable and combustible liquids in quantities exceeding the maximum allowable quantity per control area shall be in accordance with Sections 5705.3.7.1 through 5705.3.7.6.3.

5705.3.7.1 Construction, location and fire protection. Rooms or buildings classified in accordance with the *building code* as Group H-2 or H-3 occupancies based on use, dispensing or mixing of flammable or combustible liquids shall be constructed in accordance with the *building code*.

5705.3.7.2 Basements. In rooms or buildings classified in accordance with the *building code* as Group H-2 or H-3, dispensing or mixing of flammable or combustible liquids shall not be conducted in basements.

5705.3.7.3 Fire protection. Rooms or buildings classified in accordance with the *building code* as Group H-2 or H-3 occupancies shall be equipped with an automatic fire-extinguishing system in accordance with Chapter 9.

5705.3.7.4 Doors. Interior doors to rooms or portions of such buildings shall be self-closing fire doors in accordance with the *building code*.

5705.3.7.5 Open systems. Use, dispensing and mixing of flammable and combustible liquids in open systems shall be in accordance with Sections 5705.3.7.5.1 through 5705.3.7.5.3.

5705.3.7.5.1 Ventilation. Continuous mechanical ventilation shall be provided at a rate of not less than 1 cfm per square foot [0.00508 $m^3/(s \bullet m^2)$] of floor area over the

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design area. Provisions shall be made for introduction of makeup air in such a manner to include all floor areas or pits where vapors can collect. Local or spot ventilation shall be provided where needed to prevent the accumulation of hazardous vapors. Ventilation system design shall comply with the *building code* and *mechanical code*.

Exception: Where natural ventilation can be shown to be effective for the materials used, dispensed or mixed.

5705.3.7.5.2 Explosion control. Explosion control shall be provided in accordance with Section 911.

5705.3.7.5.3 Spill control and secondary containment. Spill control shall be provided in accordance with Section 5703.4 where Class I, II or IIIA liquids are dispensed into containers *or tanks* exceeding a 1.3 gallon (5 L) capacity or mixed or used in open containers, *tanks* or systems exceeding a 5.3-gallon (20 L) capacity. Spill control and secondary containment shall be provided in accordance with Section 5703.4 where the capacity of an individual container *or tank* exceeds 55 gallons (208 L) or the aggregate capacity of multiple containers or tanks exceeds 100 gallons (378.5 L).

5705.3.7.6 *Deleted.*

5705.3.8 Use, dispensing and handling outside of buildings. Outside use, dispensing and handling shall be in accordance with Sections 5705.3.8.1 through 5705.3.8.4.

Dispensing of *flammable and combustible* liquids at motor fuel-dispensing facilities shall be in accordance with Chapter 23.

5705.3.8.1 Spill control. Outside use, dispensing and handling areas shall be provided with spill control as set forth in Section 5703.4.

5705.3.8.2 Location on property. Dispensing activities that exceed the quantities set forth in Table 5705.3.8.2 shall not be conducted within 15 feet (4572 mm) of buildings or combustible materials or within 25 feet (7620 mm) of building openings, lot lines, public streets, public alleys or public ways. Dispensing activities that exceed the quantities set forth in Table 5705.3.8.2 shall not be conducted within 15 feet (4572 mm) of storage of Class I, II or III liquids unless such liquids are stored in tanks that are listed and labeled as 2-hour protected tank assemblies in accordance with UL 2085.

Exceptions:

1. The requirements shall not apply to areas where only the following are dispensed: Class III liquids; liquids that are heavier than water; water-miscible liquids; and liquids with viscosities greater than 10,000 centipoise (cp) (10 Pa ● s).

2. Flammable and combustible liquid dispensing in refineries, chemical plants, process facilities, gas and crude oil production facilities and oil-blending and packaging facilities, terminals and bulk plants.

Table 5705.3.8.2

Note: for copyright claim information, please see the notice on the last page of this rule.

Maximum allowable quantities for dispensing of flammable and combustible liquids in outdoor control areas [a,b]

Class of liquid	Quantity (gallons)
Flammable	
Class IA	10
Class IB	15
Class IC	20
Combination Class IA, IB and IC	30[c]
Combustible	
Class II	30
Class IIIA	80
Class IIIB	3,300

For SI: 1 gallon = 3.785 L.

a. For definition of "Outdoor Control Area," see Section 202.
b. The fire code official is authorized to impose special conditions regarding locations, types of containers, dispensing units, fire control measures and other factors involving fire safety.
c. Containing not more than the maximum allowable quantity per control area of each individual class.

5705.3.8.3 Location of processing vessels. Processing vessels shall be located with respect to distances to lot lines that can be built on in accordance with Table 5705.3.4(1).

Exception: In refineries and distilleries.

5705.3.8.4 Weather protection. Weather protection for outdoor use shall be in accordance with Section 5005.3.9.

5705.4 Solvent distillation units. Solvent distillation units shall comply with Sections 5705.4.1 through 5705.4.9.

5705.4.1 Unit with a capacity of 60 gallons or less. Solvent distillation units used to recycle Class I, II or IIIA liquids having a distillation chamber capacity of 60 gallons (227 L) or less shall be listed, labeled and installed in accordance with Section 5705.4 and UL 2208.

Exceptions:

1. Solvent distillation units used in continuous through-put industrial processes where the source of heat is remotely supplied using steam, hot water, oil or other heat transfer fluids, the temperature of which is below the auto-ignition point of the solvent.

2. Approved research, testing and experimental processes.

5705.4.2 Units with a capacity exceeding 60 gallons. Solvent distillation units used to recycle Class I, II or IIIA liquids, having a distillation chamber capacity exceeding 60 gallons (227 L) shall be used in locations that comply with the use and mixing requirements of Section 5705 and other applicable provisions in this chapter.

5705.4.3 Prohibited processing. Class I, II and IIIA liquids that are ~~also~~ classified as unstable (reactive) shall not be processed in solvent distillation units.

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Exception: Appliances listed for the distillation of unstable (reactive) solvents.

5705.4.4 Labeling. A permanent label shall be affixed to the unit by the manufacturer. The label shall indicate the capacity of the distillation chamber, and the distance the unit shall be placed away from sources of ignition. The label shall indicate the products for which the unit has been listed for use or refer to the instruction manual for a list of the products.

5705.4.5 Manufacturer's instruction manual. An instruction manual shall be provided. The manual shall be readily available for the user and the fire code official. The manual shall include installation, use and servicing instructions. It shall identify the liquids for which the unit has been listed for distillation purposes along with each liquid's flash point and auto-ignition temperature. For units with adjustable controls, the manual shall include directions for setting the heater temperature for each liquid to be instilled.

5705.4.6 Location. Solvent distillation units shall be used in locations in accordance with the listing. Solvent distillation units shall not be used in basements.

5705.4.7 Storage of liquids. Distilled liquids and liquids awaiting distillation shall be stored in accordance with Section 5704.

5705.4.8 Storage of residues. Hazardous residue from the distillation process shall be stored in accordance with Section 5704.

5705.4.9 Portable fire extinguishers. Portable fire extinguishers shall be provided in accordance with Section 906. Not less than one portable fire extinguisher having a rating of not less than 40-B shall be located not less than 10 feet (3048 mm) or more than 30 feet (9144 mm) from any solvent distillation unit.

5705.5 Alcohol-based hand rubs classified as Class I or II liquids. The use of wall-mounted dispensers containing alcohol-based hand rubs classified as Class I or II liquids shall be in accordance with all of the following:

1. The maximum capacity of each dispenser shall be 68 ounces (2 L).

2. The minimum separation between dispensers shall be 48 inches (1219 mm).

3. The dispensers shall not be installed above, below, or closer than 1 inch (25 mm) to an electrical receptacle, switch, appliance, device or other ignition source. The wall space between the dispenser and the floor or intervening counter top shall be free of electrical receptacles, switches, appliances, devices or other ignition sources.

4. Dispensers shall be mounted so that the bottom of the dispenser is not less than 42 inches (1067 mm) and not more than 48 inches (1219 mm) above the finished floor.

5. Dispensers shall not release their contents except when the dispenser is manually activated. Facilities shall be permitted to install and use automatically activated "touch free" alcohol-based hand-rub dispensing devices with the following requirements:

   5.1. The facility or persons responsible for the dispensers shall test the dispensers each time a new refill is installed in accordance with the manufacturer's care and use instructions.

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5.2. Dispensers shall be designed and must operate in a manner that ensures accidental or malicious activations of the dispensing device are minimized. At a minimum, all devices subject to or used in accordance with this section shall have the following safety features:

5.2.1. Any activations of the dispenser shall only occur when an object is placed within 4 inches (98 mm) of the sensing device.

5.2.2. The dispenser shall not dispense more than the amount required for hand hygiene consistent with label instructions as regulated by the United States Food and Drug Administration (USFDA).

5.2.3. An object placed within the activation zone and left in place will cause only one activation.

~~***Exception:*** *Facilities may install and use automatically activated alcohol based handrub dispensing devices only in compliance with Section 5705.5 and as follows:*~~

~~*1. The automatically activated dispensing device shall be listed as being in compliance with UL/CE 60601-1 and IEC 60601-1-2.*~~

~~*2. The facility or person responsible for the dispensers shall test the dispensers per the manufacturer's instructions each time a new refill is installed.*~~

~~*3. The dispensing device shall be designed and must operate in a manner that ensures accidental and/or malicious activations of the dispensing device are minimized.*~~

~~*4. At a minimum, all devices subject to or used in accordance with this paragraph shall have the following safety features:*~~

~~*4.1 Any activations of the dispensing device shall only occur when an object is placed within 4 inches (101.6 mm) of the sensing device.*~~

~~*4.2 The dispenser shall not dispense more than the required product for hand hygiene consistent with label instructions as regulated by the Food and Drug Administration.*~~

~~*4.3 No further activations of the dispenser can occur until the object causing the initial activation is removed from the activation area.*~~

~~*4.4 The manufacturer must certify that the dispenser has an auto-calibration feature that will respond to environmental stimulus and reduce activation sensitivity upon repetitive activations making it increasingly more difficult to activate the unit.*~~

6. Storage and use of alcohol-based hand rubs shall be in accordance with the applicable provisions of Sections 5704 and 5705.

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7. Dispensers installed in occupancies with carpeted floors shall only be allowed in smoke compartments or fire areas equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

5705.5.1 Corridor installations. In addition to the provisions of Section 5705.5, where wall-mounted dispensers containing alcohol-based hand rubs are installed in corridors or rooms and areas open to the corridor, they shall be in accordance with all of the following:

1. Level 2 and 3 aerosol containers shall not be allowed in corridors.

2. The maximum capacity of each Class I or II liquid dispenser shall be 41 ounces (1.21 L) and the maximum capacity of each Level 1 aerosol dispenser shall be 18 ounces (0.51 kg).

3. The maximum quantity allowed in a corridor within a control area shall be 10 gallons (37.85 L) of Class I or II liquids or 1135 ounces (32.2 kg) of Level 1 aerosols, or a combination of Class I or II liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gallons (37.85 L) or 1,135 ounces (32.2 kg) such that the sum of the ratios of the liquid and aerosol quantities divided by the allowable quantity of liquids and aerosols, respectively, shall not exceed one.

4. The minimum corridor width shall be 72 inches (1829 mm).

5. Projections into a corridor shall be in accordance with Section 1003.3.3.

Section 5706 Special operations

5706.1 General. This section shall cover the provisions for special operations that include, but are not limited to, storage, use, dispensing, mixing or handling of flammable and combustible liquids. The following special operations shall be in accordance with Sections 5701, 5703, 5704 and 5705, except as provided in Section 5706.

1. Storage and dispensing of flammable and combustible liquids on farms and construction sites.

2. *Reserved for future use.*

3. Bulk plants or terminals.

4. Bulk transfer and process transfer operations utilizing tank vehicles and tank cars.

5. Tank vehicles and tank vehicle operation.

6. Refineries.

7. Vapor recovery and vapor-processing systems.

5706.2 Storage and dispensing of flammable and combustible liquids on farms and construction sites. Permanent and temporary storage and dispensing of Class I and II liquids for private use *at areas used for agricultural purposes* and at construction sites, earth-moving

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projects, gravel pits ~~and~~or borrow pits shall be in accordance with Sections 5706.2.1 through 5706.2.8.1.

Exception: Storage and use of fuel oil and containers connected with oil-burning equipment regulated by Section ~~603~~ 605 and the *mechanical code*.

5706.2.1 Combustibles and open flames near tanks. Storage areas shall be kept free from weeds and extraneous combustible material. Open flames and smoking are prohibited in flammable or combustible liquid storage areas.

5706.2.2 Marking of tanks and containers. Tanks and containers for the storage of liquids above ground shall be conspicuously marked with the name of the product that they contain and the words: FLAMMABLE-KEEP FIRE AND FLAME AWAY. Tanks shall bear the additional marking: KEEP 50 FEET FROM BUILDINGS.

5706.2.3 Containers for storage and use. Metal containers used for storage of Class I or II liquids shall be in accordance with DOTn requirements or shall be of an approved design.

Discharge devices shall be of a type that do not develop an internal pressure on the container. Pumping devices or approved self-closing faucets used for dispensing liquids shall not leak and shall be well-maintained. Individual containers shall not be interconnected and shall be kept closed when not in use.

Containers stored outside of buildings shall be in accordance with Section 5704 and the *building code*.

5706.2.4 Permanent and temporary tanks. The capacity of permanent above-ground tanks containing Class I or II liquids shall not exceed 1,100 gallons (4164 L). The capacity of temporary above-ground tanks containing Class I or II liquids shall not exceed 10,000 gallons (37 854 L). Tanks shall be of the single-compartment design.

Exception: Permanent above-ground tanks of greater capacity ~~which~~that meet the requirements of Section 5704.2.

5706.2.4.1 Fill-opening security. Fill openings shall be equipped with a locking closure device. Fill openings shall be separate from vent openings.

5706.2.4.2 Vents. Tanks shall be provided with a method of normal and emergency venting. Normal vents shall ~~also~~ be in accordance with Section 5704.2.7.3.

Emergency vents shall be in accordance with Section 5704.2.7.4. Emergency vents shall be arranged to discharge in a manner that prevents localized overheating or flame impingement on any part of the tank in the event that vapors from such vents are ignited.

5706.2.4.3 Location. Tanks containing Class I or II liquids shall be kept outside and not less than 50 feet (15 240 mm) from buildings and combustible storage. Additional distance shall be provided where necessary to ensure that vehicles, equipment and containers being filled directly from such tanks will not be less than 50 feet (15 240 mm) from structures, haystacks or other combustible storage.

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5706.2.5 Type of tank. Tanks shall be provided with top openings only or shall be elevated for gravity discharge.

5706.2.5.1 Tanks with top openings only. Tanks with top openings shall be mounted in accordance with either of the following:

1. On well-constructed metal legs connected to shoes or runners designed so that the tank is stabilized and the entire tank and its supports can be moved as a unit.~~;~~ ~~or~~

2. For stationary tanks, on a stable base of timbers or blocks approximately 6 inches (152 mm) in height that prevents the tank from contacting the ground.

5706.2.5.1.1 Pumps and fittings. Tanks with top openings only shall be equipped with a tightly and permanently attached, approved pumping device having an approved hose of sufficient length for filling vehicles, equipment or containers to be served from the tank. Either the pump or the hose shall be equipped with a padlock to its hanger to prevent tampering. An effective antisiphoning device shall be included in the pump discharge unless a self-closing nozzle is provided. Siphons or internal pressure discharge devices shall not be used.

5706.2.5.2 Tanks for gravity discharge. Tanks with a connection in the bottom or the end for gravity- dispensing liquids shall be mounted and equipped as follows:

1. Supports to elevate the tank for gravity discharge shall be designed to carry all required loads and provide stability.

2. Bottom or end openings for gravity discharge shall be equipped with a valve located adjacent to the tank shell that will close automatically in the event of fire through the operation of an effective heat-activated releasing device. Where this valve cannot be operated manually, it shall be supplemented by a second, manually operated valve.

The gravity discharge outlet shall be provided with an approved hose equipped with a self-closing valve at the discharge end of a type that can be padlocked to its hanger.

5706.2.6 Spill control, drainage control and diking. Indoor storage and dispensing areas shall be provided with spill control and drainage control as set forth in Section 5703.4. Outdoor storage areas shall be provided with drainage control or diking as set forth in Section 5704.2.10.

5706.2.7 Portable fire extinguishers. Portable fire extinguishers with a minimum rating of 20-B:C and complying with Section 906 shall be provided where required by the fire code official.

5706.2.8 Dispensing from tank vehicles. Where approved, liquids used as fuels are allowed to be transferred from tank vehicles into the tanks of motor vehicles or special equipment, provided that:

1. The tank vehicle's functions *shall include* supplying fuel to motor vehicle fuel tanks.

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2. The dispensing hose *shall not be* exceeded *from the reel or be more than* 100 feet (30 480 mm) in length.

3. The dispensing nozzle *and hose* ~~is~~ are an approved type.

4. The dispensing hose is properly placed on *a* reel or in a compartment before the tank vehicle is moved.

5. Signs prohibiting smoking or open flames within 25 feet (7620 mm) of the vehicle or the point of refueling are prominently posted on the tank vehicle.

6. Electrical devices and wiring in areas where fuel dispensing is conducted are in accordance with NFPA 70.

7. Tank vehicle-dispensing equipment is operated only by designated personnel who are trained to handle and dispense motor fuels.

8. Provisions are made for controlling and mitigating unauthorized discharges.

5706.2.8.1 ***Separation distance*****.** Dispensing from tank vehicles shall be conducted not less than *15* feet (*4572* mm) from structures, *property lines* or combustible storage.

5706.3 Well drilling and operating. *Facilities and activities that are engaged in the exploration, development and production of crude oil and natural gas and that are regulated under Chapter 1509. of the Revised Code and rule 1501 of the Administrative Code are hereby excluded from regulation under the provisions of this code.*

5706.4 Bulk plants or terminals. Portions of properties where flammable and combustible liquids are received by tank vessels, pipelines, tank cars or tank vehicles and stored or blended in bulk for the purpose of distribution by tank vessels, pipelines, tank cars, tank vehicles or containers shall be in accordance with Sections 5706.4.1 through 5706.4.10.4.

5706.4.1 Building construction. Buildings shall be constructed in accordance with the *building code*.

5706.4.2 Means of egress. Rooms in which liquids are stored, used or transferred by pumps shall have means of egress arranged to prevent occupants from being trapped in the event of fire.

5706.4.3 Heating. Rooms in which Class I liquids are stored or used shall be heated only by means not constituting a source of ignition, such as steam or hot water. Rooms containing heating appliances involving sources of ignition shall be located and arranged to prevent entry of flammable vapors.

5706.4.4 Ventilation. Ventilation shall be provided for rooms, buildings and enclosures in which Class I liquids are pumped, used or transferred. Design of ventilation systems shall consider the relatively high specific gravity of the vapors. ~~When~~Where natural ventilation is used, adequate openings in outside walls at floor level, unobstructed except by louvers or coarse screens, shall be provided. Where natural ventilation is inadequate, mechanical ventilation shall be provided in accordance with the *mechanical code*.

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5706.4.4.1 Basements and pits. Class I liquids shall not be stored or used within a building having a basement or pit into which flammable vapors can travel, unless such area is provided with ventilation designed to prevent the accumulation of flammable vapors therein.

5706.4.4.2 Dispensing of Class I liquids. Containers of Class I liquids shall not be drawn from or filled within buildings unless a provision is made to prevent the accumulation of flammable vapors in hazardous concentrations. Where mechanical ventilation is required, it shall be kept in operation while flammable vapors could be present.

5706.4.5 Storage. Storage of Class I, II and IIIA liquids in bulk plants shall be in accordance with the applicable provisions of Section 5704.

5706.4.6 Overfill protection of Class I and II liquids. Manual and automatic systems shall be provided to prevent overfill during the transfer of Class I and II liquids from mainline pipelines and marine vessels in accordance with API 2350.

5706.4.7 Wharves. This section shall apply to all wharves, piers, bulkheads and other structures over or contiguous to navigable water having a primary function of transferring liquid cargo in bulk between shore installations and tank vessels, ships, barges, lighter boats or other mobile floating craft.

Exception: Marine motor fuel-dispensing facilities in accordance with Chapter 23.

5706.4.7.1 Transferring approvals. Handling packaged cargo of liquids, including full and empty drums, bulk fuel and stores, over a wharf during cargo transfer shall be subject to the approval of the wharf supervisor and the senior deck officer on duty.

5706.4.7.2 Transferring location. Wharves at which liquid cargoes are to be transferred in bulk quantities to or from tank vessels shall be not less than 100 feet (30 480 mm) from any bridge over a navigable waterway; or from an entrance to, or superstructure of, any vehicular or railroad tunnel under a waterway. The termination of the fixed piping used for loading or unloading at a wharf shall be not less than 200 feet (60 960 mm) from a bridge or from an entrance to, or superstructures of, a tunnel.

5706.4.7.3 Superstructure and decking material. Superstructure and decking shall be designed for the intended use. Decking shall be constructed of materials that will afford the desired combination of flexibility, resistance to shock, durability, strength and fire resistance.

5706.4.7.4 Tanks allowed. Tanks used exclusively for ballast water or Class II or III liquids are allowed to be installed on suitably designed wharves.

5706.4.7.5 Transferring equipment. Loading pumps capable of building up pressures in excess of the safe working pressure of cargo hose or loading arms shall be provided with bypasses, relief valves or other arrangements to protect the loading facilities against excessive pressure. Relief devices shall be tested not less than annually to determine that they function satisfactorily at their set pressure.

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5706.4.7.6 Piping, valves and fittings. Piping, valves and fittings shall be in accordance with Section 5703.6 except as modified by the following:

1. Flexibility of piping shall be ensured by appropriate layout and arrangement of piping supports so that motion of the wharf structure resulting from wave action, currents, tides or the mooring of vessels will not subject the pipe to repeated excessive strain.

2. Pipe joints that depend on the friction characteristics of combustible materials or on the grooving of pipe ends for mechanical continuity of piping shall not be used.

3. Swivel joints are allowed in piping to which hoses are connected and for articulated, swivel-joint transfer systems, provided that the design is such that the mechanical strength of the joint will not be impaired if the packing materials fail such as by exposure to fire.

4. Each line conveying Class I or II liquids leading to a wharf shall be provided with a ~~readily accessible~~ block valve that has ready access and that is ~~located~~ on shore, near the approach to the wharf and outside of any diked area. Where more than one line is involved, the valves shall be grouped in one location.

5. Means shall be provided for easy access to cargo line valves located below the wharf deck.

6. Piping systems shall contain a sufficient number of valves to operate the system properly and to control the flow of liquid in normal operation and in the event of physical damage.

7. Piping on wharves shall be bonded and grounded where Class I and II liquids are transported. Where excessive stray currents are encountered, insulating joints shall be installed. Bonding and grounding connections on piping shall be located on the wharf side of hose riser insulating flanges, where used, and shall be ~~accessible~~ in a location provided with ready access for inspection.

8. Hose or articulated swivel-joint pipe connections used for cargo transfer shall be capable of accommodating the combined effects of change in draft and maximum tidal range, and mooring lines shall be kept adjusted to prevent surge of the vessel from placing stress on the cargo transfer system.

9. Hoses shall be supported to avoid kinking and damage from chafing.

5706.4.7.7 Loading and unloading. Loading or discharging shall not commence until the wharf superintendent and officer in charge of the tank vessel agree that the tank vessel is properly moored and connections are properly made.

5706.4.7.8 Mechanical work. Mechanical work shall not be performed on the wharf during cargo transfer, except under special authorization by the fire code official based on a review of the area involved, methods to be employed and precautions necessary.

5706.4.8 Sources of ignition. Class I, II or IIIA liquids shall not be used, drawn or dispensed where flammable vapors can reach a source of ignition. Smoking shall be prohibited except

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in designated locations. “No Smoking” signs complying with Section 310 shall be conspicuously posted where a hazard from flammable vapors is normally present.

5706.4.9 Drainage control. Loading and unloading areas shall be provided with drainage control in accordance with Section 5704.2.10.

5706.4.10 Fire protection. Fire protection shall be in accordance with Chapter 9 and Sections 5706.4.10.1 through 5706.4.10.4.

5706.4.10.1 Portable fire extinguishers. Portable fire extinguishers with a rating of not less than 20-B and complying with Section 906 shall be located within 75 feet (22 860 mm) of hose connections, pumps and separator tanks.

5706.4.10.2 Fire hoses. Where piped water is available, ready-connected fire hose in a size appropriate for the water supply shall be provided in accordance with Section 905 so that manifolds where connections are made and broken can be reached by not less than one hose stream.

5706.4.10.3 Obstruction of equipment. Material shall not be placed on wharves in such a manner that would obstruct access to fire-fighting equipment or important pipeline control valves.

5706.4.10.4 Fire apparatus access. Where the wharf is ~~accessible to~~designed for vehicular traffic, an unobstructed fire apparatus access road to the shore end of the wharf shall be maintained in accordance with Chapter 5.

5706.4.11 Dispensing from bulk plants prohibited. *The dispensing of flammable or combustible liquids from aboveground bulk storage tanks located at a bulk plant shall be prohibited.*

Exception: *The dispensing of diesel fuel at a terminal or bulk plant into a motor vehicle that is transporting petroleum products or equipment essential to the operation of the terminal or bulk plant, provided that the motor vehicle is owned or leased by or operated under a contract with a person who has been issued a motor fuel dealers license under Section 5735.02 of the Revised Code. For such dispensing, the provisions of this rule governing capacity limitations shall not apply.*

5706.4.11.1. *Aboveground storage tanks and associated dispensers utilized for dispensing purposes at a fleet vehicle motor fuel dispensing facility located at a bulk plant shall be separated from bulk plant operations (bulk tanks and loading racks) by a minimum of 100 feet.*

5706.4.11.1.1. *The dispensing tanks and dispensers shall be installed in compliance with Sections 5704 and 5705.*

5706.4.11.1.2. *The individual capacity of the tanks shall not exceed 12,000 gallons and the aggregate capacity shall not exceed 48,000 gallons. Dispensing areas containing the maximum aggregate capacity shall be separated from each other and the bulk plant operations by a minimum of 100 feet.*

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5706.4.11.1.3. *At a property that contains a fleet vehicle motor fuel dispensing facility, the public may access the property but shall be prohibited from the fleet vehicle facility.*

5706.5 Bulk transfer and process transfer operations. Bulk transfer and process transfer operations shall be in accordance with Sections 5706.5.1 through 5706.5.4.5. Motor fuel-dispensing facilities shall comply with Chapter 23.

5706.5.1 General. The provisions of Sections 5706.5.1.1 through 5706.5.1.18 shall apply to bulk transfer and process transfer operations; Sections 5706.5.2 and 5706.5.2.1 shall apply to bulk transfer operations; Sections 5706.5.3 through 5706.5.3.3 shall apply to process transfer operations and Sections 5706.5.4 through 5706.5.4.5 shall apply to dispensing from tank vehicles and tank cars.

5706.5.1.1 Location. Bulk transfer and process transfer operations shall be conducted in locations *properly protected from ignition sources*. Tank cars shall be unloaded only on private sidings or railroad-siding facilities equipped for transferring flammable or combustible liquids. Tank vehicle *transfer facilities* and tank car transfer facilities shall be separated from buildings, above-ground tanks, combustible materials, lot lines, public streets, public alleys or public ways by a distance of 25 feet (7620 mm) for Class I liquids and 15 feet (4572 mm) for Class II and IIIA liquids measured from the nearest ~~position of any~~ loading or unloading valve on the tank vehicle or tank car.

Exception: Buildings for pumps ~~or~~and shelters for personnel supporting transfer operations shall not be ~~considered part of the transfer facility~~required to be separated from tank vehicles and tank cars engaged in bulk transfer or process transfer operations.

5706.5.1.2 Weather protection canopies. Where weather protection canopies are provided, they shall be constructed in accordance with Section 5004.13. Weather protection canopies shall not be located within 15 feet (4572 mm) of a building or combustible material or within 25 feet (7620 mm) of building openings, lot lines, public streets, public alleys or public ways.

5706.5.1.3 Ventilation. Ventilation shall be provided to prevent accumulation of vapors in accordance with Section 5705.3.7.5.1.

5706.5.1.4 Sources of ignition. Sources of ignition shall be controlled or eliminated in accordance with Section 5003.7.

5706.5.1.5 Spill control and secondary containment. Areas where transfer operations are located shall be provided with spill control and secondary containment in accordance with Section 5703.4. The spill control and secondary containment system shall have a design capacity capable of containing the capacity of the largest tank compartment located in the area where transfer operations are conducted. Containment of the rainfall volume specified in Section 5004.2.2.6 is not required.

5706.5.1.6 Fire protection. Fire protection shall be in accordance with Section 5703.2.

5706.5.1.7 Static protection. Static protection shall be provided to prevent the accumulation of static charges during transfer operations. Bonding facilities shall be provided during the transfer through open domes where Class I liquids are transferred, or

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where Class II and III liquids are transferred into tank vehicles or tank cars that could contain vapors from previous cargoes of Class I liquids.

Protection shall consist of a metallic bond wire permanently electrically connected to the fill stem. The fill pipe assembly shall form a continuous electrically conductive path downstream from the point of bonding. The free end of such bond wire shall be provided with a clamp or equivalent device for convenient attachment to a metallic part in electrical contact with the cargo tank of the tank vehicle or tank car. For tank vehicles, protection shall consist of a flexible bond wire of adequate strength for the intended service and the electrical resistance shall not exceed 1 megohm. For tank cars, bonding shall be provided where the resistance of a tank car to ground through the rails is 25 ohms or greater.

Such bonding connection shall be fastened to the vehicle, car or tank before dome covers are raised and shall remain in place until filling is complete and all dome covers have been closed and secured.

Exceptions:

1. Where vehicles and cars are loaded exclusively with products not having a static-accumulating tendency, such as asphalt, cutback asphalt, most crude oils, residual oils and water-miscible liquids.

2. Where Class I liquids are not handled at the transfer facility and the tank vehicles are used exclusively for Class II and III liquids.

3. Where vehicles and cars are loaded ~~and~~or unloaded through closed top or bottom connections whether the hose is conductive or nonconductive.

Filling through open domes into the tanks of tank vehicles or tank cars that contain vapor-air mixtures within the flammable range, or where the liquid being filled can form such a mixture, shall be by means of a downspout ~~which~~that extends to near the bottom of the tank.

5706.5.1.8 Stray current protection. Tank car loading facilities where Class I, II or IIIA liquids are transferred through open domes shall be protected against stray currents by permanently bonding the pipe to not less than one rail and to the transfer apparatus. Multiple pipes entering the transfer areas shall be permanently electrically bonded together. In areas where excessive stray currents are known to exist, all pipes entering the transfer area shall be provided with insulating sections to isolate electrically the transfer apparatus from the pipelines.

5706.5.1.9 Top loading. When top loading a tank vehicle with Class I and II liquids without vapor control, valves used for the final control of flow shall be of the self-closing type and shall be manually held open except where automatic means are provided for shutting off the flow when the tank is full. Where used, automatic shutoff systems shall be provided with a manual shutoff valve located at a safe distance from the loading nozzle to stop the flow if the automatic system fails.

When top loading a tank vehicle with vapor control, flow control shall be in accordance with Section 5706.5.1.10. Self-closing valves shall not be tied or locked in the open position.

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5706.5.1.10 Bottom loading. When bottom loading a tank vehicle or tank car with or without vapor control, a positive means shall be provided for loading a pre-determined quantity of liquid, together with an automatic secondary shutoff control to prevent overfill. The connecting components between the transfer equipment and the tank vehicle or tank car required to operate the secondary control shall be functionally compatible.

5706.5.1.10.1 Dry disconnect coupling. When bottom loading a tank vehicle, the coupling between the liquid loading hose or pipe and the truck piping shall be a dry disconnect coupling.

5706.5.1.10.2 Venting. When bottom loading a tank vehicle or tank car that is equipped for vapor control and vapor control is not used, the tank shall be vented to the atmosphere to prevent pressurization of the tank. Such venting shall be at a height equal to or greater than the top of the cargo tank.

5706.5.1.10.3 Vapor-tight connection. Connections to the plant vapor control system shall be designed to prevent the escape of vapor to the atmosphere when not connected to a tank vehicle or tank car.

5706.5.1.10.4 Vapor-processing equipment. Vapor-processing equipment shall be separated from above-ground tanks, warehouses, other plant buildings, transfer facilities or nearest lot line of adjoining property that can be built on by a distance of not less than 25 feet (7620 mm). Vapor-processing equipment shall be protected from physical damage by remote location, guard rails, curbs or fencing.

5706.5.1.11 Switch loading. Tank vehicles or tank cars that have previously contained Class I liquids shall not be loaded with Class II or ~~Class~~ III liquids until such vehicles and all piping, pumps, hoses and meters connected thereto have been completely drained and flushed.

5706.5.1.12 Loading racks. Where provided, loading racks, stairways or platforms shall be constructed of noncombustible materials. Buildings for pumps or for shelter of loading personnel are allowed to be part of the loading rack. Wiring and electrical equipment located within 25 feet (7620 mm) of any portion of the loading rack shall be in accordance with Section 5703.1.1.

5706.5.1.13 Transfer apparatus. Bulk and process transfer apparatus shall be of an approved type.

5706.5.1.14 Inside buildings. Tank vehicles and tank cars shall not be located inside a building while transferring Class I, II or IIIA liquids, unless approved by the fire code official.

Exception: Tank vehicles are allowed under weather protection canopies and canopies of automobile motor vehicle fuel-dispensing stations.

5706.5.1.15 Tank vehicle and tank car certification. Certification shall be maintained for tank vehicles and tank cars in accordance with DOTn 49 CFR, Parts 100-185.

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5706.5.1.16 Tank vehicle and tank car stability. Tank vehicles and tank cars shall be stabilized against movement during loading and unloading in accordance with Sections 5706.5.1.16.1 through 5706.5.1.16.3.

5706.5.1.16.1 Tank vehicles. When the vehicle is parked for loading or unloading, the cargo trailer portion of the tank vehicle shall be secured in a manner that will prevent unintentional movement.

5706.5.1.16.2 Chock blocks. Not less than two chock blocks not less than 5 inches by 5 inches by 12 inches (127 mm by 127 mm by 305 mm) in size and dished to fit the contour of the tires shall be used during transfer operations of tank vehicles.

5706.5.1.16.3 Tank cars. Brakes shall be set and the wheels shall be blocked to prevent rolling.

5706.5.1.17 Monitoring. Transfer operations shall be monitored by an approved monitoring system or by an attendant. Where monitoring is by an attendant, the operator or other competent person shall be present at all times.

5706.5.1.18 Security. Transfer operations shall be surrounded by a *chain link* fence not less than *6 feet (1.8 m)* in height. Tank vehicles and tank cars shall not be loaded or unloaded unless such vehicles are entirely within the fenced area.

Exceptions:

1. Motor fuel-dispensing facilities complying with Chapter 23.
2. Installations where adequate public safety exists because of isolation, natural barriers or other factors as *acceptable to* the fire code official.
3. Facilities or properties that are entirely enclosed or protected from entry.

5706.5.2 Bulk transfer. Bulk transfer shall be in accordance with Sections 5706.5.1 and 5706.5.2.1.

5706.5.2.1 Vehicle motor. Motors of tank vehicles or tank cars shall be shut off during the making and breaking of hose connections and during the unloading operation.

Exception: Where unloading is performed with a pump deriving its power from the tank vehicle motor.

5706.5.3 Process transfer. Process transfer shall be in accordance with Section 5706.5.1 and Sections 5706.5.3.1 through 5706.5.3.3.

5706.5.3.1 Piping, valves, hoses and fittings. Piping, valves, hoses and fittings that are not a part of the tank vehicle or tank car shall be in accordance with Section 5703.6. Caps or plugs that prevent leakage or spillage shall be provided at all points of connection to transfer piping.

5706.5.3.1.1 Shutoff valves. Approved automatically or manually activated shutoff valves shall be provided where the transfer hose connects to the process piping, and

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on both sides of any exterior fire-resistance-rated wall through which the piping passes. Manual shutoff valves shall be arranged so that they are ~~accessible~~able to be accessed from grade. Valves shall not be locked in the open position.

5706.5.3.1.2 Hydrostatic relief. Hydrostatic pressure-limiting or relief devices shall be provided where pressure buildup in trapped sections of the system could exceed the design pressure of the components of the system.

Devices shall relieve to other portions of the system or to another approved location.

5706.5.3.1.3 Antisiphon valves. Antisiphon valves shall be provided where the system design would allow siphonage.

5706.5.3.2 Vents. Normal and emergency vents shall be maintained operable at all times.

5706.5.3.3 Motive power. Motors of tank vehicles or tank cars shall be shut off during the making and breaking of hose connections and during the unloading operation.

Exception: When unloading is performed with a pump deriving its power from the tank vehicle motor.

5706.5.4 Dispensing from tank vehicles and tank cars. Dispensing from tank vehicles and tank cars into the fuel tanks of motor vehicles shall be prohibited unless allowed by and conducted in accordance with Sections 5706.5.4.1 through 5706.5.4.5.

5706.5.4.1 Marine craft and special equipment. Liquids intended for use as motor fuels are allowed to be transferred from tank vehicles into the fuel tanks of marine craft and special equipment where approved by the fire code official, and where:

1. The tank vehicle's specific function is that of supplying fuel to fuel tanks.
2. The operation is not performed where the public has access or where there is unusual exposure to life and property.
3. The dispensing line does not exceed 50 feet (15 240 mm) in length.
4. The dispensing nozzle is approved.

5706.5.4.2 Emergency refueling. Where approved by the fire code official, dispensing of motor vehicle fuel from tank vehicles into the fuel tanks of motor vehicles is allowed during emergencies. Dispensing from tank vehicles shall be in accordance with Sections 5706.2.8 and 5706.6.

5706.5.4.3 Aircraft fueling. Transfer of liquids from tank vehicles to the fuel tanks of aircraft shall be in accordance with Chapter 20.

5706.5.4.4 Fueling of vehicles at construction sites and similar areas. Transfer of liquid from tank vehicles to motor vehicles for private use *at areas used for agricultural purposes* and at construction sites, earth-moving projects, gravel pits and borrow pits is allowed in accordance with Section 5706.2.8.

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5706.5.4.5 Commercial, industrial, governmental or manufacturing. Dispensing of Class *I,* II and III motor vehicle fuel from tank vehicles into the fuel tanks of motor vehicles located at commercial, industrial, governmental or manufacturing establishments is allowed provided such dispensing operations are conducted in accordance with the following:

1. The owner of the mobile fueling operation shall *notify the local fire code official of their intent to conduct mobile fueling operations at a commercial, industrial, governmental, or manufacturing establishment. Upon receipt of such notification, the fire code official may conduct an inspection of the premises.*

2. Mobile fueling operations shall be conducted in areas not ~~accessible~~open to the public or shall be limited to times when the public is not present.

3. *Dispensing operations* shall not take place within 15 feet (4572 mm) of buildings, property lines, combustible storage or storm drains.

   Exceptions:

   1. The distance to storm drains shall not apply where an approved storm drain cover or an approved equivalent that will prevent any fuel from reaching the drain is in place prior to fueling or a fueling hose being placed within 15 feet (4572 mm) of the drain. Where placement of a storm drain cover will cause the accumulation of excessive water or difficulty in conducting the fueling, such cover shall not be used and the fueling shall not take place within 15 feet (4572 mm) of a drain.

   2. The distance to storm drains shall not apply for drains that direct influent to approved oil interceptors.

4. The tank vehicle shall comply with the requirements of NFPA 385 and local, state and federal requirements. The tank vehicle's specific functions shall include that of supplying fuel to motor vehicle fuel tanks. The vehicle and all its equipment shall be maintained in good repair.

5. Signs prohibiting smoking or open flames within 25 feet (7620 mm) of the tank vehicle or the point of fueling shall be prominently posted on three sides of the vehicle including the back and both sides.

6. A portable fire extinguisher with a minimum rating of 40:BC shall be provided on the vehicle with signage clearly indicating its location.

7. The dispensing nozzles and hoses shall be of an approved and listed type.

8. The dispensing hose shall not be extended from the reel more than 100 feet (30 480 mm) in length.

9. *Materials and equipment, such as absorbent pads, shall be provided to mitigate a minimum 5-gallon (19 L) fuel spill.*

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10. Persons responsible for dispensing operations shall be trained in the appropriate mitigating actions in the event of a fire, leak or spill *in accordance with 49 CFR 172.704*. Training records shall be maintained by the dispensing company.

11. Operators of tank vehicles used for mobile fueling operations shall have in their possession at all times an emergency communications device to notify the proper authorities in the event of an emergency.

12. The tank vehicle dispensing equipment shall be constantly attended and operated only by designated personnel who are trained to handle and dispense motor fuels.

13. Fuel dispensing shall be prohibited within 25 feet (7620 mm) of any source of ignition.

14. *The engines of vehicles being fueled shall be shut off* during ~~*the*~~ dispensing operations *unless the continued operation of the engine is necessary to protect the cargo of the vehicle or to maintain the vehicle's operation*.

15. Nighttime fueling operations shall only take place in adequately lighted areas.

16. The tank vehicle shall be positioned with respect to vehicles being fueled to prevent traffic from driving over the delivery hose.

17. During fueling operations, tank vehicle brakes shall be set and warning lights shall be in operation.

18. *Sufficient space shall be left in the motor vehicle tank to allow for the possible expansion of motor vehicle fuel.*

19. The dispensing hose shall be properly placed on *a* reel or in *a* compartment prior to moving the tank vehicle.

20. *In the event of an unauthorized discharge, action shall be taken to prevent liquids spilled during dispensing operations from flowing into buildings or offsite.*

21. The fire code official and other appropriate authorities shall be notified when a reportable spill or unauthorized discharge occurs.

22. Operators shall place a drip pan or an absorbent pillow under each fuel fill opening prior to and during dispensing operations. Drip pans shall be liquid-tight. The pan or absorbent pillow shall have a capacity of not less than 3 gallons (11.36 L). Spills retained in the drip pan or absorbent pillow need not be reported. Operators, when fueling, shall have on their person an absorbent pad capable of capturing diesel fuel overfills. Except during fueling, the nozzle shall face upward and an absorbent pad shall be kept under the nozzle to catch drips. Contaminated absorbent pads or pillows shall be disposed of regularly in accordance with local, state and federal requirements.

5706.6 Tank vehicles and vehicle operation. Tank vehicles shall be designed, constructed, equipped and maintained in accordance with NFPA 385 and Sections 5706.6.1 through 5706.6.4.

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5706.6.1 Operation of tank vehicles. Tank vehicles shall be utilized and operated in accordance with NFPA 385 and Sections 5706.6.1.1 through 5706.6.1.11.

5706.6.1.1 Vehicle maintenance. Tank vehicles shall not be operated unless they are in a proper state of repair and free from accumulation of grease, oil or other flammable substance, and leaks.

5706.6.1.2 Leaving vehicle unattended. The driver, operator or attendant of a tank vehicle shall not remain in the vehicle cab and shall not leave the vehicle while it is being filled or discharged. The delivery hose, when attached to a tank vehicle, shall be considered to be a part of the tank vehicle.

5706.6.1.3 Vehicle motor shutdown. Motors of tank vehicles or tractors shall be shut down during the making or breaking of hose connections. If loading or unloading is performed without the use of a power pump, the tank vehicle or tractor motor shall be shut down throughout such operations.

5706.6.1.4 Outage. A cargo tank or compartment thereof used for the transportation of flammable or combustible liquids shall not be loaded to absolute capacity. The vacant space in a cargo tank or compartment thereof used in the transportation of flammable or combustible liquids shall ~~not~~ be not less than 1 per ~~-~~cent. Sufficient space shall be left vacant to prevent leakage from or distortion of such tank or compartment by expansion of the contents caused by rise in temperature in transit.

5706.6.1.5 Overfill protection. The driver, operator or attendant of a tank vehicle shall, before making delivery to a tank, determine the unfilled capacity of such tank by a suitable gauging device. To prevent overfilling, the driver, operator or attendant shall not deliver in excess of that amount.

5706.6.1.6 Securing hatches. During loading, hatch covers shall be secured on all but the receiving compartment.

5706.6.1.7 Liquid temperature. Materials shall not be loaded into or transported in a tank vehicle at a temperature above the material's ignition temperature unless safeguarded in an approved manner.

5706.6.1.8 Bonding to underground tanks. An external bond-wire connection or bond-wire integral with a hose shall be provided for the transferring of flammable liquids through open connections into underground tanks.

5706.6.1.9 Smoking. Smoking by tank vehicle drivers, helpers or other personnel is prohibited while they are driving, making deliveries, filling or making repairs to tank vehicles.

5706.6.1.10 Hose connections. Delivery of flammable liquids to underground tanks with a capacity of more than 1,000 gallons (3785 L) shall be made by means of approved liquid and vapor-tight connections between the delivery hose and tank fill pipe. Where underground tanks are equipped with any type of vapor recovery system, all connections required to be made for the safe and proper functioning of the particular vapor recovery process shall be made. Such connections shall be made liquid and vapor tight and remain

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connected throughout the unloading process. Vapors shall not be discharged at grade level during delivery.

5706.6.1.10.1 Simultaneous delivery. Simultaneous delivery to underground tanks of any capacity from two or more discharge hoses shall be made by means of mechanically tight connections between the hose and fill pipe.

5706.6.1.11 Hose protection. Upon arrival at a point of delivery and prior to discharging any flammable or combustible liquids into underground tanks, the driver, operator or attendant of the tank vehicle shall ensure that all hoses utilized for liquid delivery and vapor recovery, where required, will be protected from physical damage by motor vehicles. Such protection shall be provided by positioning the tank vehicle to prevent motor vehicles from passing through the area or areas occupied by hoses, or by other approved equivalent means.

5706.6.2 Parking. Parking of tank vehicles shall be in accordance with Sections 5706.6.2.1 through 5706.6.2.3.

Exception: In cases of accident, breakdown or other emergencies, tank vehicles are allowed to be parked and left unattended at any location while the operator is obtaining assistance.

5706.6.2.1 Parking near residential, educational and institutional occupancies and other high-risk areas. Tank vehicles shall not be left unattended at any time on residential streets, or within 500 feet (152 m) of a residential area, apartment or hotel complex, educational facility, hospital or care facility. Tank vehicles shall not be left unattended at any other place that would, in the opinion of the fire chief, pose an extreme life hazard.

5706.6.2.2 Parking on thoroughfares. Tank vehicles shall not be left unattended on a public street, highway, public avenue or public alley.

Exceptions:

1. The necessary absence in connection with loading or unloading the vehicle. During actual fuel transfer, Section 5706.6.1.2 shall apply.

2. Stops for meals during the day or night, where the street is well lighted at the point of parking. The vehicle location shall be in accordance with Section 5706.6.2.1.

5706.6.2.3 Duration exceeding 1 hour. Tank vehicles parked at one point for longer than 1 hour shall be located off of public streets, highways, public avenues or alleys, and in accordance with either of the following:

1. Inside of a bulk plant and either *10* feet *(3048 mm)* or more from the nearest lot line or within a building approved for such use *in accordance with the building code*.

2. At other approved locations not less than 50 feet (15 240 mm) from buildings other than those approved *in accordance with the building code* for the storage or servicing of such vehicles.

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5706.6.3 Garaging. Tank vehicles shall not be parked or garaged in buildings other than those specifically approved for such use by the fire code official *in accordance with the building code*.

5706.6.4 Portable fire extinguisher. Tank vehicles shall be equipped with a portable fire extinguisher complying with Section 906 and having a minimum rating of 2-A:20-B:C.

During unloading of the tank vehicle, the portable fire extinguisher shall be out of the carrying device on the vehicle and shall be 15 feet (4572 mm) or more from the unloading valves.

5706.7 Refineries. Plants and portions of plants in which flammable liquids are produced on a scale from crude petroleum, natural gasoline or other hydrocarbon sources shall be in accordance with Sections 5706.7.1 through 5706.7.3. Petroleum-processing plants and facilities or portions of plants or facilities in which flammable or combustible liquids are handled, treated or produced on a commercial scale from crude petroleum, natural gasoline, or other hydrocarbon sources shall also be in accordance with API 651, API 653, API 752, API 1615, API 2001, API 2003, API 2009, API 2015, API 2023, API 2201, and API 2350.

5706.7.1 Corrosion protection. Above-ground tanks and piping systems shall be protected against corrosion in accordance with API 651.

5706.7.2 Cleaning of tanks. The safe entry and cleaning of petroleum storage tanks shall be conducted in accordance with API 2015.

5706.7.3 Storage of heated petroleum products. Where petroleum-derived asphalts and residues are stored in heated tanks at refineries and bulk storage facilities or in tank vehicles, such products shall be in accordance with API 2023.

5706.8 Vapor recovery and vapor-processing systems. Vapor-processing systems in which the vapor source operates at pressures from vacuum, up to and including 1 psig (6.9 kPa) or in which a potential exists for vapor mixtures in the flammable range, shall comply with Sections 5706.8.1 through 5706.8.5.

Exceptions:

1. Marine systems complying with federal transportation waterway regulations such as DOTn 33 CFR Parts 154 through 156 and CGR 46 CFR Parts 30, 32, 35 and 39.

2. Motor fuel-dispensing facility systems complying with Chapter 23.

5706.8.1 Over-pressure/vacuum protection. Tanks and equipment shall have independent venting for over-pressure or vacuum conditions that might occur from malfunction of the vapor recovery or processing system.

Exception: For tanks, venting shall comply with Section 5704.2.7.3.

5706.8.2 Vent location. Vents on vapor-processing equipment shall be not less than 12 feet (3658 mm) from adjacent ground level, with outlets located and directed so that flammable vapors will disperse to below the lower flammable limit (LFL) before reaching locations containing potential ignition sources.

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5706.8.3 Vapor collection systems and overfill protection. The design and operation of the vapor collection system and overfill protection shall be in accordance with this section and Section 19.5 of NFPA 30.

5706.8.4 Liquid-level monitoring. A liquid knock-out vessel used in the vapor collection system shall have means to verify the liquid level and a high-liquid-level sensor that activates an alarm. For unpopulated facilities, the high-liquid-level sensor shall initiate the shutdown of liquid transfer into the vessel and shutdown of vapor recovery or vapor-processing systems.

5706.8.5 Overfill protection. Storage tanks served by vapor recovery or processing systems shall be equipped with overfill protection in accordance with Section 5704.2.7.5.8.

5706.9 Fuel for kerosene heaters. *The state fire marshal recognizes and hereby adopts standard specification ASTM D3699-98, issued by the American Society for Testing and Materials, for the purpose of prescribing two grades of kerosene suitable for use in kerosene heaters, as follows:*

5706.9.1 No. 1-K kerosene. *This is a special low-sulfur grade kerosene with a maximum sulfur content of four-hundredths of one percent (0.04 percent) by weight, suitable for use in unvented kerosene heaters.*

5706.9.2 No. 2-K kerosene. *This is a regular grade kerosene with a maximum sulfur content of thirty-hundredths of one percent (0.30 percent) by weight, suitable for use in vented or flue-connected kerosene heaters.*

Section 5707 On-demand mobile fueling operations

5707.1 General. On-demand mobile fueling operations that dispense Class I, II and III liquids into the fuel tanks of motor vehicles shall comply with Sections 5707.1 through 5707.6.6.

Exception: Fueling from an approved portable container in cases of an emergency or for personal use.

5707.1.1 Approval ~~required~~. Mobile fueling operations shall not be conducted without first obtaining a permit ~~and approval from the fire code official~~*if required pursuant to Chapter 1*. ~~Mobile fueling operations shall occur only at approved locations.~~ The fire code official is authorized *but not required* to ~~approve~~*designate* individual locations or geographic areas where mobile fueling is allowed *within that official's jurisdiction*. Mobile fueling operations within such jurisdiction shall occur only at the designated locations.

5707.2 Mobile fueling vehicle. An on-demand mobile fueling vehicle shall be that which is utilized in on-demand fueling operations for the dispensing of Class I, II or III liquids into the fuel tanks of motor vehicles.

5707.2.1 Mobile fueling vehicle classifications. An on-demand mobile fueling vehicle shall be characterized as one of the following:

1. Tier 1 mobile fueling vehicle. A tank vehicle that complies with NFPA 385 and that has chassis-mounted tanks where the aggregate capacity does not exceed 1,600 gallons (6057 L).

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2. Tier 2 mobile fueling vehicle. A vehicle with one or more chassis mounted tanks or containers that do not exceed 110 gallons (416 L) in capacity with an aggregate capacity that does not exceed 800 gallons (3028 L) or the weight capacity of the vehicle in accordance with DOTn.

3. Tier 3 mobile fueling vehicle. A vehicle that carries a maximum aggregate capacity of 60 gallons (227 L) of motor fuel in metal safety cans listed in accordance with UL 30 or other approved metal containers, each not to exceed 5 gallons (19 L) in capacity.

5707.2.2 Mobile fueling vehicle requirements. Each mobile fueling vehicle shall comply with all local, state and federal requirements, as well as the following:

1. Mobile fueling vehicles with a chassis-mounted tank in excess of 110 gallons (416 L) shall also comply with the requirements of Section 5706.6 and NFPA 385.

2. The mobile fueling vehicle and its equipment shall be maintained in good repair.

3. Safety cans and approved metal containers shall be secured to the mobile fueling vehicle except when in use.

4. Fueling a motor vehicle from tanks or containers mounted in a trailer connected to a mobile fueling vehicle shall be prohibited.

5707.3 Required documents. Documents developed to comply with Sections 5707.3.1 through 5707.3.3 shall be updated as necessary by the owner of the mobile fueling operation and shall be maintained in compliance with Section 109.3.

5707.3.1 Safety and emergency response plan. Mobile fueling operators shall have an approved written safety and emergency response plan that establishes policies and procedures for fire safety, spill prevention and control, personnel training and compliance with other applicable requirements of this code.

5707.3.2 Training records. Mobile fueling vehicles shall be operated only by designated personnel who are trained on proper fueling procedures and the safety and emergency response plan. Training records of operators shall be maintained.

5707.3.3 Site plan. Where required by the fire code official, a site plan shall be developed for each location or area at which mobile fueling occurs. The site plan shall be in sufficient detail to indicate the following:

1. All buildings and structures.

2. Lot lines or property lines.

3. Electric car chargers.

4. Solar photovoltaic parking lot canopies.

5. Appurtenances on-site and their use or function.

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6. All uses adjacent to the lot lines of the site.

7. Fueling locations.

8. Locations of all storm drain openings and adjacent waterways or wetlands.

9. Information regarding slope, natural drainage, curbing and impounding.

10. How a spill will be kept on the site property.

11. Scale of the site plan.

5707.4 Mobile fueling areas. During fueling, the mobile fueling vehicle and point of connection to the vehicle shall not be located on public streets, public ways or inside buildings. Fueling on the roof level of parking structures or other buildings is prohibited.

5707.4.1 Separation. During fueling, the point of connection to the vehicle being fueled shall not take place within 25 feet (7620 m) of buildings, lot lines, property lines or combustible storage. Mobile fueling vehicles shall not park within 10 feet (3048 mm) of buildings, lot lines, property lines or combustible storage.

Exceptions:

1. The fire code official shall be authorized to decrease the separation distance for dispensing from metal safety cans or other approved metal containers in accordance with Section 5707.2.

2. The point of fueling shall not take place within 10 feet (3048 mm) of buildings, lot lines, property lines or combustible storage where the mobile fueling vehicle has an approved vapor recovery system or is servicing vehicles with onboard refueling vapor recovery.

Where dispensing operations occur within 15 feet (4572 mm) of a storm drain, an approved storm drain cover or an approved equivalent method that will prevent any fuel from reaching the drain shall be used.

5707.4.2 Sources of ignition. Smoking, open flames and other sources of ignition shall be prohibited within 25 feet (7620 mm) of fuel dispensing activities. Signs prohibiting smoking or open flames within 25 feet (7620 mm) of the vehicle or the point of fueling shall be prominently posted on the mobile fueling vehicle. The engines of vehicles being fueled shall be shut off during fueling.

5707.4.3 Electrical equipment. Mobile fueling shall not occur within 20 feet (6096 mm) of electrical equipment located within 18 inches (457 mm) of the ground unless such electrical equipment is rated for Class I, Division 2, hazardous locations in accordance with NFPA 70.

5707.5 Equipment. Mobile fueling equipment shall comply with Sections 5707.5.1 through 5707.5.5.

5707.5.1 Dispensing hoses and nozzles. Where equipped, the dispensing hose shall not exceed 50 feet (15 240 mm) in length. The dispensing nozzles and hoses shall be of an

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approved and listed type. Where metal-to-metal contact cannot be made between the nozzle and the fuel fill opening, a means for bonding the mobile fueling vehicle to the motor vehicle shall be provided and employed during fueling operations.

5707.5.2 Breakaway device. A listed breakaway device shall be provided at the nozzle.

Exception: Mobile fueling vehicles equipped with an approved brake interlock tied to the nozzle holder that prohibits movement of the mobile fueling vehicle when the nozzle is removed from its holder or tied to the delivery of fuel that prevents activation of the pumping system.

5707.5.3 Shutoff valve and fuel limit. Mobile fueling vehicles shall be equipped with a listed shutoff valve assembly and a fuel limit switch set to a maximum of 30 gallons (116 L).

5707.5.4 Fire extinguisher. An approved portable fire extinguisher complying with Section 906 with a minimum rating of 4-A:80-B:C shall be provided on the mobile fueling vehicle with signage clearly indicating its location.

5707.5.5 Spill kit. Mobile fueling vehicles shall contain a minimum 5-gallon (19 L) spill kit of an approved type.

5707.6 Operations. Mobile fueling vehicles shall be constantly attended during fueling operations with brakes set and warning lights in operation. Mobile fueling vehicles shall not obstruct emergency vehicle access roads.

5707.6.1 Dispensing hose. Where equipped, mobile fueling vehicles shall be positioned in a manner to preclude traffic from driving over the dispensing hose. The dispensing hose shall be properly placed on an approved reel or in an approved compartment prior to moving the mobile fueling vehicle.

5707.6.2 Drip control. Operators shall place a drip pan or an absorbent pillow under the nozzle and each fuel fill opening prior to and during dispensing operations to catch drips.

5707.6.3 Safety cones. Safety cones or other visual barriers shall be employed as warning devices to highlight the vehicle fueling area.

5707.6.4 Vehicle lights. The mobile fueling vehicle flasher lights shall be in operation while dispensing operations are in progress.

5707.6.5 Nighttime deliveries. Nighttime deliveries shall be made only in areas deemed adequately lighted by the fire code official.

5707.6.6 Spill reporting. Spills shall be reported in accordance with Section 5003.3.1.

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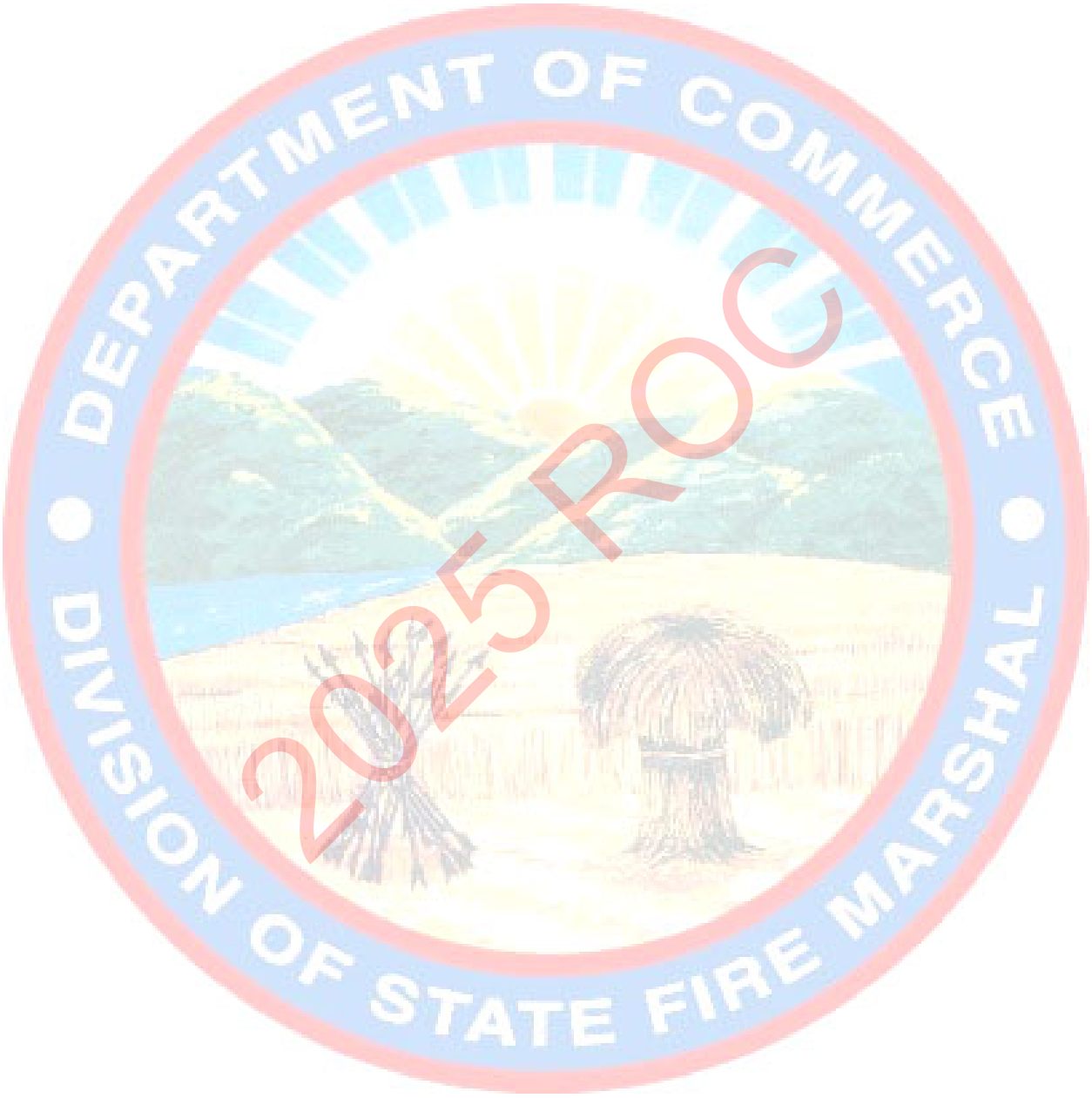

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