

6.1.9.1* Definition — Residential Board and Care Occupancy. An occupancy used for lodging and boarding of four or more residents, not related by blood or marriage to the owners or operators, for the purpose of providing personal care services. [101:6.1.9.1]

6.1.9.2 Other. (Reserved)

6.1.10 Mercantile. For requirements, see Section 20.12. [101:6.1.10]

6.1.10.1* Definition — Mercantile Occupancy. An occupancy used for the display and sale of merchandise. [101:6.1.10.1]

6.1.10.2 Other. (Reserved)

6.1.11 Business. For requirements, see Section 20.13. [101:6.1.11]

6.1.11.1* Definition — Business Occupancy. An occupancy used for the transaction of business other than mercantile. [101:6.1.11.1]

6.1.11.2 Other. (Reserved)

6.1.12 Industrial. For requirements, see Section 20.14. [101:6.1.12]

6.1.12.1* Definition — Industrial Occupancy. An occupancy in which products are manufactured or in which processing, assembling, mixing, packaging, finishing, decorating, or repair operations are conducted. [101:6.1.12.1]

6.1.12.2 Other. (Reserved)

6.1.13 Storage. For requirements, see Section 20.15. [101:6.1.13]

6.1.13.1* Definition — Storage Occupancy. An occupancy used primarily for the storage or sheltering of goods, merchandise, products, vehicles, or animals. [101:6.1.13.1]

6.1.13.2 Other. (Reserved)

6.1.14 Multiple Occupancies.

6.1.14.1 General.

6.1.14.1.1 Multiple occupancies shall comply with the requirements of 6.1.14.1 and one of the following:

- (1) Mixed occupancies — 6.1.14.3
- (2) Separated occupancies — 6.1.14.4 [101:6.1.14.1.1]

6.1.14.1.2 Where exit access from an occupancy traverses another occupancy, the multiple occupancy shall be treated as a mixed occupancy. [101:6.1.14.1.2]

6.1.14.1.3* Where incidental to another occupancy, areas used as follows shall be permitted to be considered part of the predominant occupancy and shall be subject to the provisions of this Code and NFPA 101 that apply to the predominant occupancy:

- (1) Mercantile, business, industrial, or storage use
- (2)* Nonresidential use with an occupant load fewer than that established by Section 6.1 for the occupancy threshold [101:6.1.14.1.3]

6.1.14.2 Definitions.

6.1.14.2.1 Multiple Occupancy. A building or structure in which two or more classes of occupancy exist. [101:6.1.14.2.1]

6.1.14.2.2 Mixed Occupancy. A multiple occupancy where the occupancies are intermingled. [101:6.1.14.2.2]

6.1.14.2.3 Separated Occupancy. A multiple occupancy where the occupancies are separated by fire resistance-rated assemblies. [101:6.1.14.2.3]

6.1.14.3 Mixed Occupancies.

6.1.14.3.1 Each portion of the building shall be classified as to its use in accordance with Section 6.1. [101:6.1.14.3.1]

6.1.14.3.2 The means of egress facilities, construction type, protection, and other safeguards in the building shall comply with the most restrictive fire and life safety requirements of the occupancies involved. [101:6.1.14.3.2]

6.1.14.4 Separated Occupancies.

6.1.14.4.1 Where separated occupancies are provided, each part of the building comprising a distinct occupancy, as described in this chapter, shall be completely separated from other occupancies by fire-resistive assemblies as specified in 6.1.14.4.2, 6.1.14.4.3, and Table 6.1.14.4.1(a) and Table 6.1.14.4.1(b), unless separation is provided by approved existing separations. [101:6.1.14.4.1]

6.1.14.4.2 Occupancy separations shall be classified as 3-hour fire resistance-rated, 2-hour fire resistance-rated, or 1-hour fire resistance-rated and shall meet the requirements of Chapter 8 of NFPA 101. [101:6.1.14.4.2]

6.1.14.4.3 The fire resistance rating specified in Table 6.1.14.4.1(a) and Table 6.1.14.4.1(b) shall be permitted to be reduced by 1 hour, but in no case shall it be reduced to less than 1 hour, where the building is protected throughout by an approved automatic sprinkler system in accordance with NFPA 13 and supervised in accordance with 13.3.1.7, unless prohibited by the “daggered” footnote entries in the tables. [101:6.1.14.4.3]

6.1.14.4.4 Occupancy separations shall be vertical, horizontal, or both or, when necessary, of such other form as required to provide complete separation between occupancy divisions in the building. [101:6.1.14.4.4]

Table 6.1.14.4.1(b) Required Separation of Occupancies (hours)*, Part 2

Occupancy	Apartment Buildings	Board & Care, Small	Board & Care, Large	Mercantile	Mercantile, Mall	Mercantile, Bulk Retail	Business	Industrial, General Purpose	Industrial, Special Purpose	Industrial, High Hazard	Storage, Low & Ordinary Hazard	Storage, High Hazard
Assembly ≤300	2	2	2	2	2	3	1	2	2	3	2	3
Assembly >300 to ≤1000	2	2	2	2	2	3	2	2	2	3	2	3
Assembly >1000	2	2	2	2	2	3	2	3	2	3	3	3
Educational	2	2	2	2	2	3	2	3	3	3	3	3
Day-Care >12 Clients	2	2	2	2	2	3	2	3	3	3	3	3
Day-Care Homes	2	2	2	2	2	3	2	3	3	3	2	3
Health Care	2†	2†	2†	2†	2†	2†	2†	2†	2†	2†	2†	2†
Ambulatory Health Care	2	2	2	2	2	2†	1	2	2	2†	2	2†
Detention & Correctional	2†	2†	2†	2†	2†	2†	2†	2†	2†	NP	2†	NP
One- & Two-Family Dwellings	1	1	2	2	2	3	2	2	2	3	2	3
Lodging or Rooming Houses	1	2	2	2	2	3	2	2	2	3	2	3
Hotels & Dormitories	1	2	2	2	2	3	2	2	2	3	2	3
Apartment Buildings	—	2	2	2	2	3	2	2	2	3	2	3
Board & Care, Small	—	—	1	2	2	3	2	3	3	3	3	3
Board & Care, Large	—	—	—	2	2	3	2	3	3	3	3	3
Mercantile	—	—	—	—	0	3	2	2	2	3	2	3
Mercantile, Mall	—	—	—	—	—	3	2	3	3	3	2	3
Mercantile, Bulk Retail	—	—	—	—	—	—	2	2	2	3	2	2
Business	—	—	—	—	—	—	—	2	2	2	2	2
Industrial, General Purpose	—	—	—	—	—	—	—	—	1	1	1	1
Industrial, Special Purpose	—	—	—	—	—	—	—	—	—	1	1	1
Industrial, High Hazard	—	—	—	—	—	—	—	—	—	—	1	1
Storage, Low & Ordinary Hazard	—	—	—	—	—	—	—	—	—	—	—	1
Storage, High Hazard	—	—	—	—	—	—	—	—	—	—	—	—

NP: Not permitted.

* *Minimum Fire Resistance Rating.* The fire resistance rating is permitted to be reduced by 1 hour, but in no case to less than 1 hour, where the building is protected throughout by an approved automatic sprinkler system in accordance with NFPA 13 and supervised in accordance with 13.3.1.7.

† The 1-hour reduction due to the presence of sprinklers in accordance with the asterisk footnote is not permitted. [101: Table 6.1.14.4.1(b)]

13.2.3 Inspection, Testing, and Maintenance.

13.2.3.1 A standpipe system installed in accordance with this Code shall be properly maintained to provide at least the same level of performance and protection as designed.

13.2.3.2 The owner shall be responsible for maintaining the standpipe system and keeping it in good working condition.

13.2.3.3 A standpipe system installed in accordance with this Code shall be inspected, tested, and maintained in accordance with NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*.

13.2.3.4 Existing Systems. Where an existing standpipe system, including yard piping and fire department connection, is modified, the new piping shall be tested in accordance with 11.4.1 of NFPA 14. [14:11.4.7]

13.3 Automatic Sprinklers.

13.3.1 General.

13.3.1.1* Automatic sprinklers shall be installed and maintained in full operating condition in the occupancies specified in this Code or in the codes or standards referenced in Chapter 2.

13.3.1.2 Installations shall be in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*; NFPA 13R, *Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height*; or NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*, as appropriate.

13.3.1.3 Existing systems shall be in accordance with 1.3.6.2 and 10.3.2.

13.3.1.4 Sprinkler piping serving not more than six sprinklers for any isolated hazardous area shall be permitted to be connected directly to a domestic water supply system having a capacity sufficient to provide 0.15 gpm/ft² (6.1 mm/min) throughout the entire enclosed area. An indicating shutoff valve, supervised in accordance with 13.3.1.7 or NFPA 13, shall be installed in an accessible, visible location between the sprinklers and the connection to the domestic water supply. [101:9.7.1.2]

13.3.1.5* In areas protected by automatic sprinklers, automatic heat-detection devices required by other sections of this Code shall not be required. [101:9.7.1.3]

13.3.1.6 Automatic sprinkler systems installed to make use of an alternative permitted by this Code shall be considered required systems and shall meet the provisions of this Code that apply to required systems. [101:9.7.1.4]

13.3.1.7 Supervision.

13.3.1.7.1* Supervisory Signals. Where supervised automatic sprinkler systems are required by another section of this Code, supervisory attachments shall be installed and monitored for integrity in accordance with NFPA 72, and a distinctive supervisory signal shall be provided to indicate a condition that would impair the satisfactory operation of the sprinkler system. System components and parameters that shall be monitored shall include, but shall not be limited to, control valves, fire pump power supplies and running conditions, water tank levels and temperatures, tank pressure, and air pressure on dry-pipe valves. Supervisory signals shall sound and shall be displayed either at a location within the protected building that is constantly attended by qualified personnel or at an approved, remotely located receiving facility. [101:9.7.2.1]

13.3.1.7.2 Alarm Signal Transmission. Where supervision of automatic sprinkler systems is provided in accordance with another provision of this Code, waterflow alarms shall be transmitted to an approved, proprietary alarm-receiving facility, a remote station, a central station, or the fire department. Such connection shall be in accordance with 13.7.1.1. [101:9.7.2.2]

13.3.1.8 The following practices shall be observed to provide sprinklers of other than ordinary-temperature classification unless other temperatures are determined or unless high-temperature sprinklers are used throughout, and temperature selection shall be in accordance with Table 13.3.1.8(a), Table 13.3.1.8(b), and Figure 13.3.1.8:

- (1) Sprinklers in the high-temperature zone shall be of the high-temperature classification, and sprinklers in the intermediate-temperature zone shall be of the intermediate-temperature classification.
- (2) Sprinklers located within 12 in. (305 mm) to one side or 30 in. (762 mm) above an uncovered steam main, heating coil, or radiator shall be of the intermediate-temperature classification.
- (3) Sprinklers within 7 ft (2.1 m) of a low-pressure blowoff valve that discharges free in a large room shall be of the high-temperature classification.
- (4) Sprinklers under glass or plastic skylights exposed to the direct rays of the sun shall be of the intermediate-temperature classification.
- (5) Sprinklers in an unventilated, concealed space, under an uninsulated roof, or in an unventilated attic shall be of the intermediate-temperature classification.

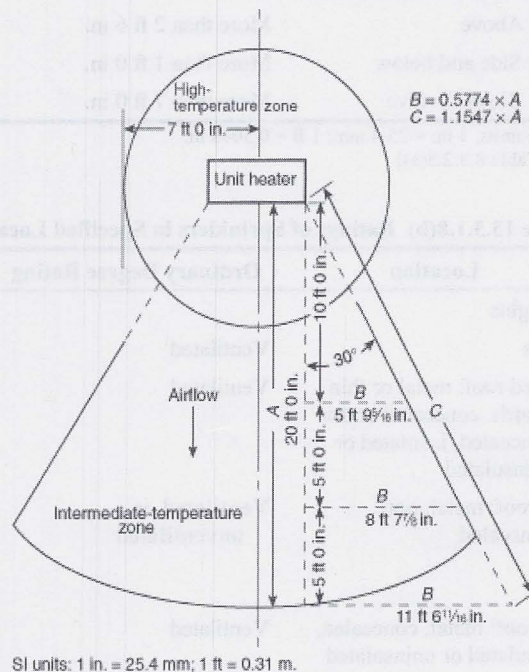


FIGURE 13.3.1.8 High-Temperature and Intermediate-Temperature Zones at Unit Heaters. [13:Figure 8.3.2.5]

- (3) It shall be electrically connected to the fire alarm system.
- (4) It shall be fully supervised.
- (5) It shall be equipped with listed quick-response or listed residential sprinklers throughout all smoke compartments containing patient sleeping rooms.
- (6) Standard-response sprinklers shall be permitted to be continued to be used in approved existing sprinkler systems where quick-response and residential sprinklers were not listed for use in such locations at the time of installation.
- (7) Standard-response sprinklers shall be permitted for use in hazardous areas protected in accordance with 19.3.2.1 of NFPA 101. [101:19.3.5.8]

13.3.2.10.8 Isolated hazardous areas shall be permitted to be protected in accordance with 13.3.1.4. For new installations in existing health care occupancies, where more than two sprinklers are installed in a single area, waterflow detection shall be provided to sound the building fire alarm or to notify, by a signal, any constantly attended location, such as PBX, security, or emergency room, at which the necessary corrective action shall be taken. [101:19.3.5.9]

13.3.2.10.9* Newly introduced cubicle curtains in sprinklered areas shall be installed in accordance with Section 13.3. [101:19.3.5.10]

13.3.2.11 New Detention and Correctional Facilities.

13.3.2.11.1 All buildings classified as Use Condition II, Use Condition III, Use Condition IV, or Use Condition V shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 13.3.2.11.2. [101:22.3.5.2]

13.3.2.11.2 The automatic sprinkler system required by 13.3.2.11.1 shall be as follows:

- (1) In accordance with Section 13.3
- (2) Installed in accordance with NFPA 13
- (3) Electrically connected to the fire alarm system
- (4) Fully supervised [101:22.3.5.3]

13.3.2.12 Existing Detention and Correctional Facilities.

13.3.2.12.1* Where required by Table 23.1.6.1 of NFPA 101, facilities shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 13.3.2.12.2. [101:23.3.5.2]

13.3.2.12.2 Where this Code permits exceptions for fully sprinklered detention and correctional occupancies or sprinklered smoke compartments, the sprinkler system shall be as follows:

- (1) In accordance with Section 13.3
- (2) Installed in accordance with NFPA 13
- (3) Electrically connected to the fire alarm system
- (4) Fully supervised [101:23.3.5.3]

13.3.2.13 New Hotels and Dormitories.

13.3.2.13.1 All buildings, other than those complying with 13.3.2.13.2, shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 13.3.2.13.3. [101:28.3.5.1]

13.3.2.13.2 Automatic sprinkler protection shall not be required in buildings where all guest sleeping rooms or guest suites have a door opening directly to either of the following:

- (1) Outside at the street or grade level
- (2) Exterior exit access arranged in accordance with 7.5.3 of NFPA 101 in buildings up to and including three stories in height above grade [101:28.3.5.2]

13.3.2.13.3 Where an automatic sprinkler system is installed, either for total or partial building coverage, the system shall be in accordance with Section 13.3, as modified by 13.3.2.13.4. In buildings four or fewer stories above grade plane, systems in accordance with NFPA 13R shall be permitted. [101:28.3.5.3]

13.3.2.13.4 The provisions for draft stops and closely spaced sprinklers in NFPA 13 shall not be required for openings complying with 8.6.8.2 of NFPA 101 where the opening is within the guest room or guest suite. [101:28.3.5.4]

13.3.2.13.5 Listed quick-response or listed residential sprinklers shall be used throughout guest rooms and guest room suites. [101:28.3.5.6]

13.3.2.13.6 Open parking structures that comply with NFPA 88A, *Standard for Parking Structures*, and are contiguous with hotels or dormitories shall be exempt from the sprinkler requirements of 13.3.2.13.1. [101:28.3.5.7]

13.3.2.14 Existing Hotels and Dormitories.

13.3.2.14.1 All high-rise buildings, other than those where each guest room or guest suite has exterior exit access in accordance with 7.5.3 of NFPA 101, shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 13.3.2.14.2. [101:29.3.5.1]

13.3.2.14.2* Where an automatic sprinkler system is installed, either for total or partial building coverage, the system shall be in accordance with Section 13.3, as modified by 13.3.2.14.3 and 13.3.2.14.4; in buildings up to and including four stories in height above grade, systems in accordance with NFPA 13R shall be permitted. [101:29.3.5.3]

13.3.2.14.3 The provisions for draft stops and closely spaced sprinklers in NFPA 13 shall not be required for openings complying with 8.6.8.2 of NFPA 101 where the opening is within the guest room or guest suite. [101:29.3.5.4]

13.3.2.14.4 In guest rooms and in guest room suites, sprinkler installations shall not be required in closets not exceeding 24 ft² (2.2 m²) and in bathrooms not exceeding 55 ft² (5.1 m²). [101:29.3.5.5]

13.3.2.15 New Apartment Buildings.

13.3.2.15.1 All buildings shall be protected throughout by an approved, supervised automatic sprinkler system installed in accordance with 13.3.2.15.2. [101:30.3.5.1]

13.3.2.15.2 Where an automatic sprinkler system is installed, either for total or partial building coverage, the system shall be installed in accordance with Section 13.3, as modified by 13.3.2.15.3 and 13.3.2.15.4. In buildings four or fewer stories in height above grade plane, systems in accordance with NFPA 13R shall be permitted. [101:30.3.5.2]

13.3.2.15.3 In buildings sprinklered in accordance with NFPA 13, closets less than 12 ft² (1.1 m²) in area in individual dwelling units shall not be required to be sprinklered. Closets that contain equipment such as washers, dryers, furnaces, or water heaters shall be sprinklered regardless of size. [101:30.3.5.3]

13.3.2.15.4 The draft stop and closely spaced sprinkler requirements of NFPA 13 shall not be required for convenience openings complying with 8.6.8.2 of NFPA 101 where the convenience opening is within the dwelling unit. [101:30.3.5.4]

13.3.2.15.5 Listed quick-response or listed residential sprinklers shall be used throughout all dwelling units. [101:30.3.5.5]

13.3.2.15.6 Open parking structures complying with NFPA 88A, *Standard for Parking Structures*, that are contiguous with apartment buildings shall be exempt from the sprinkler requirements of 13.3.2.15.1. [101:30.3.5.6]

13.3.2.15.7 Buildings with unprotected openings in accordance with 8.6.6 of NFPA 101 shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 13.3.2.15.1. [101:30.3.5.7]

13.3.2.16 Existing Apartment Buildings.

13.3.2.16.1* Where an automatic sprinkler system is installed, either for total or partial building coverage, the system shall be installed in accordance with Section 13.3, as modified by 13.3.2.16.2 and 13.3.2.16.3. In buildings up to and including four stories in height above grade, systems in accordance with NFPA 13R shall be permitted. [101:31.3.5.3]

13.3.2.16.2 In individual dwelling units, sprinkler installation shall not be required in closets not exceeding 24 ft² (2.2 m²) and in bathrooms not exceeding 55 ft² (5.1 m²). Closets that contain equipment such as washers, dryers, furnaces, or water heaters shall be sprinklered regardless of size. [101:31.3.5.4]

13.3.2.16.3 The draft stop and closely spaced sprinkler requirements of NFPA 13 shall not be required for convenience openings complying with 8.6.8.2 of NFPA 101 where the convenience opening is within the dwelling unit. [101:31.3.5.5]

13.3.2.16.4 Buildings using Option 3 shall be provided with automatic sprinkler protection installed in accordance with 13.3.2.16.4.1 through 13.3.2.16.4.4. [101:31.3.5.9]

13.3.2.16.4.1 Automatic sprinklers shall be installed in the corridor, along the corridor ceiling, utilizing the maximum spacing requirements of the standards referenced in 13.3.1.2. [101:31.3.5.9.1]

13.3.2.16.4.2 An automatic sprinkler shall be installed within every dwelling unit that has a door opening to the corridor, with such sprinkler positioned over the center of the door, unless the door to the dwelling unit has not less than a 20-minute fire protection rating and is self-closing. [101:31.3.5.9.2]

13.3.2.16.4.3 The workmanship and materials of the sprinkler installation specified in 13.3.2.16.4 shall meet the requirements of 13.3.1.2. [101:31.3.5.9.3]

13.3.2.16.4.4 Where Option 3 is being used to permit the use of 1¼ in. (44 mm) thick, solid-bonded wood-core doors in accordance with 31.2.2.1.3 of NFPA 101, sprinklers shall be provided within the exit enclosures in accordance with NFPA 13. [101:31.3.5.9.4]

13.3.2.16.5 Buildings using Option 4 shall be protected throughout by an approved automatic sprinkler system in accordance with 13.3.2.16.1 and meeting the requirements of Section 13.3 for supervision for buildings more than six stories in height. [101:31.3.5.10]

13.3.2.16.6* Where sprinklers are being used as an option to any requirement in this Code, the sprinklers shall be installed throughout the space in accordance with the requirements of that option. [101:31.3.5.11]

13.3.2.17 Lodging and Rooming Houses.

13.3.2.17.1 All new lodging or rooming houses, other than those meeting 13.3.2.17.2, shall be protected throughout by an approved

automatic sprinkler system in accordance with 13.3.2.17.3. [101:26.3.6.1]

13.3.2.17.2 An automatic sprinkler system shall not be required where every sleeping room has a door opening directly to the outside of the building at street or ground level, or has a door opening directly to the outside leading to an exterior stairway that meets the requirements of 26.2.1.1.2 of NFPA 101. [101:26.3.6.2]

13.3.2.17.3 Where an automatic sprinkler system is required or is used as an alternative method of protection, either for total or partial building coverage, the system shall be in accordance with Section 13.3 of this Code and 13.3.2.17.3.1 through 13.3.2.17.3.6. [101:26.3.6.3]

13.3.2.17.3.1 Activation of the automatic sprinkler system shall actuate the fire alarm system in accordance with Section 13.7. [101:26.3.6.3.1]

13.3.2.17.3.2 In buildings four or fewer stories above grade plane, systems in accordance with NFPA 13R shall be permitted. [101:26.3.6.3.2]

13.3.2.17.3.3* Systems in accordance with NFPA 13D shall be permitted where the following requirements are met:

- (1) The lodging or rooming house shall not be part of a mixed occupancy.
- (2) Entrance foyers shall be sprinklered.
- (3) Lodging or rooming houses with sleeping accommodations for more than eight occupants shall be treated as two-family dwellings with regard to the water supply. [101:26.3.6.3.3]

13.3.2.17.3.4 In buildings sprinklered in accordance with NFPA 13, closets less than 12 ft² (1.1 m²) in area in individual dwelling units shall not be required to be sprinklered. [101:26.3.6.3.4]

13.3.2.17.3.5 In buildings sprinklered in accordance with NFPA 13, closets that contain equipment such as washers, dryers, furnaces, or water heaters shall be sprinklered regardless of size. [101:26.3.6.3.5]

13.3.2.17.3.6 In existing lodging or rooming houses, sprinkler installations shall not be required in closets not exceeding 24 ft² (2.2 m²) and in bathrooms not exceeding 55 ft² (5.1 m²). [101:26.3.6.3.6]

13.3.2.18 One- and Two-Family Dwellings.

F 13.3.2.18.1 ~~All new one and two family dwellings shall be protected throughout by an approved automatic sprinkler system in accordance with 13.3.2.18.2. [101:24.3.5.1]~~

L 13.3.2.18.1 ~~13.3.2.18.2~~ Where an automatic sprinkler system is installed, either for total or partial building coverage, the system shall be in accordance with Section 9.7 of NFPA 101; in buildings up to and including four stories in height, systems in accordance with NFPA 13R and with NFPA 13D shall also be permitted. [101:24.3.5.2]

13.3.2.19 New Residential Board and Care Occupancies.

13.3.2.19.1 Large Facilities.

13.3.2.19.1.1 General. All buildings shall be protected throughout by an approved automatic sprinkler system installed in accordance with NFPA 13 and provided with quick-response or residential sprinklers throughout. [101:32.3.3.5.1]

- (6) Unattended battery chargers are checked at intervals not exceeding 8 hours while in operation. [303:7.2.4]

28.1.9* Conditions on Individual Boats.

28.1.9.1 The management shall have an inspection made of each boat received for major repair or storage as soon as practicable after arrival of a boat and before commencement of any work aboard. [303:8.1.1]

28.1.9.2 The inspection required in 28.1.9.1 shall include the following determinations:

- (1) Presence of combustible vapors in any compartment
- (2) General maintenance and cleanliness, and location of any combustible materials that require removal or protection for the safe accomplishment of the particular work involved
- (3) Quantity, type, and apparent condition of fire-extinguishing equipment onboard
- (4) Listed appropriate shore power inlet(s) and ship-to-shore cable(s), when present [303:8.1.2]

28.1.9.3 The management shall, as a condition to accepting a boat received for major repair or storage, require the owner to correct any inadequacies found in 28.1.9.2 or to authorize management to do so. [303:8.1.3]

28.1.9.4 General Precautions.

28.1.9.4.1 Smoking in the working area shall be prohibited. [303:8.1.4.1]

28.1.9.4.2 Loose combustibles in the area of any hazardous work shall be removed. [303:8.1.4.2]

28.1.9.4.3 Unprotected battery terminals shall be covered to prevent inadvertent shorting from dropped tools or otherwise, and the ungrounded battery lead shall be disconnected. [303:8.1.4.3]

28.1.9.4.4 Personnel employed in the removal or installation of storage batteries shall be qualified. [303:8.1.4.4]

28.1.9.4.5 Where electric service is provided to boats in storage, the receptacle providing the power shall be protected with a ground-fault circuit-interrupter. [303:8.1.4.5]

28.1.9.5 The marina or boatyard operator shall post in a prominent location, or provide to boat operators using a marina or boatyard for mooring, repair, servicing, or storage, a list of safe operating procedures containing at least the following information:

- (1) A prohibition against the use of any form of hibachis, charcoal, wood, or gas-type portable cooking equipment, except in specifically authorized areas that are not on the docks, on boats in the berthing area, or near flammables
- (2) Procedures for disposal of trash
- (3) Designation of nonsmoking areas
- (4) Location of fire extinguishers and hoses
- (5) Procedures for turning in a fire alarm
- (6) Fueling procedures [303:8.1.5]

28.1.9.6 The information on fueling procedures referred to in 28.1.9.5(6) shall include at least the following information:

- (1) Procedures before fueling:
 - (a) Stop all engines and auxiliaries
 - (b) Shut off all electricity, open flames, and heat sources
 - (c) Check bilges for fuel vapors
 - (d) Extinguish all smoking materials

- (e) Close access fittings and openings that could allow fuel vapors to enter the boat's enclosed spaces
- (f) Remove all personnel from the boat except the person handling the fueling hose
- (2) Procedures during fueling:
 - (a) Maintain nozzle contact with fill pipe
 - (b) Attend fuel-filling nozzle at all times
 - (c) Wipe up spills immediately
 - (d) Avoid overfilling
- (3) Procedures after fueling and before starting engine:
 - (a) Inspect bilges for leakage or fuel odors
 - (b) Ventilate until odors are removed [303:8.1.6]

28.2 Marine Terminals, Piers, and Wharves.

28.2.1 Section 28.2 shall apply to marine terminals as defined herein. Special use piers and wharf structures that are not marine terminals, such as public assembly, residential, business, or recreational occupancies that differ in design and construction from cargo handling piers, require special consideration. The general principles of NFPA 307 for the construction and fire protection of piers and wharves shall be applicable to such structures and shall comply with NFPA 307, *Standard for the Construction and Fire Protection of Marine Terminals, Piers, and Wharves*, and Section 28.2.

28.2.2* Section 28.2 shall not apply to marinas and boatyards. (See Section 28.1.) [307:1.3.2]

28.2.3 Section 28.2 shall not apply to the handling of the following:

- (1)* Flammable or combustible liquids in bulk (See Chapter 66.) [307:1.1.3]
- (2)* Liquefied gases in bulk (See Chapter 69.) [307:1.3.3]

28.2.4 Nothing in Section 28.2 shall supersede any of the regulations of governmental or other regulatory authority. [307:1.1.2]

28.3 Construction, Conversion, Repair, and Lay-Up of Vessels.

28.3.1* The construction, conversion, repair, or lay-up of vessels shall comply with NFPA 312, *Standard for Fire Protection of Vessels During Construction, Conversion, Repair, and Lay-Up*, and Section 28.3.

28.3.2 Nothing in Section 28.3 shall be construed as prohibiting the immediate dry-docking of a vessel whose safety is imperiled, as by being in a sinking condition or by being seriously damaged. [312:1.2.2]

28.3.3 In such cases, all necessary precautionary measures shall be taken as soon as practicable. [312:1.2.3]

28.3.4 The requirements of Section 28.3 shall not apply to situations where it is in conflict with or superseded by requirements of any government regulatory agency. [312:1.1.2]

Chapter 29 Parking Garages

29.1 General.

29.1.1 The protection of new and existing parking garages, as well as the control of hazards in open parking structures, enclosed parking structures, and basement and underground parking structures shall comply with this chapter and Section 42.8 of NFPA 101.

29.1.2 Construction and protection of new parking garages shall also comply with NFPA 88A, *Standard for Parking Structures*.

29.1.3 Chapter 29 shall not apply to parking garages in one- and two-family dwellings.

Chapter 30 Motor Fuel Dispensing Facilities and Repair Garages

30.1 Motor Fuel Dispensing Facilities.

30.1.1 Application.

30.1.1.1 Motor fuel dispensing facilities, marine/motor fuel dispensing facilities, motor fuel dispensing facilities located inside buildings, and fleet vehicle motor fuel dispensing facilities shall comply with Sections 30.1 and 30.3 and NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*.

30.1.1.2 This chapter shall not apply to refueling operations. (For refueling operations, see Chapter 42.)

30.1.1.3 Permits. Permits, where required, shall comply with Section 1.12.

30.1.2 Occupancy Classification. The occupancy classification of a motor fuel dispensing facility that is located inside a building or structure shall be a low hazard industrial occupancy as defined in NFPA 101. [30A:7.3.1]

30.1.3 Means of Egress. In a motor fuel dispensing facility that is located inside a building or structure, the required number, location, and construction of means of egress shall meet all applicable requirements for special purpose industrial occupancies, as set forth in NFPA 101. [30A:7.3.3]

30.1.4 Drainage. Where Class I or Class II liquids are dispensed, provisions shall be made to prevent spilled liquids from flowing into the interior of buildings. Such provisions shall be made by grading driveways, raising door sills, or other equally effective means. [30A:7.3.4]

30.1.5 Fixed Fire Protection.

30.1.5.1* For an unattended, self-serve, motor fuel dispensing facility, additional fire protection shall be provided where required by the AHJ. [30A:7.3.5.1]

30.1.5.2 Where required, an automatic fire suppression system shall be installed in accordance with the appropriate NFPA standard, manufacturers' instructions, and the listing requirements of the systems. [30A:7.3.5.2]

30.1.6 Fuel Dispensing Areas Inside Buildings.

30.1.6.1 The fuel dispensing area shall be separated from all other portions of the building by walls, partitions, floors, and floor-ceiling assemblies having a fire resistance rating of not less than 2 hours. [30A:7.3.6.1]

30.1.6.2 Interior finish shall be of noncombustible materials or of approved limited-combustible materials, as defined in this Code and NFPA 220. [30A:7.3.6.2]

30.1.6.3 Door and window openings in fire-rated interior walls shall be provided with listed fire doors having a fire protection rating of not less than 1½ hours. Doors shall be self-closing. They shall be permitted to remain open during normal operations if they are designed to close automatically in a fire

emergency by means of listed closure devices. Fire doors shall be installed in accordance with NFPA 80. They shall be kept unobstructed at all times. [30A:7.3.6.3]

30.1.6.4 Openings for ducts in fire-rated interior partitions and walls shall be protected by listed fire dampers. Openings for ducts in fire-rated floor or floor-ceiling assemblies shall be protected with enclosed shafts. Enclosure of shafts shall be with wall or partition assemblies having a fire resistance rating of not less than 2 hours. Openings for ducts into enclosed shafts shall be protected with listed fire dampers. [30A:7.3.6.4]

30.1.6.5 The fuel dispensing area shall be located at street level, with no dispenser located more than 50 ft (15 m) from the vehicle exit to, or entrance from, the outside of the building. [30A:7.3.6.5]

30.1.6.6 The fuel dispensing area shall be limited to that required to serve not more than four vehicles at one time.

Exception: At a fleet vehicle motor fuel dispensing facility inside a building, where only Class II and Class III liquids are dispensed, the number of vehicles serviced at any one time shall be permitted to be increased to 12. [30A:7.3.6.6]

30.1.6.7* A mechanical exhaust system that serves only the fuel dispensing area shall be provided. This system shall meet all of the following requirements:

- (1) The system shall be interlocked with the dispensing system so that airflow is established before any dispensing device can operate. Failure of airflow shall automatically shut down the dispensing system.
- (2) The exhaust system shall be designed to provide air movement across all portions of the floor of the fuel dispensing area and to prevent the flowing of ignitable vapors beyond the dispensing area.
- (3) Exhaust inlet ducts shall not be less than 3 in. (76 mm) or more than 12 in. (305 mm) above the floor. Exhaust ducts shall not be located in floors or penetrate the floor of the dispensing area. Exhaust ducts shall discharge to a safe location outside the building.
- (4) The exhaust system shall provide ventilation at a rate of not less than 1 ft³/min/ft² (0.3 m³/min/m²) of floor area, based on the fuel dispensing area.
- (5) The exhaust system shall meet all applicable requirements of NFPA 91.

Exception: The provisions of 30.1.6.7 shall not apply to a fuel dispensing area located inside a building if two or more sides of the dispensing area are open to the building exterior. [30A:7.3.6.7]

30.1.6.8 The floor of the dispensing area shall be liquidtight. Where Class I liquids are dispensed, provisions shall be made to prevent spilled liquids from flowing out of the fuel dispensing area and into other areas of the building by means of curbs, scuppers, special drainage systems, or other means acceptable to the AHJ. [30A:7.3.6.8]

30.1.6.9* Oil drainage systems shall be equipped with approved oil/water traps or separators if they connect to public sewers or discharge into public waterways. [30A:7.3.6.9]

30.2 Repair Garages.

30.2.1 Application. The construction and protection of, as well as the control of hazards in, garages used for major repair and