INITIAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF THE STATE FIRE MARSHAL

REGARDING PROPOSED CHANGES TO
2016 CALIFORNIA FIRE CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 9

LEGEND FOR EXPRESS TERMS

1. Existing California amendments or code language being modified are in italics when they appear in the model code text: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears *underlined and in italics*.
3. Repealed text: All such language appears in ~~strikeout~~.

The Office of the State Fire Marshal (SFM) proposes to adopt the 2015 edition of the International Fire Code (IFC) into the 2016 edition of the California Fire Code (CFC). SFM further proposes to:

- Repeal the adoption by reference of the 2012 International Fire Code and incorporate and adopt by reference in its place the 2015 International Building Code for application and effectiveness in the 2016 California Fire Code.
- Repeal certain amendments to the 2012 International Fire Code and/or California Building Standards not addressed by the model code that are no longer necessary.
- Adopt new building standards or necessary amendments to the 2015 International Fire Code that address inadequacies of the 2015 International Fire Code as they pertain to California laws.
- Bring forward previously existing California building standards or amendments, which represent no change in their effect from the 2013 California Fire Code.
- Codify non-substantive editorial and formatting amendments from the format based upon the 2012 International Fire Code to the format of the 2015 International Fire Code.

NOTE OF EXPLANATION:

For the **2015 Triennial Code Adoption Cycle**, the Express Terms are displayed as follows:

****PART 1**** Includes the California Amendments SFM proposes to bring forward from the 2013 California Fire Code **with changes** as shown, and also identifies the model code standards from the 2015 International Fire Code SFM proposes for adoption into the 2016 California Fire Code.

****PART 2**** Displays the standards SFM proposes to bring forward from the 2013 California Fire Code **without change**, except for nonsubstantive editorial corrections, for adoption into the 2016 California Fire Code; the text is provided for context and the convenience of the code user.

SUMMARY OF REGULATORY ACTION

SFM PROPOSES TO:

PART 1

1. Bring forward existing California Amendments from the 2013 California Fire Code for adoption into the 2016 California Fire Code **with amendment**.

2. Adopt standards from the 2015 International Fire Code into the 2016 California Fire Code **without amendment**.

3. Adopt standards from the 2015 International Fire Code into the 2016 California Fire Code **with amendment**.

4. Repeal 2013 California Amendments, which are **not** brought forward into the 2016 California Fire Code.

PART 2

1. Bring forward existing California Amendments from the 2013 California Fire Code for adoption into the 2016 California Fire Code **without amendment**, except for editorial corrections.

PART 1

[1. The SFM is proposing to maintain the adoption of those existing California provisions contained Sections 1.1 Through 1.1.12 and Sections 1.11 through 1.11.10 with modification.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification

CHAPTER 1

SCOPE AND ADMINISTRATION

DIVISION I
CALIFORNIA ADMINISTRATION

1.1.1 Title. *These regulations shall be known as the California Fire Code, may be cited as such and will be referred to herein as "this code." The California Fire Code is Part 9 of twelve parts of the official compilation and publication of the adoptions, amendment, and repeal of building regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the ~~2012~~2015 International Fire Code of the International Code Council with necessary California amendments.*

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
References: Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

[2. The SFM proposes to only adopt Sections 102.1 – 102.5, 102.9, 104.2, 104.5, 104.7 – 104.7.2, 104.10, 105 – 105.2.2, 105.2.4, 105.3, 105.3.3 – 105.3.8, 105.4 – 105.4.6, 105.5, 105.6 – 105.6.8, Table 105.6.8, 105.6.10 – 105.6.11, 105.6.13 – 105.6.15, 105.6.20, Table 105.6.20, 105.6.21 – 105.6.26, 105.6.43, 105.6.46, 105.6.47, 105.7 – 105.7.14, 106.2 – 106.4, 109 – 109.3.1, 110.1 – 110.4, and 111 – 111.4 contained in Chapter 1.]

(IFC Chapter 1 Administrative provisions - Sections 101 through 113 relocated to Division II of Chapter 1.)
See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

DIVISION II
SCOPE AND ADMINISTRATION

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
References: Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

[3. The SFM proposes to adopt Chapter 2 with the following amendments and

California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 2
DEFINITIONS

[Editorial Note: Removing 2013 CFC amendment for Gaseous Hydrogen System. Model code language to remain.]

GASEOUS HYDROGEN SYSTEM. An assembly of piping, devices and apparatus designed to generate, store, contain, distribute or transport a nontoxic, gaseous hydrogencontaining 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.

~~***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 at least 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.*~~

~~***HYDROGEN GAS ROOM.*** *A room or space that is intended exclusively to house a gaseous hydrogen system.*~~

~~***MENTALLY RETARDED PERSONS, PROFOUNDLY OR SEVERELY*** *shall mean any retarded person who is unable to evacuate a building unassisted during emergency conditions.*~~

~~***Note:*** *The determination as to such incapacity shall be made by the Director of the State Department of Public Health or his or her designated representative pursuant to Health and Safety Code Section §13131.3.*~~

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 *serving five or fewer patients (see Group I-2.1 or Section 308.4.2 California Building Code for facilities serving more than five patients)*
Animal hospitals, kennels and pounds
Banks
Barber and beauty shops
Car wash
Civic administration
Clinic-outpatient *[SFM](not classified as Group I-2.1)*
Dry cleaning and laundries: pick-up and delivery stations and self-service
Educational occupancies for students above the 12th grade
Electronic data processing
Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities not more than 2,500 square feet (232 m2) in area.
Laboratories: testing*,* ~~and~~ research *and [SFM] instruction*.
Motor vehicle showrooms
Post offices
Print shops
Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
Radio and television stations
Telephone exchanges
Training and skill development not within 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)~~*(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)*~~

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)
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 *~~International~~California 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
~~*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~~

Institutional Group I-2. Institutional Group I-2 occupancy shall include buildings and structures used for medical, care on a 24-hour basis for more than five persons who are not capable of self-preservation *or classified as non-ambulatory or bedridden*. This group shall include, but not be limited to, the following:

Foster care facilities
Detoxification facilities
Hospitals
Nursing homes
Psychiatric hospitals

~~**Occupancy Conditions**. Buildings of Group I-2 shall be classified as one of the following occupancy conditions:~~

~~**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.~~

~~**Condition 2**. This occupancy condition shall include facilities that provide nursing and medical care and could provide emergency care, surgery, obstetrics, or inpatient stabilization units for psychiatric or detoxification, including, but not limited to, hospitals.~~

~~**Five or fewer persons receiving medical care**. A facility with five or fewer persons receiving medical care shall be classified as Group R-3 or shall comply with the International Residential Code provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or with Section P2904 of the International Residential Code.~~

Residential Group R-4. Residential Group R-4 shall include buildings, structures or portions thereof for more than ~~five~~*six ambulatory clients*, 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. This group shall include, but 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~~

This occupancy classification may include a maximum six nonambulatory or bedridden clients (see Appendix Chapter 4, Section ~~425~~435 Special Provisions For Licensed 24-Hour Care Facilities in a Group R-2.1, R-3.1, or R-4 Occupancy). Group R-4 occupancies shall include the following:

Assisted living facilities such as:
Residential care facilities,
Residential Care Facilities for the Elderly (RCFE's),
Adult Residential Facilities,
Congregate Living Health facilities,
Group homes.

Social rehabilitation facilities such as:
Halfway houses,
Community Correctional Centers,
Community Correction Reentry Centers,
Community Treatment Programs,
Work Furlough Programs,
Alcoholism or drug abuse recovery or treatment facilities.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in the ~~International~~*California* Building Code.

~~**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.~~

~~**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.~~

PERSONS WITH INTELLECTUAL DISABILITIES, PROFOUNDLY OR SEVERELY. *Shall mean any persons with intellectual disabilities who is unable to evacuate a building unassisted during emergency conditions.*

Note: *The determination as to such incapacity shall be made by the Director of the State Department of Public Health or his or her designated representative pursuant to Health and Safety Code Section 13131.3.*

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[4. The SFM proposes to only adopt Sections 301, 304, 308.5, 312, 313, 314, 315, 316, 317, 319 of Chapter 3 with the following amendments and California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 3
GENERAL REQUIREMENTS

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[5. The SFM proposes to only adopt Sections 401, 402, 403 and 407 of Chapter 4 with the following amendments and California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 4
EMERGENCY PLANNING AND PREPAREDNESS

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2, Education Code Section 32020
References: Health and Safety Code Sections 13143, 13211, 18949.2

[6. The SFM proposes to adopt Chapter 5 with the following amendments and California regulations; furthermore the SFM proposes to not adopt Sections 503 and 510.2.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 5
FIRE SERVICE FEATURES

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[7. The SFM proposes to adopt Chapter 6 with the following amendments and California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.)

CHAPTER 6
BUILDING SERVICES AND SYSTEMS

[Editorial Note: Remove 2013 CBC amendments to sections 605.11.1, 605.11.1, 605.11.1.2, 605.11.1.2.1, 605.11.1.2.2, 605.11.1.2.3, 605.11.1.2.4, 605.11.1.2.5, 605.11.1.3, 605.11.1.3.1, 605.11.1.3.2, 605.11.1.3.3, 605.11.2. These California Amendments now match 2015 IFC model code language.]
~~***605.11.1*** **Access and pathways.** Roof access, pathways, and spacing requirements shall be provided in accordance with Sections *605.11.1.1 through 605.11.1.3.3.*~~

Exceptions:
~~*1. Detached, nonhabitable Group U structures including, but not limited to, parking shade structures, carports, solar trellises and similar structures.*~~
~~*2. Roof access, pathways, and spacing requirements need not be provided where the fire chief has determined rooftop operations will not be employed.*~~

~~***605.11.1.1*** **Roof access points.** Roof access points shall be located in areas that do not require the placement of ground ladders over openings such as windows or doors, and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires, or signs.~~

~~***605.11.1.2 Solar photovoltaic systems for Group R-3 buildings.*** *Solar photovoltaic systems for Group R-3 buildings* shall comply with Sections 605.11.3.2.1 through 605.11.3.2.4.~~

~~***Exception:*** *These requirements shall not apply to structures designed and constructed in accordance with the California Residential Code.*~~

~~***605.11.1.2.1 Size of solar photovoltaic array.*** *Each photovoltaic array shall be limited to 150 feet (45 720 mm) by 150 feet (45 720 mm). Multiple arrays shall be separated by a 3-foot wide (914 mm) clear access pathway.*~~

~~***605.11.1.2.2 H*****ip roof layouts.** Panels *and* modules installed on *Group R-3* buildings with hip roof layouts shall be located in a manner that provides a 3-foot-wide (914 mm) clear access pathway from the eave to the ridge on each roof slope where panels *and* modules are located. The access pathway shall be located at a structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof.~~

~~**Exception:** These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.~~

~~**605.11.1.2.3 Single ridge roofs.** Panels *and* modules installed on *Group R-3* buildings with a single ridge shall be located in a manner that provides two, 3-foot-wide (914 mm) access pathways from the eave to the ridge on each roof slope where panels *and* modules are located.~~

~~**Exception:** This requirement shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.~~

~~***605.11.1.2.4 Roofs with hips and valleys*****.** Panels *and* modules installed on *Group R-3 buildings* with roof hips and valleys shall be located no closer than 18 inches (457 mm) to a hip or a valley where panels *and* modules are to be placed on both sides of a hip or valley. Where panels are to be located on only one side of a hip or valley that is of equal length, the panels shall be permitted to be placed directly adjacent to the hip or valley.~~

~~**Exception:** These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.~~

~~***605.11.1.2.5 Allowance for*** **smoke ventilation operation.** Panels *and* modules installed on *Group R-3 buildings* shall be located no *less* than 3 feet (914 mm) *from* the ridge in order to allow for fire department smoke ventilation operations.~~

~~***Exception:*** *Panels and modules shall be permitted to be located up to the roof ridge where an alternative ventilation method approved by the fire chief has been provided or where the fire chief has determined vertical ventilation techniques will not be employed.*~~

~~***605.11.1.3*** **Other than Group R-3 buildings.** Access to systems for *buildings* other than *those containing Group R-3 occupancies* shall be provided in accordance with Sections *605.11.2.3.1* through *605.11.2.3.3*.~~

~~**Exception:** Where it is determined by the fire code official that the roof configuration is similar to that of a *Group R-3 occupancy*, the residential access and ventilation requirements in Sections *605.11.2.2.1* through *605.11.2.2.5* shall be permitted to be used.~~

~~***605.11.1.3.1*** **Access.** There shall be a minimum 6-foot wide (1829 mm) clear perimeter around the edges of the roof.~~

~~**Exception:** Where either axis of the building is 250 feet (76 200 mm) or less, *the clear perimeter around the edges of the roof* shall be a minimum 4-foot-wide (1290 mm).~~

~~***605.11.1.3.2*** **Pathways.** The solar installation shall be designed to provide designated pathways. The pathways shall meet the following requirements:~~
~~1. The pathway shall be over areas capable of supporting fire fighters accessing the roof.~~
~~2. The centerline axis pathways shall be provided in both axes of the roof. Centerline axis pathways shall run where the roof structure is capable of supporting the live load of fire fighters accessing the roof.~~
~~3. Shall be a straight line not less than 4 feet (1290 mm) clear to *roof standpipes* or ventilation hatches.~~
~~*4.* Shall provide not less than 4 feet (1290 mm) clear around roof access hatch with at least one not less than 4 feet~~

~~(1290 mm) clear pathway to parapet or roof edge.~~

~~***605.11.1.3.3* Smoke ventilation.** The solar installation shall be designed to meet the following requirements:~~

~~1. Arrays shall be no greater than 150 feet (45 720 mm) by 150 feet (45 720 mm) in distance in either axis in order to create opportunities for fire department smoke ventilation operations.~~
~~2. Smoke ventilation options between array sections shall be one of the following:~~

~~2.1. A pathway 8 feet (2438 mm) or greater in width.~~
~~2.2. A 4-foot (1290 mm) or greater in width pathway and bordering roof skylights or *gravity-operated dropout* smoke and heat vents *on not less than one side*.~~
~~*2.3. A 4-foot (1290 mm) or greater in width pathway and bordering all sides of nongravity-operated dropout smoke and heat vents on not less than one side.*~~
~~*2.4* A 4-foot (1290 mm) or greater in width pathway and bordering 4-foot by 8-foot (1290 mm by 2438 mm) "venting cutouts" every 20 feet (6096 mm) on alternating sides of the pathway.~~

~~***605.11.2* Ground-mounted photovoltaic arrays.** Ground-mounted photovoltaic arrays shall comply with this section *and the California Electrical Code*. Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays. A clear, brush-free area of 10 feet (3048 mm) shall be required for ground mounted photovoltaic arrays.~~

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[8. The SFM proposes to adopt Chapter 7 with the following amendments and California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 7
FIRE-RESISTANCE-RATED CONSTRUCTION

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[9. The SFM proposes to adopt Chapter 8 with the following amendments and California regulations, furthermore the SFM proposes to not adopt Sections 805 through 808.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 8
INTERIOR FINISH, DECORATIVE MATERIALS AND FURNISHINGS

[B] TABLE 803.3
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY[k]

	SPRINKLERED[l]			NONSPRINKLERED		
GROUP	Interior exit stairways and interior exit ramps and exit	Corridors and enclosure for exit access	Rooms and enclosed spaces[c]	Interior exit stairways and interior exit ramps and exit passageways[a,]	Corridors and enclosure for exit access	Rooms and enclosed spaces[c]

	passageways[a, b]	**stairways and exit access ramps**		[b]	**stairways and exit access ramps**	
A-1 & A-2	B	B	C	A	A[d]	B[e]
A-3[f], A-4, A-5	B	B	C	A	A[d]	C
B, E, M, R-1, R-4	B	C	C	A	B	C
F	C	C	C	B	C	C
H, *L*	B	B	C[g]	A	A	B
~~I-1~~	~~B~~	~~C~~	~~C~~	~~A~~	~~B~~	~~B~~
I-2, *I-2.1*	B	B	B[h, i]	A	A	B
I-3	A	A[j]	~~C~~ *B*	~~A~~ *NP*	~~A~~ *NP*	~~B~~ *NP*
I-4	B	B	B[h, i]	A	A	B
R-2	C	C	C	B	B	C
R-2.1	*B*	*C*	*C*	*A*	*B*	*B*
R-3, *R-3.1*	C	C	C	C	C	C
S	C	C	C	B	B	C
U	No restrictions			No restrictions		

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929m2.

NP = Not permitted [SFM]

a. Class C interior finish materials shall be allowed for wainscoting or paneling of not more than 1,000 square feet of applied surface area in the grade lobby where applied directly to a noncombustible base or over furring strips applied to a noncombustible base and fire blocked as required by Section 803.11 of the ~~*International*~~*California Building Code.*

~~b. In exit enclosures of buildings less than three stories in height of other than Group I-3, Class B interior finish for nonsprinklered buildings and Class C for sprinklered buildings shall be permitted.~~

b. In other than Group I-2 and I-2.1 occupancies in buildings less than three stories above grade plane of other than Group I-3, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted in interior exit stairways and ramps.

c. Requirements for rooms and enclosed spaces shall be based upon spaces enclosed by partitions. Where a fire-resistance rating is required for structural elements, the enclosing partitions shall extend from the floor to the ceiling. Partitions that do not comply with this shall be considered enclosing spaces and the rooms or spaces on both sides shall be considered one. In determining the applicable requirements for rooms and enclosed spaces, the specific occupancy thereof shall be the governing factor regardless of the group classification of the building or structure.

d. Lobby areas in Group A-1, A-2 and A-3 occupancies shall not be less than Class B materials.

e. Class C interior finish materials shall be allowed in Group A occupancies with an occupant load of 300 persons or less.

f. In places of religious worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall be allowed.

g. Class B material is required where the building exceeds two stories.

h. Class C interior finish materials shall be allowed in administrative spaces.

i. Class C interior finish materials shall be allowed in rooms with a capacity of four persons or less.

j. Class B materials shall be allowed as wainscoting extending not more than 48 inches above the finished floor in corridors.

k. Finish materials as provided for in other sections of this code.

i**.** Applies when the vertical exits, exit passageways, corridors or rooms and spaces are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Notation:

Authority: Health and Safety Code Sections 13143, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[10. The SFM proposes to adopt Chapter 9 with the following amendments and California regulations, furthermore the SFM proposes to not adopt Section 904.1.1.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 9
FIRE PROTECTION SYSTEMS

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.

Exceptions:
1. Existing Group R-3 occupancies converted to Group R-3.1 occupancies not housing bedridden clients, not housing nonambulatory clients above the first floor, and not housing clients above the second floor.
2. Existing Group R-3 occupancies converted to Group R-3.1 occupancies housing only one bedridden client and complying with Section ~~425.8.3.3~~435.8.3.3 of the California Building Code.
3. Pursuant to Health and Safety Code Section 13113 occupancies housing ambulatory children only, none of whom are mentally ill ~~or mentally retarded~~ children or children with intellectual disabilities, and the buildings or portions thereof in which such children are housed are not more than two stories in height, and buildings or portions thereof housing such children have an automatic fire alarm system activated by approved smoke detectors.
4. Pursuant to Health and Safety Code Section 13143.6 occupancies licensed for protective social care which house ambulatory clients only, none of whom is a child (under the age of 18 years), or who is elderly (65 years of age or over).

When not used in accordance with Section 504.2 or 506.3 of the California Building Code an automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be allowed in Group R-2.1 occupancies.

An automatic sprinkler system designed in accordance with Section 903.3.1.3 shall not be utilized in Group R-2.1 or R-4 occupancies.

903.2.8.2 ~~Group R-4 Condition 1~~*Reserved*. ~~An automatic sprinkler system installed in accordance with Section 903.3.1.3~~~~*903.3.1.2*~~ ~~shall be permitted in Group R-4 Condition 1 occupancies.~~

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 Section 903.2.8.3.1 or 903.2.8.3.2.

904.11.1.1 General. Automatic water mist systems shall be designed and installed in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* NFPA 750 and the manufacturer's instructions.

904.11.3 Testing and maintenance. Automatic water mist systems shall be tested and maintained in accordance with ~~Section 901.6~~ *California Code of Regulations, Title 19, Division 1, Chapter 5*.

904.13 ~~Domestic cooking systems in Group I-2 Condition 1~~*Reserved*~~.~~ ~~In Group I-2 Condition 1, occupancies where cooking facilities are installed in accordance with Section 407.2.6 of this 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. Preengineered automatic extinguishing systems shall be tested in accordance with UL 300A 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.~~

904.13.2 ~~Portable fire extinguishers for domestic cooking equipment in Group I-2 Condition 1~~*Reserved*. ~~A portable fire extinguisher complying with Section 906 shall be installed within a 30-foot (9144 mm) distance of travel from domestic cooking appliances.~~

907.2.6.4. Large family day-care. *Every large family day-care home shall be provided with at least one manual fire alarm box at a location approved by the authority having jurisdiction. Such device shall actuate a fire alarm signal, which shall be audible throughout the facility at a minimum level of 15 db above ambient noise level. These devices need not be interconnected to any other fire alarm device, have a control panel or be electrically supervised or provided with emergency power. Such device or devices shall be attached to the structure and must be a device that is listed and approved by the Office of the State Fire Marshal.*

~~907.2.11.6~~ 907.2.11.9 Existing Group R Occupancies. *See the California Residential Code for existing Group R-3 occupancies or Chapter 11 for all other existing Group R occupancies.*

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. *In Group I-2 occupancies, audible appliances located in patient areas shall be only chimes or similar sounding appliances for alerting staff. See Section 907.6.5.*

Exceptions:

1. Audible alarm notification appliances are not required in ~~critical care~~*patient* 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 suite 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 occupant evacuation elevator lobby in accordance with Section 3008.9.1 of the ~~International~~*California* Building Code shall be connected to a separate notification zone for manual paging only.

907.5.2.2.4 Emergency voice/alarm communication captions. Where stadiums, arenas and grandstands ~~are required to caption audible public announcements in accordance with Section 1108.2.7.3~~ *have 15,000 fixed seats or more and provide audible public announcements with prerecorded or real-time captions*, the emergency/voice alarm communication system shall be captioned. Prerecorded or live emergency captions shall be from an approved location constantly attended by personnel trained to respond to an emergency.

907.5.2.2.3 Visible alarms. Visible alarm notification appliances shall be provided in accordance with Sections 907.5.2.3.1 through ~~907.5.2.3.3~~*907.5.2.3.5*~~907.5.2.3.5~~*907.5.2.3.4*.

Exceptions:
1. *In other than Group I-2 and I-2.1,* ~~V~~visible alarm notification appliances are not required in alterations, except where 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~~*enclosed exit stairways, exterior exit stairs, and exterior exit ramps*.
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.

909.5.3 Opening protection. Openings in smoke barriers shall be protected by *self-closing devices or* 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.

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. *When used in a Group I-2 or a I-2.1, such detectors shall activate the fire alarm system and shall close all the smoke barrier doors within the effected zone.*
2. Fixed openings between smoke zones that are protected utilizing the airflow method *in other than Group I-2 or I-2.1.*
3. In ~~Group I-1 Condition 2,~~ Group I-2*, R-2.1* 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. The doors shall be closefitting 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 and are automatic closing by smoke detection in accordance with Section 716.5.9.3.
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.
7. In Group I-2 or I-2.1., smoke damper activation may be accomplished by a fire alarm control unit provided that an open area smoke detection system is provided within all areas served by an HVAC system.

[Editorial Note: Fore Section 909.16-910.5.2.4 repeal existing amendments. Model code now matches amendments.]
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, Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access 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 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, *Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* 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 *approved* 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.
~~***909.16.1 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* approved *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.*~~

910.3 Smoke and heat vents ~~***Smoke and heat vents***~~. The design and installation of smoke and heat vents shall be in accordance with ~~*accordance with*~~ Sections 910.3.1 through 910.3.3 ~~*910.3.3*~~.

910.3.1 Listing and labeling~~***Listing and labeling***~~**.** Smoke and heat vents shall be listed and labeled to indicate compliance with UL 793, ~~or~~ FM 4430 ~~*FM 4430*~~*, or ICC ES AC 331*~~*, or UL 793*~~.

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 ~~*lot lines* and *fire walls*~~ and 10 feet (3048 mm) or more from fire barriers ~~*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)

where:
A_{VR} = The required aggregate vent area (ft2).
V = Volume (ft3) of the area that requires smoke removal.

For unsprinklered buildings:
A_{VR} = AFA/50 (Equation 9-5)
where:
A_{VR} = The required aggregate vent area (ft2).
A_{FA} = The area of the floor in the area that requires smoke removal.

~~***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)***~~

~~*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)***~~

~~*Where:*~~

~~A_{VR} *= the required aggregate vent area (ft^2)*~~
~~A_{FA} *= the area of the floor of the area that requires smoke removal.*~~

~~**910.3.5 Draft curtains.** Where required by Table 910.3, draft curtains shall be installed~~
~~*on the underside of the roof in accordance with this section.*~~

~~***Exception:*** *Where areas of buildings are equipped with ESFR sprinklers, draft curtains shall not be provided within these areas. Draft curtains shall only be provided at the separation between the ESFR sprinklers and the non-ESFR sprinklers.*~~

~~***910.3.5.1 Construction.*** *Draft curtains shall be constructed of sheet metal, lath and plaster, gypsum board or other approved materials that provide equivalent performance to resist the passage of smoke. Joints and connections shall be smoke tight.*~~

~~**910.3.5.2 Location and depth.** The location and minimum depth of draft curtains shall be in accordance with Table 910.3.~~

910.4 Mechanical smoke removal systems ~~***removal systems.*** *Engineered*~~ Mechanical smoke removal systems ~~*removal systems*~~ shall be designed and installed in accordance with Sections 910.4.1 through 910.4.7 ~~*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.
~~***910.4.1 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 air stream.
~~***910.4.2 Exhaust fan construction.*** *Exhaust fans that are part of a mechanical smoke removal system shall be rated*~~

~~*for operation at 105 deg. C. Exhaust fan motors shall be located outside of the exhaust fan air stream.*~~

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 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 m3/sec).
~~***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 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.*~~

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 m2 per 0.4719 m3/s) of smoke exhaust.
~~***910.4.3.1 Make-up air.*** *Make-up air openings shall be provided within six feet (add metric) of the floor level. Operation of makeup air openings shall be manual or automatic. The minimum gross area of make-up air inlets shall be 8 ft2 per 1000 cfm of smoke exhaust.*~~

910.4.4 Activation. The mechanical smoke removal system shall be activated by manual controls only.
~~***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 to be accessible to the fire service from an exterior door 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 ~~International~~*California* Building Code or horizontal assemblies constructed in accordance with Section 711 of the ~~International~~*California* Building Code, or both.
~~***910.4.5 Manual control location.*** *Manual controls shall be located so as to be accessible to the fire service from an exterior door of the building and be protected against interior fire exposure by not less than 1-hour fire barriers constructed in accordance with Section 707 of the California Building Code or horizontal assemblies constructed in accordance with Section 712 of the California Building Code, or both.*~~

910.4.6 Control ~~***Control***~~ **wiring**. Wiring for operation and control of mechanical ~~*mechanical*~~ smoke removal systems ~~*removal systems*~~ shall be connected ahead of the main disconnect in accordance with Section 701.12E of ~~NFPA 70~~ *the California Electric Code* and ~~*be in accordance with Section 701.12E of NFPA 70 and be*~~ protected against interior fire ~~*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 ~~International~~*California* 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.
~~***910.4.7 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 California 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. Smoke and heat vents and mechanical smoke removal systems shall be maintained in an operative condition in accordance with Section 910.5.1 or 910.5.2, respectively.
~~***910.5 Maintenance.*** *Smoke and heat vents and mechanical smoke removal systems shall be maintained in an operative condition in accordance with Section 910.5.1 or 910.5.2, respectively.*~~

910.5.1 Smoke and heat vents ~~***Smoke and heat vents.***~~ Smoke and heat vents shall be maintained in an operative condition in accordance with NFPA 204 and Section 910.5.1.1 ~~*and Section 910.5.1.1*~~.

910.5.1.1 Fusible links Fusible links. Fusible links for smoke and heat vents ~~*for smoke and heat vents*~~ shall be replaced whenever fused, damaged or painted.

910.5.2 Mechanical smoke removal systems. Mechanical smoke removal systems shall be maintained in accordance with the equipment manufacturer's maintenance instructions and Sections 910.5.2.1 through 910.5.2.4.
~~***910.5.2 Mechanical smoke removal systems.*** *Mechanical smoke removal systems shall be maintained in accordance with the equipment manufacturer's maintenance instructions and Sections 910.5.2.1 through 910.5.2.4.*~~

910.5.2.1 Frequency. Systems shall be operationally tested not less than once per year. Testing shall include the

operation of all system components, including control elements.
~~***910.5.2.1 Frequency.*** *Systems shall be operationally tested not less than once per year. Testing shall include the operation of all system components including control elements.*~~

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.
~~***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.*~~

910.5.2.3 Schedule. A routine maintenance and operational testing program shall be initiated and a written schedule for routine maintenance and operational testing shall be established.
~~***910.5.2.3 Schedule.*** *A routine maintenance and operational testing program shall be initiated and a written schedule for routine maintenance and operational testing shall be established.*~~

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 any unsatisfactory condition and the corrective action taken, including parts replaced.
~~***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 any unsatisfactory condition and the corrective action taken, including parts replaced.*~~

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~~*915.7*. Carbon monoxide detection shall be installed in existing buildings in accordance with ~~Chapter 11 of the International Fire Code~~ *this section*.

Pursuant to Health and Safety Code Section 17926, carbon monoxide detection shall be installed in all existing Group R buildings as required in this section.

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.

915.2 Locations. Where required by Section 915.1.1, carbon monoxide detection shall be installed *in accordance with the manufacturer's published instructions* in the locations specified in Sections 915.2.1 through 915.2.3.

915.2.1 Dwelling units. Carbon monoxide detection shall be installed in dwelling units *in the following locations:*
1. ~~outside~~ Outside of each separate sleeping area in the immediate vicinity of the bedrooms.
2. On every occupiable level of a dwelling unit, including basements.
3. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, carbon monoxide detection shall be installed within the bedroom.

915.4 Carbon monoxide alarms. Carbon monoxide alarms shall comply with Sections 915.4.1 through 915.4.~~3~~*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.

Exceptions:
1. Where installed in buildings without commercial power, battery-powered carbon monoxide alarms shall be an acceptable alternative.
2. Carbon monoxide alarms in Group R occupancies shall be permitted to receive their primary power from other power sources recognized for use by NFPA 720.

3. Carbon monoxide alarms in Group R occupancies shall be permitted to be battery-powered or plug-in with a battery backup in existing buildings built prior to January 1, 2011, under any of the following conditions:
3.1. No construction is taking place.
3.2. Repairs or alterations do not result in the removal of interior wall and ceiling finishes exposing the structure in areas/spaces where carbon monoxide alarms are required.
3.3. Repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
3.4. Work is limited to the installation, alteration or repair of plumbing, mechanical or electrical systems, which do not result in the removal of interior wall or ceiling finishes exposing the structure in areas/spaces where carbon monoxide alarms are required.

915.4.2 Listings. Carbon monoxide alarms shall be listed in accordance with UL 2034.

No person shall install, market, distribute, offer for sale, or sell any carbon monoxide device in the State of California unless the device and instructions have been approved and listed by the Office of the State Fire Marshal.

915.4.3 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 and UL 217.

Combination carbon monoxide/smoke alarms shall comply with Section 915, and all requirements for listing and approval by the Office of the State Fire Marshal for smoke alarms.

915.4.4 Interconnection*. Where more than one carbon monoxide alarm is required to be installed within a dwelling unit or within a sleeping unit in Group R occupancies, the alarms shall be interconnected in a manner that activation of one alarm shall activate all of the alarms in the individual unit.*

Exception*: Interconnection is not required in existing buildings, built prior to January 1, 2011, under any of the following conditions:*
1. Physical interconnection is not required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.
2. No construction is taking place.
3. Repairs or alterations do not result in the removal of interior wall and ceiling finishes exposing the structure in areas/spaces where carbon monoxide alarms are required.
4. Repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
5. Work is limited to the installation, alteration or repair of plumbing, mechanical, or electrical systems, which do not result in the removal of interior wall or ceiling finishes exposing the structure in areas/spaces where carbon monoxide alarms are required.

915.5.2 Locations. Carbon monoxide detectors shall be installed in the locations specified in Section 915.2 *or NFPA 720*. ~~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 they are listed in accordance with UL 2075 and UL 268.

Combination carbon monoxide/smoke detectors shall comply with all requirements for listing and approval by the Office of the State Fire Marshal for smoke alarms.

915.6 Maintenance. Carbon monoxide alarms and carbon monoxide detection systems shall be maintained in accordance with ~~the International Fire Code~~ *NFPA 720*. *Carbon monoxide alarms and carbon monoxide detectors that become inoperable or begin producing end-of-life signals shall be replaced.*

915.7 Visible alarms. (HCD 1 & HCD 2) *In buildings containing covered multifamily dwellings as defined in Chapter 2, all required carbon monoxide alarms shall be equipped with the capability to support visible alarm notification in accordance with NFPA 720.*

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2, Public Education Code 17074.50
References: Health and Safety Code Sections 13143, 13211, 18949.2

[11. The SFM proposes to adopt Chapter 10 with the following amendments and California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 10
MEANS OF EGRESS

[Editorial Note: Remove 2013 CBC amendments to sections 1004.1.1.1, 1004.1.1.2, and 1004.1.1.3. These California Amendments now match 2015 IFC model code language.]

1004.1.1.1 Intervening spaces or accessory areas ~~***or accessory areas***~~. Where occupants egress from one or more ~~*or more*~~ rooms, areas or spaces through others ~~*others*~~, the design occupant load shall be the combined occupant load of interconnected accessory or intervening spaces. Design of egress path capacity shall ~~*the combined occupant load of interconnected accessory or intervening spaces. Design of egress path capacity shall*~~ be based on the cumulative portion of ~~*portion of*~~ occupant loads of all rooms, areas or spaces to that point along the path of egress travel.

1004.1.1.2 Adjacent levels for mezzanines ~~***for mezzanines***~~. That portion of ~~*That portion of*~~ the occupant load of a mezzanine with required ~~*all required*~~ egress through a room, area or space on an adjacent level shall be added to the occupant load of that room, area or space.

1004.1.1.3 Adjacent stories. Other than for the egress components designed for convergence in accordance with Section 1005.6, the occupant load from separate stories shall not be added.
~~***1004.1.1.3 Adjacent stories.*** *Other than for the egress components designed for convergence in accordance with Section 1005.6, the occupant load from separate stories shall not be added.*~~

1005.3.1 Stairways. The capacity, in inches, of means of egress stairways shall be calculated by multiplying the occupant load served by such stairways by a means of egress capacity factor of 0.3 inch (7.6 mm) per occupant. Where stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required capacity of the stairways serving that story.

Exceptions~~s~~:
1. ~~*1.*~~ For other than Group H and I-2 occupancies, the capacity, in inches, of means of egress stairways shall be calculated by multiplying the occupant load served by such stairways by a means of egress capacity factor of 0.2 inches (5.1 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.
2. Facilities with smoke-protected assembly seating shall be permitted to use the capacity factors in Table 1029.6.2 indicated for stepped aisles for exit access or exit stairways where the entire path for means of egress from the seating to the exit discharge is provided with a smoke control system complying with Section 909.
3. Facilities with outdoor smoke-protected assembly seating shall be permitted to the capacity factors in Section 1029.6.3 indicated for stepped aisles for exit access or exit stairways where the entire path for means of egress from the seating to the exit discharge is open to the outdoors.
~~*2.*~~*4. For Group H-1, H-2, H-3 and H-4 occupancies the total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by 0.7 inches (7.62 mm) per occupant.*
~~*3.*~~*5. For assemblies without smoke protection see*~~*Means of egress complying with*~~ *Section* ~~*1028*~~*1029*.

~~**1021.2.1**~~**1006.3.2.1 Mixed occupancies.** Where one exit, or exit access stairway or ramp providing access to exits at other stories, is permitted to serve individual stories, mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1006.3.2(1) or Table 1006.3.2(2) for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. In each story of a mixed occupancy building, the

maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.3.2(2) ~~*indicated in Table 1021.2(2)*~~ for each occupancy does not exceed one. Where dwelling units are located on a story with other occupancies, the actual number of dwelling units divided by four plus the ratio from the other occupancy does not exceed one. ~~*Where dwelling units are located on a story with other occupancies, the actual number of dwelling units divided by 4 plus the ratio from the other occupancy does not exceed one.*~~

TABLE ~~1021.2(1)~~1006.3.2(1)
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 *AND R-3* OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane ~~above grade plane~~	R-2[a,b] *R-3*[a]	4 dwelling units *NA*	125 feet *NA*
Fourth story above grade plane ~~above grade plane~~ and higher ~~*higher*~~	~~NP~~ *R-3*[a]	NA	~~NA~~*125 feet*

For SI: 1 foot = 3048 mm.
NP – Not Permitted
NA – Not Applicable
a. Buildings classified as Group R-2 *or R-3* equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1030.
b. This table is used for R-2 occupancies consisting of dwelling units. For R-2 occupancies consisting of sleeping units, use Table 1006.3.2(2).

~~**R10**~~
~~**1008.1.2**~~**1010.1.2 Door swing.** Egress doors shall be of the pivoted or side-hinged swinging type.

Exceptions:
1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1010.1.4.1.
6. In other than Group H occupancies, special purpose horizontal sliding, accordion or folding door assemblies complying with Section 1010.1.4.3.
7. Power-operated doors in accordance with Section 1010.1.4.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.
9. In other than Group H occupancies, manually operated horizontal sliding doors are permitted in a means of egress from spaces with an occupant load of 10 or less.
10. In I-2 and I-2.1 occupancies, exit doors serving an occupant load of 10 or more, may be of the pivoted or balanced type.

~~Doors shall swing in the direction of egress travel where serving a room or area containing an *occupant load* of 50 or more persons or a Group H occupancy. *For Group L occupancies, see Section 443.6.2.*~~

~~*In a Group I-2 occupancy, all required exterior egress doors shall open in the direction of egress regardless of the occupant load served.*~~

1010.1.2.1 Direction of swing. Pivot or side-hinged swinging doors shall swing in the direction of egress travel where serving a room or area containing an occupant load of 50 or more persons or a Group H occupancy. *For Group L occupancies, see Section 453.6.2.*

In a Group I-2 occupancy, all required exterior egress doors shall open in the direction of egress regardless of the occupant load served.

1010.1.9.7 Delayed egress. Delayed egress locking systems shall be permitted to be installed on doors serving any occupancy except Group A, E ~~and~~ H*,* and *L.*

Exception: *Group A occupancy courtrooms are permitted to utilize delayed egress locks.*

~~in b~~*B*uildings ~~that are~~ *with delayed egress locks shall be* equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 ~~or~~ *and* an approved automatic smoke ~~or heat~~ detection system installed in accordance with Section 907. The *delayed egress* locking system shall be installed and operated in accordance with all of the following: ~~*Delayed egress devices shall conform to all of the following:*~~

1. The delay electronics of the delayed egress locking system shall deactivate upon actuation of the automatic sprinkler system or automatic fire detection system, allowing immediate, free egress.

2. The delay electronics of the delayed egress locking system shall deactivate upon loss of *electrical* power ~~controlling the lock or lock mechanism~~, allowing immediate free egress~~.~~*, to* ~~*an*~~*any one of the following*:
2.1 The egress-control device itself.
2.2 The smoke detection system.
2.3 Means of egress illumination as required by Section ~~*1006*~~*1008*

3. The delayed egress locking system shall have the capability of being deactivated at the fire command center and~~—~~ ~~*a switch located in an approved location*~~ approved locations.
4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only. *The time delay established for each egress-control device shall not be field adjustable. For applications listed in Section 1.9.1 regulated by the Division of the State Architect- Access Compliance, see Chapter 11B*

Exception: ~~Where approved~~ *In facilities housing Alzheimer's or dementia clients*, a delay of not more than 30 seconds is permitted on a delayed egress door.

5. The egress path from any point shall not pass through more than one delayed egress locking system.

Exception: In Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds.

~~5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECOMDS. "KEEP PUSHING. THIS DOOR WILL OPEN IN 15 [30] SECONDS. ALARM WILL SOUND"~~ ~~*Sign lettering shall be at least 1inch (25 mm) in height and shall have a stroke of not less than 1/8 inch (3.2 mm).*~~
~~*5.1. A tactile sign shall also be provided in Braille and raised characters, which complies with Chapter 11B*~~.

6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware:
6.1. For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS ~~"KEEP PUSHING. THIS DOOR WILL OPEN IN 15 [30] SECONDS. ALARM WILL SOUND".~~
6.2. For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS
6.3. ~~The sign shall comply with the visual character requirements in ICC A117.1.~~ *Sign lettering shall be at least 1inch (25 mm) in height and shall have a stroke of not less than 1/8 inch (3.2 mm).*

Exception: Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area.

6.4. A tactile sign shall also be provided in Braille and raised characters, which complies with Chapter 11B

7. Emergency lighting shall be provided on the egress side of the door.
8. The delayed egress locking system units shall be listed in accordance with UL 294.

~~7~~9. Actuation of the panic bar or other door-latching hardware shall activate an audible signal at the door.
~~8~~10. The unlatching shall not require more than one operation.
~~9~~11. Regardless of the means of deactivation, relocking of the egress-control device shall be by manual means only at the door.

~~1008.1.9.8~~1010.1.9.8 Sensor release of electrically locked egress doors. The electric locks on sensor released doors located in a means of egress in buildings with an occupancy in Group A, B, ~~E, I-1,~~ I-2, I-4, M, R-1, ~~or~~ R-2, *or R-2.1* ~~*and entrance doors to tenant spaces in occupancies in Groups A, B, I-2, M, R-1 and R-2,*~~ and entrance doors to tenant spaces in occupancies in Group A, B, ~~E, I-1,~~ I-2, I-4, M, R-1, ~~or~~ R-2, *or R-2.1* are permitted where installed and operated in accordance with all of the following criteria:

1. The sensor shall be installed on the egress side, arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to the lock or locking system shall automatically unlock the doors.
3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads “PUSH TO EXIT.” When operated, the manual unlocking device shall result in direct interruption of power to the lock—independent of other electronics— and the doors shall remain unlocked for not less than 30 seconds.
4. Activation of the building fire alarm system, where provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler system or fire detection system, where provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. The door locking system units shall be listed in accordance with UL 294.

1011.15 Ships ladders. Ships ladders are permitted to be used in *lifeguard towers not open to the public and* Group I-3 as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 square feet (23 m2) with not more than three occupants and for access to unoccupied roofs. The minimum clear width at and below the handrails shall be 20 inches (508 mm).

1013.6.3 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27.

Exceptions:
1. Approved exit sign illumination means that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.
2. Group I-2 ~~Condition 2~~ exit sign illumination shall not be provided by unit equipment battery only.

1026.4.2 Number of exits. The refuge area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant load imposed by persons entering it through horizontal exits from other areas. *In other than I-3 Occupancies*, ~~N~~*n*ot less than one refuge area exit shall lead directly to the exterior or to an interior exit stairway or ramp.

Exception: The adjoining compartment shall not be required to have a stairway or door leading directly outside, provided the refuge area into which a horizontal exit leads has stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[12. The SFM proposes to only adopt Sections 1103.7, 1103.7.3, 1103.7.3.1,

1103.7.8 – 1103.7.8.2, 1103.7.9 – 1103.7.9.10, 1103.8 – 1103.8.5.3 and 1107 of Chapter 11 without modification.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 11
CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

CHAPTERS 12 through 19
RESERVED

[13. The SFM proposes to adopt Chapter 20 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 20
AVIATION FACILITIES

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[14. The SFM proposes to adopt Chapter 21 without amendment.

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 21
DRY CLEANING

Notation:
Authority: Health and Safety Code Sections 13201, 13143, 18949.2
References: Health and Safety Code Sections 13143, 18949.2

[15. The SFM proposes to adopt Chapter 22 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 22
COMBUSTIBLE DUST-PRODUCING OPERATIONS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[16. The SFM proposes to adopt Chapter 23 with the following amendments and California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 23
MOTOR FUEL-DISPENSING FACILITIES AND REPAIR GARAGES

[Editorial Note: Existing 2013 CA amendments to Sections 2309.4.1 through 2309.6.3.1 are being repealed. The CA amendments match new model code language.]

2309.4.1 Dispensing systems. Dispensing systems shall be equipped with an overpressure protection device set at not greater than ~~*not greater than*~~ 140 percent of the service pressure of the fueling nozzle it supplies.

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 Sections 2309.6.1 ~~*2309.6.1*~~ through 2309.6.1.2.4 ~~*2309.6.1.2.4*~~.

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 Section 2309.6.1.1~~*2309.6.1.1*~~ or an approved method of atmospheric venting in accordance with Section 2309.6.1.2 ~~2309.6.1.2~~.

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 Sections 2309.6.1.2.1 ~~*2309.6.1.2.1*~~ through 2309.6.1.2.1.4 ~~*2309.6.1.2.1.4*~~.

2309.6.1.2.1 Defueling equipment. Equipment used for defueling shall be listed and labeled or approved ~~*or approved*~~ for the intended use.

2311.8 Defueling equipment required at vehicle maintenance and repair facilities. Facilities for repairing hydrogen fuel systems on hydrogen-fueled vehicles shall have equipment to defuel vehicle storage tanks. Where work must be performed on a 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.
~~***2311.8 Defueling equipment required at vehicle maintenance and repair facilities.*** *Facilities for repairing hydrogen fuel systems on hydrogen-fueled vehicles shall have equipment to defuel vehicle storage tanks. Where work must be performed on a 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.~~

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[17. The SFM proposes to adopt Chapter 24 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 24
FLAMMABLE FINISHES

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[18. The SFM proposes to not adopt Chapter 25.]

CHAPTER 25
FRUIT AND CROP RIPENING

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[19. The SFM proposes to not adopt Chapter 26.]

CHAPTER 26
FUMIGATION AND THERMAL INSECTICIDAL FOGGING

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[20. The SFM proposes to adopt Chapter 27 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 27
SEMICONDUCTOR FABRICATION FACILITIES

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[21. The SFM proposes to adopt Chapter 28 without amendment.

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 28
LUMBER YARDS AND WOODWORKING FACILITIES

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[22. The SFM proposes to adopt Chapter 29 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 29
MANUFACTURE OF ORGANIC COATINGS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[23. The SFM proposes to adopt Chapter 30 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 30
INDUSTRIAL OVENS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[24. The SFM proposes to adopt Chapter 31 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 31
TENTS, CANOPIES AND OTHER MEMBRANE STRUCTURES

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13115, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[25. The SFM proposes to adopt Chapter 32 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 32
HIGH-PILED COMBUSTIBLE STORAGE

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[26. The SFM proposes to adopt Chapter 33 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 33
FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[27. The SFM proposes to adopt Chapter 34 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 34
TIRE REBUILDING AND TIRE STORAGE

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 18949.2, Public Resources Code 42820 (b)
References: Health and Safety Code Sections 13143, 18949.2

[28. The SFM proposes to adopt Chapter 35 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 35
WELDING AND OTHER HOT WORK

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[29. The SFM proposes to adopt Chapter 36 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 36
MARINAS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[30. The SFM proposes to adopt Chapter 37 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 37
COMBUSTIBLE FIBERS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

CHAPTERS 37 through ~~49~~*47*
RESERVED

[31. The SFM proposes to maintain the adoption of SFM Chapter 48 without modification.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 48 [SFM]
MOTION PICTURE AND TELEVISION PRODUCTION STUDIO SOUND STAGES, APPROVED PRODUCTION FACILITIES, AND PRODUCTION LOCATIONS

Notation:
Authority: Health and Safety Code Sections 13143, 18949.2
References: Health and Safety Code Sections 13143, 18949.2

[32. The SFM proposes to maintain the adoption of SFM Chapter 49 without modification.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 49 [SFM]
REQUIREMENTS FOR WILDLAND-URBAN INTERFACE FIRE AREAS

Notation:
Authority: Health and Safety Code Sections 13108.5(a), 13143, 18949.2, Government Code Section 51189.
References: Health and Safety Code Sections 13143, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

[33. The SFM proposes to adopt Chapter 50 with the following amendments and California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 50
HAZARDOUS MATERIALS—GENERAL PROVISIONS

5001.5.2 Hazardous Materials Inventory Statement (HMIS). Where required by the fire code official, an application for a permit shall include an HMIS, such as, *the* Superfund Amendments and Reauthorization Act of 1986 Title III (SARA) ~~*(SARA)*~~ Tier II Report or other approved statement. The HMIS shall include the following information:

1. Product name.
2. Component.
3. Chemical Abstract Service (CAS) number.
4. Location where stored or used.
5. Container size.
6. Hazard classification.
7. Amount in storage.
8. Amount in use-closed systems.
9. Amount in use-open systems.

[For SFM] The HMIS shall comply with Health and Safety Code, Chapter 6.95, Sections 25500 through 25545, and Title 19, Division 2, Chapter 4.

TABLE 5003.1.1(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, m, n, p]

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]			USE-OPEN SYSTEMS[b]	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)
Combustible dust	NA	H-2	See Note q	NA	NA	See Note q	NA	NA	See Note q	NA
Combustible fiber[q]	Loose Baled[o]	H-3	(100) (1,000)	NA	NA	(100) (1,000)	NA	NA	(20) (200)	NA

Combustible liquid[c, i]	II IIIA IIIB	H-2 or H-3 H-2 or H-3 NA	NA	120[d, e] 330[d, e] 13,200[e, f]	NA	NA	120[d] 330[d] 13,200[f]	NA	NA	30[d] 80[d] 3,300[f]
Consumer fireworks	1.4G	H-3	125[e, l]	NA	NA	NA	NA	NA	NA	NA
Cryogenic flammable	NA	H-2	NA	45[d]	NA	NA	45[d]	NA	NA	10[d]
Cryogenic inert	NA	NA	NA	NA	NL	NA	NA	NL	NA	NA
Cryogenic oxidizing	NA	H-3	NA	45[d]	NA	NA	45[d]	NA	NA	10[d]
Explosives	Division 1.1 Division 1.2 Division 1.3 Division 1.4 Division 1.4G Division 1.5 Division 1.6	H-1 H-1 H-1 or H-2 H-3 H-3 H-1 H-1	1[e, g] 1[e, g] ~~5~~10[e, g] 50[e, g] 125[d, e, l] 1[e, g] 1[e, g]	(1)[e, g] (1)[e, g] (~~5~~10)[e, g] (50)[e, g] NA (1)[e, g] NA	NA	0.25[g] 0.25[g] 1[g] 50[g] NA 0.25[g] NA	(0.25)[g] (0.25)[g] (1)[g] (50)[g] NA (0.25)[g] NA	NA	0.25[g] 0.25[g] 1[g] NA NA 0.25[g] NA	(0.25)[g] (0.25)[g] (1)[g] NA NA (0.25)[g] NA
Flammable gas	Gaseous Liquefied	H-2	NA	NA (150)[d, e]	1,000[d, e] NA	NA	NA (150)[d, e]	1,000[d, e] NA	NA	NA
Flammable liquid[c]	IA IB and IC	H-2 or H-3	NA	30[d, e] 120[d, e]	NA	NA	30[d] 120[d]	NA	NA	10[d] 30[d]
Flammable liquid, combination (IA, IB, IC)	NA	H-2 or H-3	NA	120[d, e, h]	NA	NA	120[d, h]	NA	NA	30[d, h]
Flammable solid	NA	H-3	125[d, e]	NA	NA	125[d]	NA	NA	25[d]	NA
Inert gas	Gaseous Liquefied	NA NA	NA NA	NA NA	NL NL	NA NA	NA NA	NL NL	NA NA	NA NA
Organic peroxide	UD I II III IV V	H-1 H-2 H-3 H-3 NA NA	1[e, g] 5[d, e] 50[d, e] 125[d, e] NL NL	(1)[e, g] (5)[d, e] (50)[d, e] (125)[d, e] NL NL	NA	0.25[g] 1[d] 50[d] 125[d] NL NL 0.25[g]	(0.25)[g] (1)[d] (50)[d] NL NL (0.25)[g]	NA NA	0.25[g] 1[d] 10[d] 25[d] NL NL 0.25[g]	(0.25)[g] (1)[d] (10)[d] NL NL (0.25)[g]
Oxidizer	4 3[k] 2 1	H-1 H-2 or H-3 H-3 NA	1[g] 10[d, e] 250[d, e] 4,000[e, f]	(1)[e, g] (10)[d, e] (250)[d, e] (4,000)[e, f]	NA	0.25[g] 2[d] 250[d] 4,000[f]	(0.25)[g] (2)[d] (250)[d] (4,000)[f]	NA	0.25[g] 2[d] 50[d] 1,000[f]	(0.25)[g] (2)[d] (50)[d] (1,000)[f]
Oxidizing gas	Gaseous Liquefied	H-3	NA	NA (150)[d, e]	1,500[d, e] NA	NA	NA (150)[d, e]	1,500[d, e] NA	NA	NA
Pyrophoric	NA	H-2	4[e, g]	(4)[e, g]	50[e, g]	1[g]	(1)[g]	10[e, g]	0	0
Unstable (reactive)	4 3 2 1	H-1 H-1 or H-2 H-3 NA	1[e, g] 5[d, e] 50[d, e] NL	(1)[e, g] (5)[d, e] (50)[d, e] NL	10[e, g] 50[d, e] 750[d, e] NL	0.25[g] 1[d] 50[d] NL	(0.25)[g] (1)[d] (50)[d] NL	2[e, g] 10[d, e] 750[d, e] NL	0.25[g] 1[d] 10[d] NL	(0.25)[g] (1)[d] (10)[d] NL
Water reactive	3 2 1	H-2 H-3 NA	5[d, e] 50[d, e] NL	(5)[d, e] (50)[d, e] NL	NA	5[d] 50[d] NL	(5)[d] (50)[d] NL	NA	1[d] 10[d] NL	(1)[d] (10)[d] NL

For SI: 1 cubic foot = 0.02832 m3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.
NA = Not Applicable, NL = Not Limited, UD = Unclassified Detonable.
a. For use of control areas, see Section 5003.8.3.
b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited providing the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies,

the quantities of medicines, foodstuff or consumer products and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.
d. *[SFM]* *In other than Group L occupancies,* ~~M~~*m*aximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.
e. Maximum allowable quantities shall be increased 100 percent where stored in approved storage cabinets, day boxes, gas cabinets, gas rooms, exhausted enclosures or in listed safety cans in accordance with Section 5003.9.10. Where Note d also applies, the increase for both notes shall be applied accumulatively.
f. Quantities shall not be limited in a building equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.
g. Allowed only in buildings equipped throughout with an approved automatic sprinkler system.
h. Containing not more than the maximum allowable quantity per control area of Class IA, Class IB or Class IC flammable liquids.
i. The maximum allowable quantity shall not apply to fuel oil storage complying with Section 603.3.2.
j. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.
k. A maximum quantity of 200 pounds of solid or 20 gallons of liquid Class 3 oxidizers is allowed where such materials are necessary for maintenance purposes, operation or sanitation of equipment where the storage containers and the manner of storage are approved.
l. Net weight of pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks including packaging shall be used.
m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2.
n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 5003.11, see Table 5003.11.1.
o. Densely-packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.
p. The following shall not be included in determining the maximum allowable quantities:
1. Liquid or gaseous fuel in fuel tanks on vehicles.
2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with this code.
3. Gaseous fuels in piping systems and fixed appliances regulated by the ~~*International Fuel Gas*~~*California Mechanical Code*.
4. Liquid fuels in piping systems and fixed appliances, regulated by the ~~*International*~~*California Mechanical Code*.
5. Alcohol-based hand rubs classified as Class I or II liquids in dispensers that are installed in accordance with Sections 5705.5 and 5705.5.1. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents.
q. 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 104.7.2.

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[34. The SFM proposes to adopt Chapter 51 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 51
AEROSOLS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[35. The SFM proposes to adopt Chapter 53 with the following amendments and

California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 53
COMPRESSED GASES

5301.1 Scope. Storage, use and handling of compressed gases in compressed gas containers, cylinders, tanks and systems shall comply with this chapter and NFPA 55, including those gases regulated elsewhere in this code. Partially full compressed gas containers, cylinders or tanks containing residual gases shall be considered as full for the purposes of the controls required.

Liquefied natural gas for use as a vehicular fuel shall also comply with NFPA 52 and NFPA 59A.

Compressed gases classified as hazardous materials shall also comply with Chapter 50 for general requirements and chapters addressing specific hazards, including Chapters 58 (Flammable Gases), 60 (Highly Toxic and Toxic Materials), 63 (Oxidizers, Oxidizing Gases and Oxidizing Cryogenic Fluids) and 64 (Pyrophoric Materials).

Compressed hydrogen (CH2) for use as a vehicular fuel shall also comply with Chapters 23 and 58 of this code, the ~~*International Fuel Gas*~~*California Mechanical Code* and NFPA 2.
~~*Compressed hydrogen (CH_2) for use as a vehicular fuel shall also comply with Chapters 23 and 58 of this code, the California Mechanical Code and NFPA 2.*~~

Cutting and welding gases shall also comply with Chapter 35.

LP-gas shall also comply with Chapter 61 and the ~~*International Fuel Gas*~~*California Mechanical Code*.

Exceptions:
1. Gases used as refrigerants in refrigeration systems (see Section 606).
2. Compressed natural gas (CNG) for use as a vehicular fuel shall comply with Chapter 23, NFPA 52 and the ~~*International Fuel Gas*~~*California Mechanical* Code.
3. Cryogenic fluids shall comply with Chapter 55.

[California Code of Regulations, Title 19, Division 1, §3.18(a) and (b)] Hazardous Areas.
(a) General. Occupancies or portions thereof used or intended to be used as operating rooms, surgeries, delivery rooms, storage rooms and similar hazardous locations in which flammable or nonflammable mixtures of gases are used or stored shall be maintained in accordance with the provisions of NFPA 99-2005 Inhalation Anesthetics, NFPA 99-2005 Laboratories, NFPA 99-2005 Hyperbaric Facilities, NFPA 55-2010 Bulk Oxygen Systems at Consumer Sites, and this section.
(b) Containers. Cylinders and fittings for compressed gases shall conform to the regulations of the Federal Department of Transportation.
Compressed gas cylinders shall be clearly marked with the name of the gas contained therein. Cylinders shall bear color makings and labels conforming to the following:

Gas		***Color***
(1)	*Oxygen*	*Green*
(2)	*Carbon Dioxide*	*Gray*
(3)	*Nitrous Oxide*	*Light Blue*
(4)	*Cyclopropane*	*Orange*
(5)	*Helium*	*Brown*
(6)	*Ethlene*	*Red*
(7)	*Carbon Dioxide and Oxygen*	*Gray and Green*
(8)	*Helium and Oxygen*	*Brown and Green*

Note: Polished metal or chrome-plated cylinders shall have color tags in addition to color labels.
When deemed necessary by the enforcing agency compressed gas cylinders shall be secured by chains, metal straps, or other approved materials to prevent overturning.

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2

References: Health and Safety Code Sections 13143, 13211, 18949.2

[36. The SFM proposes to maintain the adoption of Chapter 54 without modification.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 54
CORROSIVE MATERIALS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[37. The SFM proposes to adopt Chapter 55 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 55
CRYOGENIC FLUIDS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[38. The SFM proposes the adoption of Chapter 56 with modification.]

CHAPTER 56
EXPLOSIVES AND FIREWORKS

SECTION 5601
GENERAL

~~***5601.1 Scope.*** *For explosives requirements see California Code of Regulations, Title 19, Division 1, Chapter 10. For fireworks requirements, see California Code of Regulations, Title 19, Division 1, Chapter 6.*~~
5601.1 Scope. *The provisions of this chapter shall govern the possession, manufacture, storage, handling, sale and use of explosives, explosive materials, fireworks, rockets, emergency signaling devices and small arms ammunition.*

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
10. Items preempted by state law and/or regulations.

For additional provisions regarding the possession, manufacture, storage, handling, sale and use of explosives, see California Code of Regulations, Title 19, Division 1, Chapter 10.

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.

5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.

Exceptions:
1. Storage and handling of fireworks as allowed in Section 5604.
2. Manufacture, assembly and testing of fireworks as allowed in Section 5605.
3. The use of fireworks for fireworks displays*, pyrotechnics before a proximate audience and pyrotechnic special effects in motion pictures, television, theatrical or group entertainment productions* as allowed in *Title 19, Division 1, Chapter 6 Fireworks reprinted in* Section 5608.
4. The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and regulations, provided such fireworks and facilities comply with NFPA 1124, CPSC 16 CFR Parts 1500 and 1507, and DOTn 49 CFR Parts 100– 185, for consumer fireworks.

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.~~ *For rocketry requirements see California Code of Regulations, Title 19, Division 1, Chapter 6. reprinted in Section 5610 5611, and 5612.*

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 shall be required as set forth in Section 105.6 and regulated in accordance with this section.

5601.2.1 Residential uses. Persons shall not keep or store, nor shall any permit be issued to keep or store, any explosives at any place of habitation, or within 100 feet (30 480 mm) thereof.

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

5601.2.2 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.

Exception: *Fireworks in accordance with California Code of Regulations, Title 19, Division 1, Chapter 6, see Section 5608.*

5601.2.3 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: *Fireworks in accordance with California Code of Regulations, Title 19, Division 1, Chapter 6, see Section 5608.*

5601.2.4 Financial responsibility. Before a permit 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 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 this bond requirement.

Exception: *Fireworks in accordance with California Code of Regulations, Title 19, Division 1, Chapter 6, see Section 5608.*

5601.2.4.1 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.

5601.3 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.
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.

5601.3.1. Abandonment Prohibited. No explosives shall be abandoned, but shall be returned to proper storage.

5601.4 Qualifications. Persons in charge of magazines~~,~~ *or* blasting~~, fireworks display 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~~,~~ *or* 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, Sun- days 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, explosive materials or fireworks offered or exposed for sale, stored, possessed or used in violation of this chapter.

5601.8 Establishment of quantity of explosives and distances. The quantity of explosives and distances shall be in accordance with Sections 5601.8.1 and 5601.8.1.1.

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.

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 pyro- technic 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).

TABLE 5601.8.1(1)
APPLICATION OF SEPARATION 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	Table 5604.5.2(1)	IMD	Table 5605.3	ILD or IPD	Table 5604.5.2(1)	IBD	Table 5604.5.2(1)	PTR
Operating building	Table 5604.5.2(1)	ILD or IPD	Table 5605.3	ILD or IPD	Table 5604.5.2(1)	IBD	Table 5604.5.2(1)	PTR
Inhabited building	Table 5604.5.2(1)	IBD	Table 5604.5.2(1)	IBD	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Public traffic route	Table 5604.5.2(1)	PTR	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_O) 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.
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 (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	Table 5604.5.2(2)	IMD	Table 5604.5.2(2)	ILD or IPD	Table 5604.5.2(2)	IBD	Table 5604.5.2(2)	PTR
Operating building	Table 5604.5.2(2)	ILD or IPD	Table 5604.5.2(2)	ILD or IPD	Table 5604.5.2(2)	IBD	Table 5604.5.2(2)	PTR
Inhabited building	Table 5604.5.2(2)	IBD	Table 5604.5.2(2)	IBD	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Public traffic route	Table 5604.5.2(2)	PTR	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_O) 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)
APPLICATION OF SEPARATION 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	Table 5604.5.2(3)	IMD	Table 5604.5.2(3)	ILD or IPD	Table 5604.5.2(3)	IBD	Table 5604.5.2(3)	PTR
Operating building	Table 5604.5.2(3)	ILD or IPD	Table 5604.5.2(3)	ILD or IPD	Table 5604.5.2(3)	IBD	Table 5604.5.2(3)	PTR
Inhabited building	Table 5604.5.2(3)	IBD	Table 5604.5.2(3)	IBD	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Public traffic route	Table 5604.5.2(3)	PTR	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_O) 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.

5601.8.1.3 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 deter- mine 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 deter- mine 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 para- graphs 1 and 2 above, 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 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.
BARRICADE.
BARRICADED.
BLAST AREA.
BLAST SITE.
BLASTER.
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 materials by US DOTn.~~ *Any material or mixture, consisting of a fuel and oxidizer, intended for blasting, not otherwise classified as an explosive and in which none of the ingredients are classified as an explosive, provided that the finished product, as mixed and packaged for use or shipment, cannot be detonated by means of a No. 8 test blasting cap when unconfined.*
1: A No. 8 test blasting cap is one containing 2 grams of a mixture of 80% mercury fulminate and 20% potassium chlorate, or a cap of equivalent strength.2: Nitro-Carbo-Nitrates shall mean any blasting agent which has been classified as nitro-carbo-nitrate by the U.S.D.O.T., and which is packaged and shipped in compliance with the regulations of the U.S.D.O.T.

BULLET RESISTANT.
[California Code of Regulations, Title 19, Division 1, §§1559.3. Chief]
§1559.3. Chief *shall mean the issuing authority*

DETONATING CORD.
DETONATION.
DETONATOR.
~~**DISCHARGE SITE.**~~
~~**DISPLAY SITE.**~~
EXPLOSIVE MATERIAL.
~~**FALLOUT AREA.**~~
~~**FIREWORKS.**~~
~~**FIREWORKS DISPLAY.**~~
HIGHWAY. A*ny* public street, public alley, or public road*, including a privately financed, constructed, or maintained road that is regularly and openly traveled by the general public. (27 CFR)*
INHABITED BUILDING.

[California Code of Regulations, Title 19, Division 1, §1559.9 Issuing authority]
§1559.9 Issuing authority *shall mean either the sheriff of a county, or the chief or other head of a municipal police department of any city or city and county, or the chief of a fire department or fire protection agency, and their authorized representatives, provided that, in the event the designated issuing authority is the chief of a fire department or fire protection agency, such fire department or fire protection agency is organized with regularly paid, full-time personnel. The governing body of any county, city, or city and county shall designate one of the above as the issuing authority within its jurisdiction and shall notify the State Fire Marshal of the person so designated.*

MAGAZINE.
~~**MORTAR**. A tube from which fireworks shells are fired into the air.~~

NET EXPLOSIVE WEIGHT (net weight).
OPERATING BUILDING.
OPERATING LINE
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.~~ *Two or more unmixed, commercially manufactured, prepackaged chemical compounds, including but not limited to hazardous materials, such as oxidizing, flammable liquids or solids, corrosive liquids or similar materials which are not independently classified as explosives, but when combined form a compound which is classified as an explosive.*

[California Code of Regulations, Title 19, Division 1, §1559.16 Person]
§1559.16 Person *shall mean any person, organization, firm, corporation, association, city, county, city and county, and state, and shall include any of their employees and authorized representatives.*

[California Code of Regulations, Title 19, Division 1, §1559.16 Propellant-actuated power devices]
§1559.16 Propellant-actuated power devices *shall mean any tool or special mechanized device or gas generator system which is actuated by a propellant or which releases and directs work through a propellant charge.*

[California Code of Regulations, Title 19, Division 1, §1559.16 Propellants]
§1559.16 Propellants *shall mean solid propellants, commonly called smokeless powders, used in small arms ammunition, cannon, rockets, propellant-actuated power devices and similar devices.*

PROXIMATE AUDIENCE.
PUBLIC TRAFFIC ROUTE.

[California Code of Regulations, Title 19, Division 1, §1559.16 Public conveyance]
§1559.16 Public conveyance *shall mean any railway car, street car, ferry, cab, bus, airplane or other vehicle which is carrying passengers for hire.*

PYROTECHNIC ARTICLE.
PYROTECHNIC COMPOSITION.
PYROTECHNIC SPECIAL EFFECT.
PYROTECHNIC SPECIAL-EFFECT MATERIAL
PYROTECHNICS.
QUANTITY-DISTANCE (Q-D).

~~**RAILWAY**. A steam, electric or other railroad or railway that carriers passengers for hire.~~

[California Code of Regulations, Title 19, Division 1, §1559.18 Railway]
§1559.18 Railway *shall mean any tramway, steam, electric, diesel electric, or other railway or railroad which carries passengers for hire on the particular line or branch in the vicinity where explosives are stored or where explosives manufacturing buildings are situated.*

READY BOX.
~~**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.~~

[California Code of Regulations, Title 19, Division 1, §1559.19 (a) Small arms ammunition]
§1559.19 (a) Small arms ammunition *shall mean ammunition of .75 caliber or less when designated as a ~~Class C~~ Division 1.4 explosive by the U.S.D.O.T. which includes a shotgun, rifle or pistol cartridge and any cartridge for propellant-actuated devices.*

SMALL ARMS PRIMERS.
SMOKELESS PROPELLANTS.
SPECIAL INDUSTRIAL EXPLOSIVE DEVICE.
THEFT RESISTANT.

[California Code of Regulations, Title 19, Division 1, §1559.20 Tramway]
§1559.20 Tramway *shall mean an aerial passenger tramway used to transport passengers by the use of overhead steel cables or by ropes, supported in one (1) or more spans.*

[California Code of Regulations, Title 19, Division 1, §1559.21. U.S.D.O.T.]
§1559.21. U.S.D.O.T. *shall mean the United States Department of Transportation.*

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, thefts or unauthorized activities involving explosive materials shall conform to the requirements of this section.*

5603.2 Transaction record. *The permittee shall maintain a record of all transactions involving receipt, removal, sale, 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 from a magazine or permitted facility shall be reported to the fire code official, local law enforcement authorities and the*

U.S. 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.*

5603.4 Accidents. *Accidents 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.*

5603.5 Misfires. *The pyrotechnic display operator 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 5608~~.5 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 ~~*International*~~ *California Building Code.*

5604.3 Magazines. The storage of explosives and explosive materials in magazines shall comply with Table 5604.3.

5604.3.1 High explosives. Explosive materials classified as Division 1.1 or 1.2 or formerly classified as Class A by the U.S. 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.

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 of Group F, H, M or S, and research and development laboratories.

TABLE 5604.3
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*	~~10~~*20*	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.

5604.5.1.2 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)
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 Table5604.5.2(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)

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.

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, e, f]

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~~ 2	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	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	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

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
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.

e . All types of blasting caps in strengths through No. 8 cap shall be rated at 1 1/2 pounds of explosives per 1,000 caps. For strengths higher than No. 8 cap, consult the chief having jurisdiction.

f. For quantity and distance purposes, detonating fuse up to 60 grains per foot, shall be calculated as equivalent to nine (9) pounds of high explosives per 1000 feet. Heavier cord loads shall be rated proportionally.

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 and/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 of other than Type I or Type II construction as defined in the ~~*International*~~*California Building Code.*

b. For earth-covered magazines, specific separation is not required.

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 magazines. To reduce erosion and facilitate maintenance operations, the cover shall have a slope of 2 horizontal to 1 vertical.

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.

5604.5.3.1 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 5604.6.5.2.

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.

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 upon which Type 1 magazines and outdoor magazines of Types 2, 4 and 5 are located shall be posted with signs stating: 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.

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 fire- arms 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~~*50* feet (7620 mm). *Magazine contents shall be protected from flooding.*

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 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.

5604.7.5.4 Packaging of Plosophoric Compounds *No provisions of these regulations nor the standards referenced herein shall allow any person to repackage any compound from the original manufacturer's packaging unit. The manufacturer of plosophoric compounds shall package and ship only in units which have been determined to meet the standards for shipping of hazardous materials.*

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.~~ ***Methods of Storage.*** *Packages of explosives shall be laid flat with top side up. Black powder, when stored in magazines with other explosives, shall be stored in separate piles. Corresponding grades and brands shall be stored together in such a manner so that brands and grade marks are visible. All stocks shall be stored so as to be easily counted and checked. Packages of explosives shall be piled in a stable manner. When any kind of explosive is removed from a magazine for use, the oldest explosive of that particular kind shall always be taken first. The use of storage pallets is mandatory. 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 manufacturers' 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.

5604.8.4 Piling of Stocks. *Provisions shall be made to prevent the piling of stocks of explosives directly against the walls of Class I magazines. Such protection, however, shall not in any way interfere with proper ventilation or the required ventilation openings.*

5604.9 Inspection. Magazines containing explosive materials shall be opened and inspected at maximum seven-day intervals. The inspection shall determine whether there has been an unauthorized or attempted entry into a magazine or an unauthorized removal of a magazine or its contents.

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. *Only competent experienced persons, at least 21 years of age, shall do the work of destroying explosives.*

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 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.

5604.11 Explosives at Piers, Railway Stations and Cars or Vessels Not Otherwise Specified in These Rules and Regulations

[California Code of Regulations, Title 19, Division 1, §1571. General]
§1571. General. *Except in an emergency and with permission of the "Chief" having jurisdiction, no person shall have or keep explosives in a railway car unless said car and contents and methods of loading are in accordance with the U.S.D.O.T. Regulations for the Transportation of Explosives.*

[California Code of Regulations, Title 19, Division 1, §1571.1 Cargo Deliver].
§1571.1 Cargo Delivery. *No person shall deliver any explosive to any person who does not possess and present a valid permit, or copy thereof, to receive and transport from the "Chief" having jurisdiction and/or the California Highway Patrol. In addition to the permit requirements, rail or truck terminal personnel shall not deliver any explosive to any person unless such explosive conforms in all respects, including marking and packing, to the Regulations for the Transportation of Explosives.*

[California Code of Regulations, Title 19, Division 1, §1571.2 Placarding at Destination]
§1571.2 Placarding at Destination. *Every railway car containing explosives which has reached its destination, or is stopped in transit so as no longer to be in interstate commerce, shall remain placarded as required until completely unloaded. After unloading, such placards shall be removed.*

[California Code of Regulations, Title 19, Division 1, §1571.3. Explosives Location]
§1571.3. Explosives Location. *Any explosives at a railway facility, truck terminal, pier, wharf, harbor facility, or airport terminal, within any city, city and county, county, fire protection district, or the state, whether for delivery to a consignee, or forwarded to some other destination, shall be kept in a safe place which has been approved by the "Chief" having jurisdiction. In approving such location it is the intent that the explosives shall be isolated as far as practicable and in such manner that they can be easily and quickly removed.*

[California Code of Regulations, Title 19, Division 1, §1571.4 Cargo Delivery Times]
§1571.4 Cargo Delivery Times. *Explosives shall not be delivered to or received from any railway station, truck terminal, pier, wharf, harbor facility, or airport terminal within a city, city and county, county, fire protection district, or the state between the hours of sunset and sunrise, except by special permit from the "Chief" having jurisdiction.*

[California Code of Regulations, Title 19, Division 1, §1571.5 Fire Department Notification]
§1571.5 Fire Department Notification. *When explosives are brought into any city, city and county, county, fire protection district, or the state, by any means of transportation, for delivery to an intermediate receiver, consignee's agent or consignee, or to be forwarded to some other destination, the carrier performing the shipment shall immediately notify the consignee and when required, the "Chief" having jurisdiction of the arrival of the explosives, and if said consignee does not receive and remove the said explosives from the possession of the carrier within 48-hours (Sundays and holidays excluded), after such notification, then the railway, trucking firm, vessel agent, or airline shall remove the said explosives from the city, city and county, county, fire protection district, or state or to a permitted magazine or make a report to the "Chief" having jurisdiction, who shall see that the said explosives are moved to a place of safety.*

[California Code of Regulations, Title 19, Division 1, §1571.6 Cargo Removal]
§1571.6 Cargo Removal. *Any person having been notified, as consignee, of a shipment of explosives being in the hands of any carrier, within any city, city and county, county, fire protection district, or the state, shall remove the said explosives within 48-hours (Sundays and holidays excluded), after receiving such notification to a place meeting the requirements of these rules and regulations.*

[California Code of Regulations, Title 19, Division 1, §1571.7. Facility Designation]
§1571.7. Facility Designation. *The "Chief" having jurisdiction has the authority to and may designate the location for, and limit the quantity of, explosives which may be loaded, unloaded, or temporarily retained at any facility within his jurisdiction.*

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 sub- mitted 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 con- fines of the manufacturing plant, at a distance not less than those shown in Table 5605.3 or 5604.5.2(3), as appropriate.

Exception: Fireworks manufacturing buildings separated in accordance with NFPA 1124.

The quantity of explosives in an operating building shall be the net weight of all 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 purr- pose. 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 test- in. 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.

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 dis- trances 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).

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

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.

5605.4.1.3 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 ~~International~~ *California* 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.

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 trans- ported 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 5605.3 or 5604.5.2(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 work day. The con- tents of indoor magazines shall be added to the quantity of explosives contained at individual workstations and the total quantity of material stored, processed or used shall be utilized to establish the intraplant separation distances indicated by Table 5605.3 or 5604.5.2(3), as appropriate.

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

5606.1 General. Indoor storage and display of black powder, smokeless propellants, small arms primers and small arms ammunition 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.

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 inaccessible 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), shall be firmly attached to the wall and 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 through- out with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

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. 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:
2.1The warehouse or storage building shall not be accessible to unauthorized personnel.
2.2Small arms primers shall be stored in cabinets. Not more than 200,000 small arms primers shall be stored in any one cabinet.
2.3Shelves 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 1/4 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 through- out with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
3. Small arms primers not stored in accordance with Item 1 or 2 of this section shall be stored in a magazine meeting the requirements of Section 5604 and NFPA 495.

5606.6 Transportation of Small Arms Ammunition, Small Arms Primers, Smokeless Powder and Black Sporting Powder

[California Code of Regulations, Title 19, Division 1, §1574.1. Transportation]
§1574.1. Transportation. *Quantities, in shipping containers approved by the U.S.D.O.T., of not more than twenty (20) pounds of smokeless powder or not more than five (5) pounds of black sporting powder (or any combination thereof) may be transported in a private passenger vehicle without a permit.*

[California Code of Regulations, Title 19, Division 1, §1574.2. Magazine]
§1574.2. Magazine*--When Required. Quantities in excess of twenty (20) pounds (but not exceeding fifty (50) pounds) of smokeless powder, or not more than five (5) pounds of black sporting powder (or any combination thereof) may be transported in a private passenger vehicle when approved by the "Chief" having jurisdiction, provided however, that such powder shall be transported in separate portable magazines having wooden walls of at least one (1) inch nominal thickness.*

[California Code of Regulations, Title 19, Division 1, §1574.3. Transportation Prohibitions]
§1574.3. Transportation Prohibitions. *Transportation of quantities in excess of fifty (50) pounds of smokeless powder or five (5) pounds of black sporting powder is prohibited in a private passenger vehicle.*

[California Code of Regulations, Title 19, Division 1, §1574.4. Transportation--U.S. Department of Transportation]
§1574.4. Transportation--U.S. Department of Transportation*. Transportation of quantities in excess of fifty (50) pounds of smokeless powder or five (5) pounds of black sporting powder in other than a private passenger vehicle shall be in accordance with the U.S.D.O.T. regulations.*

[California Code of Regulations, Title 19, Division 1, §1574.5. Storage Containers]
§1574.5. Storage Containers*. All smokeless powder and black sporting powder shall be stored in U.S.D.O.T. approved shipping containers, or in a container approved by the "Chief" having jurisdiction.*

[California Code of Regulations, Title 19, Division 1, §1575. Primer Containers]
§1575. Primer Containers. *Small arms ammunition primers shall not be transported or stored except in the original shipping container approved by the U.S.D.O.T.*

[California Code of Regulations, Title 19, Division 1, §1575.1. Transportation
§1575.1. Transportation. *Truck or rail transportation of small arms ammunition primers shall be in accordance with U.S.D.O.T.regulations.*

[California Code of Regulations, Title 19, Division 1, §1575.2. Transportation Prohibitions]
§1575.2. Transportation Prohibitions. *Not more than 250,000 small arms ammunition primers shall be transported in a private passenger vehicle.*

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 *this section and* 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 con- ducted 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.

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 snow storms, 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.

5607.9.1 Drill Hole Loading. *No holes shall be loaded except those to be fired in the next round of blasting. After loading, all remaining explosives shall be immediately returned to proper storage.*

5607.9.2 Drill Hole Deepening. *Drill holes which have contained explosives shall not be re-drilled.*

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 blast holes 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 shall 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.

SECTION 5608
FIREWORKS DISPLAY

5608.1 General. Outdoor fireworks displays, use of pyrotechnics before a proximate audience and pyrotechnic special effects in motion picture, television, theatrical and group entertainment productions shall comply with ~~Sections 5608.2 through 5608.10 and NFPA 1123 or NFPA 1126~~ *California Code of Regulations, Title 19, Division 1, Chapter 6 - Fireworks* *and this section*.

5608.1.1 Scope. *Fireworks and temporary storage, use, and handling of pyrotechnic special effects material used in motion pictures, television, and theatrical and group entertainment productions shall be in accordance with California Code of Regulations, Title 19, Division 1, Chapter 6 – Fireworks.*

~~**5608.2 Permit application.** Prior to issuing permits for a fireworks display, plans for the fireworks display, inspections of the display site and demonstrations of the display operations shall be approved. A plan establishing procedures to follow and actions to be taken in the event that a shell fails to ignite in, or discharge from, a mortar or fails to function over the fallout area or other malfunctions shall be provided to the fire code official.~~

~~**5608.2.1 Outdoor fireworks displays.** In addition to the requirements of Section 403, permit applications for outdoor fireworks displays using Division 1.3G fireworks shall include a diagram of the location at which the fireworks display will be conducted, including the site from which fireworks will be discharged; the location of buildings, highways, overhead obstructions and utilities; and the lines behind which the audience will be restrained.~~

~~**5608.2.2 Use of pyrotechnics before a proximate audience.** Where the separation distances required in Section 5608.4 and NFPA 1123 are unavailable or cannot be secured, fireworks displays shall be conducted in accordance with NFPA 1126 for proximate audiences. Applications for use of pyrotechnics before a proximate audience shall include plans indicating the required clearances for spectators and combustibles, crowd control measures, smoke control measures and requirements for standby personnel and equipment where provision of such personnel or equipment is required by the fire code official.~~

~~**5608.3 Approved fireworks displays.** Approved fireworks displays shall include only the approved fireworks 1.3G, fire- works 1.4G, fireworks 1.4S and pyrotechnic articles, 1.4G, which shall be handled by an approved, competent operator. The approved fireworks shall be arranged, located, dis- charged and fired in a manner that will not pose a hazard to property or endanger any person.~~

~~**5608.4 Clearance.** Spectators, spectator parking areas, and dwellings, buildings or structures shall not be located within the display site.~~

~~**Exceptions:**~~
~~1. This provision shall not apply to pyrotechnic special effects and fireworks displays using Division 1.4G materials before a proximate audience in accordance with NFPA 1126.~~
~~2. This provision shall not apply to unoccupied dwellings, buildings and structures with the approval of the building owner and the fire code official.~~

~~**5608.5 Storage of fireworks at display site.** The storage of fireworks at the display site shall comply with the requirements of this section and NFPA 1123 or NFPA 1126.~~

~~**5608.5.1 Supervision and weather protection.** Beginning as soon as fireworks have been delivered to the display site, they shall not be left unattended.~~

~~**5608.5.2 Weather protection.** Fireworks shall be kept dry after delivery to the display site.~~

~~**5608.5.3 Inspection.** Shells shall be inspected by the operator or assistants after delivery to the display site. Shells 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 dis- charge. Aerial shells that do not fit properly shall not be fired. After the fireworks display, damaged, deteriorated or dud shells 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 displays, attachment of electric matches and similar tasks shall be allowed.~~

~~**5608.5.4 Sorting and separation.** After delivery to the display site and prior to the fireworks display, all shells shall be separated according to their size and their designation as salutes.~~

~~**Exception:** For electrically fired displays, or displays 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.~~

~~**5608.5.5 Ready boxes.** Display fireworks, 1.3G, that will be temporarily stored at the site during the fireworks display shall be stored in ready boxes located upwind and not
less than 25 feet (7620 mm) from the mortar placement and separated according to their size and their designation as salutes.~~

~~**Exception:** For electrically fired fireworks displays, or fireworks displays 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.~~

~~**5608.6 Installation of mortars.** Mortars for firing fireworks shells shall be installed in accordance with NFPA 1123 and shall be positioned so that shells are propelled away from spectators and over the fallout area. Under no circumstances shall mortars be angled toward the spectator viewing area. Prior to placement, mortars shall be inspected for defects, such as dents, bent ends, damaged interiors and damaged plugs. Defective mortars shall not be used.~~

~~**5608.7 Handling.** Aerial shells shall be carried to mortars by the shell body. For the purpose of loading mortars, aerial shells shall be held by the thick portion of the fuse and care- fully loaded into mortars.~~

~~**5608.8 Fireworks display supervision.** Whenever in the opinion of the fire code official or the operator a hazardous condition exists, the fireworks display shall be discontinued immediately until such time as the dangerous situation is corrected.~~

~~**5608.9 Post-fireworks display inspection.** After the fire- works display, the firing crew shall conduct an inspection of the fallout area for the purpose of locating unexploded aerial shells or live components. This inspection shall be conducted before public access to the site shall be allowed. Where fire- works are displayed at night and it is not possible to inspect the site thoroughly, the operator or designated assistant shall inspect the entire site at first light.~~

~~A report identifying any shells that fail to ignite in, or dis- charge from, a mortar or fail to function over the fallout area or otherwise malfunction, shall be filed with the fire code official.~~

~~**5608.10 Disposal.** Any shells found during the inspection required in Section 5608.9 shall not be handled until not less than 15 minutes have elapsed from the time the shells were fired. The fireworks shall then be doused with water and allowed to remain for not less than 5 additional minutes before being placed in a plastic bucket or fiberboard box. The disposal instructions of the manufacturer as provided by the fireworks supplier shall then be~~

~~followed in disposing of the fireworks in accordance with Section 5604.10.~~

[California Code of Regulations, Title 19, Division 1, §980-1006]

§980. Definitions.

Aerial Shell. *A cylinder or spherical cartridge containing a burst charge and pyrotechnic or non-pyrotechnic effects, a fuse, a black powder lift charge and is fired from a mortar.*

ASTM. *The American Society of Testing and Materials, a national organization publishing standards for all types of materials and products.*

Barrage. *A rapidly fired sequence of effects.*

Batten. *A strip of wood to which pyrotechnic devices are attached for support.*

Binary Low Explosive Compounds. *Special effects materials in which fuel and an oxidizer are mixed together to produce a pyrotechnic composition.*

Blank Cartridge. *A cartridge constructed from either metal or plastic casing, with a center or rim fire primer filled with various amounts of pyrotechnic compositions measured by loads.*

Blasting Galvanometer. *An electrical resistance measuring device designed specifically and approved for testing of electric firing circuits.*

Bottle Rocket. *A pyrotechnic device containing a maximum of 20 grams of pyrotechnic composition, which rises into the air upon ignition. A stick is used for guidance and stability, and a burst of color or noise, or both, is produced at height of flight.*

Break. *An individual burst from an aerial shell, producing either a visible or audible effect or both, and may consist of a single burst or multiple effects.*

Bullet Effect. *The discharge of the pyrotechnic or explosive bullet hit.*

Bullet Hit. *A device containing various levels and amounts of pyrotechnic composition, whose purpose is to create the illusion of a bullet impact.*

California Candle. *Hand held heavy paper or cardboard tube emitting showers of sparks.*

Comet. *A pyrotechnic device launched from a mortar that produces an ascending burning effect, is self-consuming, and may or may not contain a burst charge or stars.*

Darts. *To move suddenly and swiftly from one place to another.*

Detonator. *Any device containing a detonating charge that is used for initiating detonation in an explosive. The term includes, but is not limited to, electric blasting caps of instantaneous and delay types, detonating cord delay connectors, and nonelectric instantaneous and delay blasting caps.*

D.O.T. *means U.S. Department of Transportation.*

Dud. *A pyrotechnic item which leaves the mortar and returns to earth without producing the intended burst or effect. See also Misfire.*

Electric Firing. *A technique used to discharge fireworks in which an electric match or squib and a source of electric current are used to ignite fuses or lift charges.*

Electric Match. *An electric device containing a pyrotechnic compound which ignites when sufficient current flows through the leads.*

Firecracker. *A device containing explosive pyrotechnic composition in an amount not to exceed 50 milligrams (.772 grains) in total pyrotechnic weight, in a fused container whose primary function is to produce an audible effect. Note: All firecrackers are classified as "dangerous fireworks", and pyrotechnic devices similar in construction to a "firecracker" which exceed the specified weight shall be designated explosives in accordance with Health and Safety Code Section 12000.*

Flash Paper. *Treated paper which is extremely sensitive to heat and creates a brief flash of fire upon ignition.*

Flash Powder. *Pyrotechnic composition intended for use in firecrackers and salutes, and often used for "flash"-type effects on stage and in productions involving special effects. Flash powder produces an audible report and a flash of light when ignited. Typical flash powder compositions contain potassium chlorate or potassium perchlorate, sulfur or antimony sulfide, and powdered aluminum.*

Flower Pot. *A shell (not the lifting charge) that explodes at or near the bottom of a mortar blowing a shower of stars and burning material into the air.*

Fountain. *See Gerb.*

Gerb. *(also known as a Fountain). A device that, when ignited, emits a shower of sparks into the air at various altitudes.*

Ground Spinning Device*. Also known as a Ground Spinner. A pyrotechnic device that discharges sparks as it spins across the surface upon which it is placed.*

HDPE Mortar. *Also known as a High Density Polyethylene Mortar, is a mortar constructed of high density polyethylene which is certified and labeled as meeting one or more of the following ASTM standards, which are hereby incorporated by reference: ASTM D 3350, or ASTM F 714.*

Ignitor. *An electric, chemical or mechanical device used to initiate burning or pyrotechnic or propellant materials.*

Lance. *A thin cardboard tube packed with a color-producing pyrotechnic composition.*

License. *"License" means any nontransferable authorization granted by the State Fire Marshal to engage in any activity regulated by this part.*

Licensee. *"Licensee" means any person 21 years of age or older holding a fireworks license issued pursuant to Chapter 5 (commencing with Section 12570), of the Health and Safety Code.*

Loader. *A person who places shells into mortars.*

Low Burst or Low Break. *The result of a shell exploding below its prescribed height.*

Magazine Tender. *Person who distributes pyrotechnic items to the loader during the show.*

Match. *A fuse made of string or thread inpregnated with black powder.*

Meteoric Shower. *A self-contained cardboard tube mounted on a plastic base emitting a shower of stars into the air.*

Mines or Mine Bags. *A device contained within a reusable or disposable tube, where upon ignition stars, firecrackers, salutes, whistles or other devices are propelled into the air, with the tube remaining on the ground.*

Misfire. *A pyrotechnic item which fails to function as designed after initiation. See also Dud.*

Monitor. *Person responsible for watching for pyrotechnic items which do not perform properly.*

Mortar. *A cylinder that is used to hold and fire public display or special effects pyrotechnic items or compositions as defined in Section 999 of this subchapter.*

Mortar Box. *Also known as a Trough. A portable wooden structure used for the placement of mortars.*

Mortar Rack. *A wooden rack holding closely spaced HDPE or paper mortars. Mortar racks are limited to 10 tubes per individual rack.*

Multiple Break Shell. *Aerial shell which has two or more breaks.*

Muzzle Burst. *The process of an aerial shell breaking or bursting just as it leaves the mortar, scattering stars and burning material.*

N.F.P.A. *The National Fire Protection Association.*

Non-metallic Mortar. *See HDPE and Paper Mortar definition.*

Pan Type Mortar. *A shallow metal container that is used to hold and fire special effect pyrotechnic compositions.*

Paper Mortar. *A mortar constructed of spiral or convolute wound paper or chipboard.*

Party Popper. *"Party Popper" also known by other names such as Champagne Party Poppers, Party Surprise Popper and Hot Shot Poppers, is a pyrotechnic device which contains less than 0.25 grain of pyrotechnic composition per unit load, designed to be held in the hand and when fired propels soft paper, cloth inserts or other similar fill material into the air.*

Pigeons. *Also known as line rockets. Pyrotechnic items using mechanical devices to control the effect of flight movement.*

Public Display of Fireworks. *"Public display of fireworks" means an entertainment feature where the public or a private group is admitted or permitted to view the display or discharge of dangerous fireworks, as defined in Section 12505 of Health and Safety Code.*

Report. *A detailed written account of all events involving pyrotechnic materials, devices, and operations in which a fire, injury, or death occurs, or in which any violation of the laws or regulations takes place.*

Retailer. *Any person who, at a fixed place of business, sells, transfers, or gives fireworks to a consumer or user.*

Roman Candle. *A heavy paper or cardboard tube containing pellets of pyrotechnic composition which, when ignited, are expelled into the air at several-second intervals.*

Salute. *An aerial shell as well as other pyrotechnic items whose primary effects are detonation and flash of light.*

Set Piece. *Also known as ground display piece, mechanical piece. A pyrotechnic device or series of devices that while on the ground or elevated produces a visual and/or audible effect. These devices may employ fountains, roman candles, wheels, and lances.*

Shunt. *A deliberate short-circuit of an electrically fired pyrotechnic device or a means contained within its firing system to protect it from accidental ignition by extraneous electricity.*

Single Break Shell. *Aerial shell having one or more effects within a cylindrical or spherical casing.*

Snap Cap. *Also known by other names such as, but not limited to, Snappers, Pop Pop Snappers, Fun Snaps and Bang Snaps. It is a pyrotechnic device that typically contains less than .20 grams, but shall not contain more than .25 grams, of gravel impregnated with not more than one milligram of pyrotechnic composition. Each unit consists of a small, roughly spherical paper parcel, approximately one-quarter (1/4) inch in diameter with a twisted paper tail. Each unit, when dropped against a hard surface, produces a small, toy cap-like report.*
Note: Studies are conducted annually by the Office of State Fire Marshal which will determine whether or not there are adverse consequences from the regulation of snap caps.

Soft Detonator. *A detonator in which the explosive or pyrotechnic material is encased in a non-metallic container.*

Sparkler. *A Stick or wire coated with a pyrotechnic composition that produces a shower of sparks upon ignition.*

Squib. *See Electric Match. See also Detonator and Soft Detonator.*

Travel. *To move from point of ignition either vertically or horizontally.*

Trough. *Also known as a Mortar Box. A portable wooden structure used for the placement of mortars.*

Wheel Driver. *A heavy paper or cardboard tube emitting a shower of sparks from a very small orifice, similar to a propellant motor.*

Within This State. *"Within this state" means all territory within the boundaries of this state.*

§993. Insurance.
(a) Any person, firm, or corporation applying for a public display license shall furnish to the State Fire Marshal a policy of public liability and property damage insurance. The policy may have a deductible not to exceed fifteen thousand dollars ($15,000). The policy shall provide limits of bodily injury and property damage liability of not less than one million dollars ($1,000,000.00) combined single limits for each occurrence annually as payment for damages to persons or property which may result from or be caused by such public display of fireworks, or any negligence on the part of the licensee or his or its agents, servants, employees, or subcontractors presenting such public display.

Exception: A deductible in excess of fifteen thousand dollars ($15,000) may be permitted provided a security deposit, such as, but not limited to a surety bond, pledge of assets or bank letter of credit covering the value of the excess, is approved by the State Fire Marshal.

(b) The certificate of insurance shall provide all of the following:
(1) That the insurer will not cancel the insured's coverage without 15 days prior written notice to the State Fire Marshal.
(2) That the duly licensed pyrotechnic operator required by law to supervise and discharge the public display, acting either as an employee of the insured or as an independent contractor and the State of California, its officers, agents, employees, and servants are included as additional insurers, but only insofar as any operations under this chapter are concerned.
(3) That the State shall not be responsible for any premium or assessments on the policy.

§993.1. Reports*. General public display and special public display licensees shall report to the State Fire Marshal prior to date of each display all public displays of fireworks contemplated under their license. Licensee must report to the State Fire Marshal at least 72 hours prior to each display on state-owned or state-occupied property. Applicants for limited public display licenses shall report at the time of applying for their license. The report shall contain the information set forth in Section 982.*

Exception: A general public display licensee conducting special effects activities for motion picture, television, and theatrical productions need not comply with any of the above reporting requirements.

§997. Pyrotechnic Operators, Basic Commercial, Responsibilities.
(a) No basic commercial public display permit shall be granted unless there is a licensed basic commercial pyrotechnic operator and at least one additional experienced person present. Pyrotechnic Operators, Basic Commercial, shall:
(1) Be responsible for and have control over on-site unloading, storing, and security of all fireworks;
(2) Be responsible for placement of mortars, set pieces, and all other fireworks on-site as approved by the authority having jurisdiction. No fireworks shall be discharged over areas occupied by spectators;
(3) Insure that no person under the age of 18 is in the firing or fireworks storage sites;
(4) Be in possession of a current basic commercial license at the time of display; and
(5) Be responsible for and have control over the safe return of all unfired fireworks, misfires and duds.

§999. Mortars, Aerial Shells
(a) General.
(1) Electric firing shall be required for all mortars eight inches (8") or greater in diameter.
(2)Multiple-break shells that include a salute as one of the breaks shall be fired in HDPE mortars only.
(b) Steel Mortars.

(1) Steel Mortars shall be constructed of commercially manufactured, first quality electric resistance weld (ERW) or drawn over mandrel (DOM) steel tubing conforming to ASTM Standard A135-83, which is incorporated by reference. Mortars constructed of cast iron, other fragmenting types of steel, and all other types of metal are prohibited. Salutes shall not be fired from metallic mortars.
(2) Steel mortars shall have a base plate the same thickness of the mortar wall, welded continuously around its perimeter.
(3) The inside length of steel mortars shall meet the minimum specifications set forth below:

Shell Size	Inside Length
1.99 inches or less	8 inches
2 inches	13 inches
2 1/2 inches	13 inches
3 inches	15 inches
4 inches	20 inches
5 inches	25 inches
6 inches	30 inches
7 inches	32 inches
8 inches	32 inches
10 inches	40 inches
12 inches	40 inches
16 inches	64 inches
24 inches	96 inches

(4) Mortars shall not have any visible cracks in the body of the tube, nor any cracks or voids in the weld around the base plug. Mortars shall not be dented or distorted beyond the point that such distortion interferes with the smooth and unimpeded travel of the shell throughout the entire length of the mortar.
(c) Paper Mortars.
(1) Reusable paper mortars shall be of spiral or convolute wound kraft paper or chipboard, and shall meet the minimum specifications set forth below:

Shell size	wall thickness	inside length	base plug
Less than 2 inches	1/8 inch	8 inches	1 inch
2 inches	1/4 inch	13 inches	2 inches
2 1/2 inches	3/8 inch	13 inches	3 inches
3 inches	3/8 inch	15 inches	3 inches
4 inches	1/2 inch	20 inches	3 inches
5 inches	1/2 inch	25 inches	4 inches
6 inches	1/2 inch	30 inches	4 inches
7 inches	3/4 inch	32 inches	4 inches
8 inches	3/4 inch	32 inches	4 inches

**Sizes for base plugs are nominal.*

(2) Base plugs for paper mortars shall be wooden and securely glued, as well as nailed, screwed or bolted to the base of the mortar. Base plugs shall be discarded and replaced when damaged. Minor cracks and checks are acceptable.
(3) Multiple-break shells shall not be fired from paper mortars.
(d) HDPE Mortars. High Density Polyethylene (HDPE) mortars shall meet the minimum specifications set forth below:

Shell Size	Wall Thickness	Inside Length	Base Plug*
Less than 2”	1/8 inch	10 inches	1 inch
2 inches	1/4 inch	13 inches	2 inches
2 1/2 inches	1/4 inch	13 inches	3 inches
3 inches	1/4 inch	15 inches	3 inches
4 inches	1/4 inch	20 inches	3 inches
5 inches	1/4 inch	25 inches	4 inches
6 inches	3/8 inch	30 inches	4 inches
7 inches	3/8 inch	32 inches	4 inches

8 inches 3/8 inch 32 inches 6 inches
**Base plug sizes are nominal.*

HDPE Mortars shall not be reloaded for a period of at least one (1) hour after use. All base plugs for HDPE mortars shall be wooden, and securely glued, as well as nailed, screwed, or bolted to the base of the mortar. Base plugs shall be discarded and replaced when damaged. Minor cracks and checks are acceptable.
(e) Other Materials. Recognizing that new materials for the construction of mortars may be developed, such materials may be used when specifically approved by the State Fire Marshal. Persons wishing to use material not specifically covered in this section shall submit the material in an amount sufficient for testing to the State Fire Marshal for determination of its safety and its inclusion in this section.

For illustrations of typical mortar racks, troughs and drums, see Diagrams A, B and C following section 1002.

§1001. Setting Mortars.
(a) Metallic, re-usable paper and HDPE mortars shall be securely buried to a minimum of 2/3 of their minimal legal length in earth or in drums or troughs filled with moist earth or sand essentially free of debris.
(b) Mortars other than metallic mortars may be placed in wooden finale racks.
(c) Planking below mortars shall be required when the base of the mortar, trough, or drum is not on a stable and level surface.
(d) Mortars in non-electrically-fired shows shall meet all of the following requirements:
(1) Mortars up to five inches in diameter and buried in earth or placed in troughs or drums shall be spaced a minimum of 3 inches apart or from the sides of the drum or trough.
(2) Mortars six inches or larger in diameter and buried in earth or placed in troughs or drums shall be spaced a minimum of 5 inches apart or from the sides of the drum or trough. When a mortar requiring 5 inches of space is placed adjacent to a mortar requiring only 3 inches of spacing, the larger spacing shall apply.
(e) Mortars in electrically-fired shows shall meet all of the following requirements:
(1) All mortars buried in earth or placed in drums and troughs shall be nominally spaced 2 inches apart or from the sides of the drum or trough.
(2) All technicians shall be positioned a minimum of 100 feet from any mortar and positioned so as to be protected from the direct line of fire.
(3) No one shall be allowed to enter the firing area during the firing of the display.
(f) Mortars shall be set in a stable and secure manner so that accidental impact and shell discharge will not change the trajectory of adjacent unfired shells.

For illustrations of typical mortar racks, troughs and drums, see Diagrams A, B and C following section 1002.

§1002. Design Specifications for Mortar Racks, Troughs, Drums, and Ready Boxes.
***(a)** Mortar racks shall be limited to a maximum of 10 tubes per unit. The base and ends of the rack shall be nominal 2 inch thick lumber. The inside width shall be equal to the outside diameter of the mortar tube. Each mortar tube shall be separated by horizontal or vertical blocks nominally 2 inches thick and 4 inches wide. Side braces for mortar racks of 3 inch size mortars and up shall be 1 inch x 6 inch nominal lumber or 1/2 inch x 4 inch plywood securely fastened by nails, screws, or attached with construction grade staples along the top and bottom of the rack. A diagonal side brace must be employed on all mortar racks with more than 5 mortar tubes. Mortar racks shall not incorporate steel brackets or other metallic parts in their construction with the exception of nails, screws, or construction-grade staples. Metallic braces shall not be fastened to mortar racks at the firing site.*
(b) Troughs shall not be more than 8 feet in length. Troughs may be placed in a continuous row provided they are stable and secure. The sides, bottom and ends of troughs shall be minimum 3/4 inch plywood or nominal 2 inch lumber, except in cases where the surface at the bottom of the trough is sufficiently stable to support the firing of the mortar, no bottom shall be required. Troughs shall be secured by minimum 3/8 inch through bolts, rods or angle iron "U" brackets at each end and center to prevent bulging.
(c) Drums shall be constructed of steel, aluminum or plastic.
(d) Ready boxes shall be constructed of wood not less than 1/2 inch thickness or 3/8 inch plywood, chipboard or presswood. Ready boxes shall not be equipped with any type of hold open device.
Note: For illustrations of typical mortar racks, troughs and drums, see Diagrams A, B and C immediately following this section.

DIAGRAM A

DIAGRAM OF A TYPICAL RACK

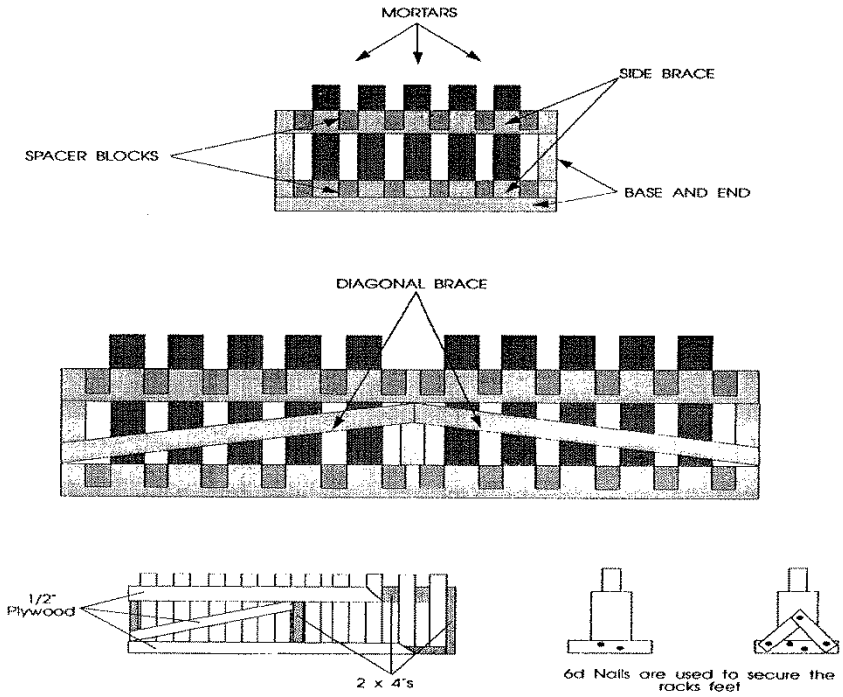


DIAGRAM B

DIAGRAM OF A TYPICAL TROUGH SETTING

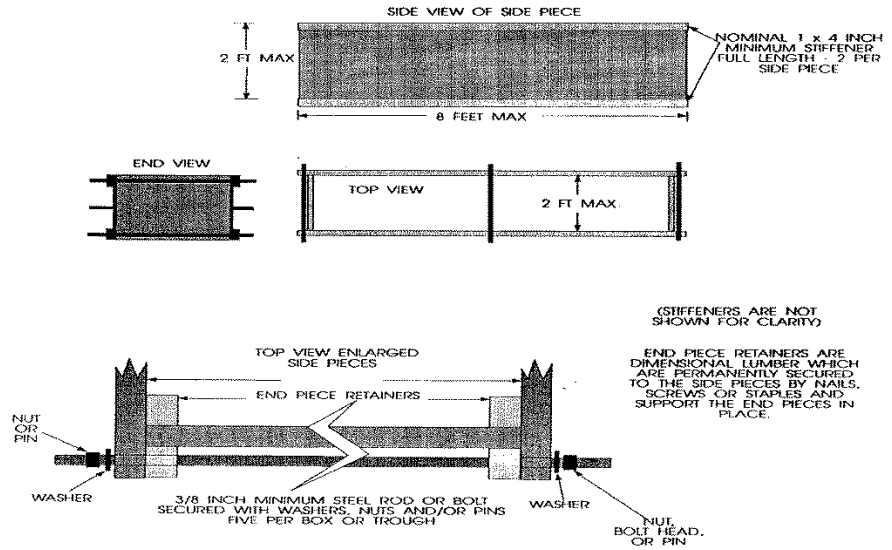
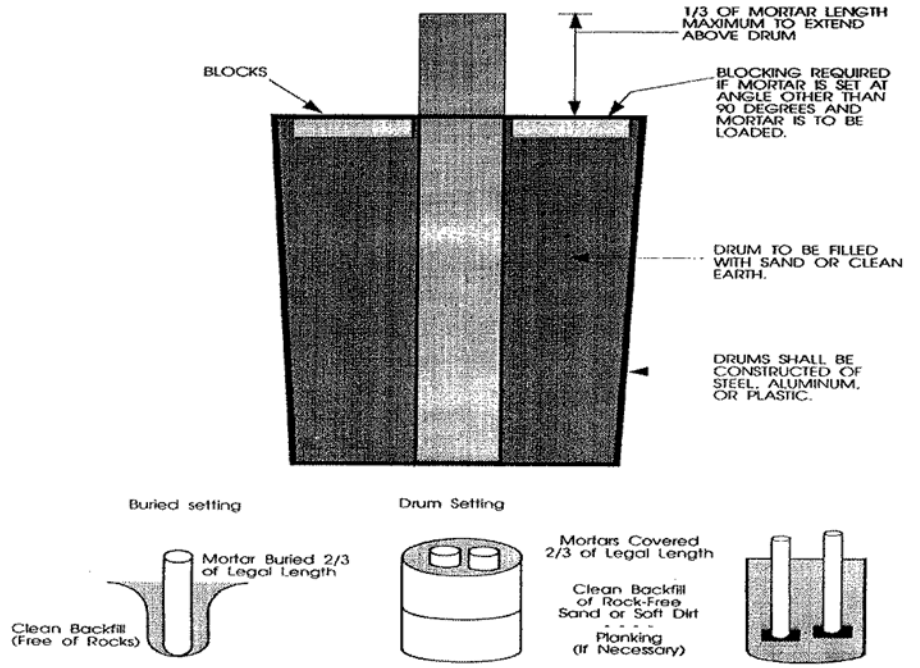


DIAGRAM C

DIAGRAM OF A TYPICAL DRUM SETTING



§1003. Operation of Display.

(a) General.

(1) All fireworks at a display site shall be stored in a place and manner secure from fire, accidental discharge, and theft. All storage shall be approved by the authority having jurisdiction.

(2) Shells shall be sized for proper fit and for damaged lift charge bags, lead fuse tears, tears in the piping of the quick match leaders, and missing safety caps.

(3) Safety caps protecting the fuse shall not be removed until firing or electric hookup.

(b) Ready Boxes.

(1) Shells used for reloading shall be placed in ready boxes prior to the start of the display.

(2) Ready boxes shall not be located less than 25 feet upwind from the nearest mortar prior to any firings.

(3) Ready boxes shall be divided into separate compartments for each shell size.

(4) When containing shells, ready boxes shall be set with the bottom facing the mortars with the front elevated, or set on the bottom with the hinges towards the mortar, providing the lid cannot be opened fully.

(5) Once in place, the ready box shall be covered with a flame-resistive water-repellant canvas cover.

(c) Loading Mortars.

(1) At no time shall any person place any part of their body over the mortar muzzle during loading or firing.

(2) Mortars shall be cleaned of debris or burning material prior to loading, and prior to reloading, as necessary.

(3) Mortar racks may be reloaded with non-chained single-break shells when there is no longer any burning material in the racks.

(4) Finale racks shall have tape placed over the mortar muzzles when loaded with finale chained shells.

(5) Salutes and detonating shells shall not be fired from steel mortars.

(6) Multiple-break shells that include a salute as one of the breaks shall be fired from HDPE mortars only.

(d) Firing.

(1) All firing shall be done upon order or signal of the licensed pyrotechnic operator controlling the display.

(2) Electric firing, if utilized, shall comply with all of the requirements of Article 13.5 of this chapter.

(3) Upon conclusion of firing, no unauthorized person shall be permitted access to the firing area until the licensed pyrotechnic operator has determined the area to be safe and secure.

(4) Electric firing shall be required for all mortars eight inches (8") or greater in diameter.

(e) Ground Effects.

(1) Set pieces, wheels, and mechanical devices shall be braced, guyed and securely attached or set as required to prevent displacement.
(2) Low level Roman Candles, multiple batteries and projectiles shall be securely set to prevent accidental displacement.
(f) Duds.
(1) The licensed pyrotechnic operator shall account for and retrieve all duds immediately following the display.
(2) The entire firing range shall be inspected immediately following the display to locate any duds. Any shells found shall be immediately doused with water before handling. The shell shall then be placed in a separate container filled halfway with water.
(g) Misfires.
(1) When a shell misfires, and the fuse has burned, but the lift change has not functioned, the mortar shall be identified and marked, and left undisturbed for a minimum of 5 minutes, then filled halfway with water.
(2) When the shell misfires due to electric malfunction, and the fuse has not yet burned, the shell shall be removed and stored pursuant to the permit.
(3) When the display is concluded, the misfiredshell shall be placed in a safe area pursuant to the permit.
(h) Unfired shells, including duds and misfires, must be removed immediately following the display and returned directly to the wholesaler/manufacturer unless provision has been made for storage and/or destruction with the authority having jurisdiction.

§1004. Safety Tools and Equipment.
(a) Tools required at the display site shall be, at a minimum, a shovel, a serviceable pressurized water fire extinguisher, a bucket or other container to soak duds, and any other equipment as required by the authority having jurisdiction.
(b) Any person manually discharging aerial shells shall wear at a minimum a hard hat, eye protection, long sleeved shirt, gloves, long pants, and shoes or boots, and have available ear protection, as required by the authority having jurisdiction.

§1005. Post Display.
(a) Reports.
(1) Within ten (10) working days following any public display, the licensed pyrotechnician in charge of the display shall submit a complete, accurate and factual written report directly to the State Fire Marshal, covering:
(A) A brief report of any duds or misfires including manufacturer's name, type and size;
(B) A brief account of the cause of injury to any person from fireworks and such person's name and address;
(C) A brief account of any fires caused by fireworks;
(D) Any violations of the Health and Safety Code or of these regulations relating to public display fireworks; and
(E) The names of all licensed and unlicensed assistants.
Exception: A general public display licensee conducting special effects activities for motion picture, television, and theatrical productions need not comply with the requirements of subsections (A) and (E).
(b) Notification.Verbal reports are required within 24 hours to the State Fire Marshal when any of the following occur:
(1) Fire requiring emergency action or response as a result of the firing; or
(2) Injury or death to the public or crew. Within ten (10) working days following an incident giving rise to a verbal report, the licensed pyrotechnician in charge of the activity shall submit a complete, accurate and factual report directly to the State Fire Marshal on the event.
(c) Unfired Shells. Unfired shells shall either be removed following the display and returned directly to the wholesaler or supplier or stored in a manner approved by the authority having jurisdiction until such time as the shells can be transported directly to the wholesaler or supplier.

§1006. Smoking. *No person shall smoke in any area where fireworks are handled or stored.*

SECTION 5609
TEMPORARY STORAGE OF CONSUMER FIREWORKS

5609.1 General. *Where the temporary storage of consumer fireworks, 1.4G is allowed by Section 5601.1.3, Exception 4, such storage shall comply with the applicable requirements of NFPA 1124.*

SECTION 5610
MODEL ROCKETS

[California Code of Regulations, Title 19, Division 1, §1019-1029]

Model Rocket Motor. *The same as a model rocket engine, as defined in Health and Safety Code Section 12520. Model rocket motors shall not produce more than 160 Newton-seconds of total impulse power.*

§1019. Rocket Launchers*. Nothing in this article is intended to regulate the sale or the construction of model rockets, provided that such model rockets are not equipped with a model rocket motor.*

§1021. Classification and Labeling. *All types of model rocket motors shall be submitted to the State Fire Marshal by a licensed model rocket motor manufacturer, importer/exporter, or wholesaler for classification A copy of a certificate of classification indicating the item has been classified as a model rocket motor by a laboratory approved by the Department of Transportation shall accompany the request for classification by the State Fire Marshal. Three samples of each motor type shall be submitted to the State Fire Marshal for classification.*
Standards for the classification of model rocket motors shall conform to the National Fire Protection Association (N.F.P.A.) 1122 (1987), Code for Unmanned Rockets, Sections 3-1.1, 3-1.2, 3-1.3, 3-1.4, 3-1.5, 3-1.6, 3-1.7, 3-1.8, 3-1.9, 3-1.10.
(b) Individual engines shall bear the California State Fire Marshal seal and the registration number of the licensee.

§1022. Model Rocket Standards and Use.
(a) Model rocket standards and use shall comply with: N.F.P.A. 1122, the Code for Unmanned Rockets, Chapter 3, Sections 3-1.1 through 3-1.10, Chapter 4, Chapter 5, Chapter 6, and Appendix A-2-(1987), which is incorporated by reference herein except for Appendices A-2.3 and A-2.4.

§1023. Storage and Sale. *No model rocket motors shall be stored, sold or offered for sale at retail unless such model rocket motors have been classified by the California State Fire Marshal.*

§1024. Restrictions. *The provisions of this article shall not be used to establish the authority to possess, launch or use experimental unlimited or experimental/high powered rocket motors.*

§1025. Authorization.
(a) No model rocket user shall launch any model rocket motor from any site without first securing authorization from the authority having jurisdiction. The authority having jurisdiction may require notification each time that model rockets are to be launched.
(b) It shall be the responsibility of the model rocket user to secure permission of the owner of private lands when such land is intended to be used to launch model rockets.

§1026. Revocation of Permits and Authorized Use of Launching Area. *The authority having jurisdiction may immediately revoke a permit to sell model rocket motors at retail if it is found that those persons granted a permit have violated these regulations. The authority having jurisdiction may immediately revoke its authorization to use a firing area if it is found that an undue hazard exists, including, but not limited to, fire safety hazards or life safety hazards.*

§1027. Minimum Age.

(a) No model rocket motors shall be sold, given, or delivered to any person under 18 years of age.

Exceptions*: (1) Model rocket motors bearing the standardized coding 1/4A, 1/2A, A, B, C, and D may be sold, given, or delivered to any person 14 years of age or older.*

(2) Persons who are 12 years of age or older and who are taking part in a model rocket education program may receive model rocket motors and launch approved model rockets when under the direct supervision and control of a person 18 years of age or older. Model rocket motors must be obtained only from the adult in charge of the launching. Approved model rocket motors for this exception shall bear the motor coding 1/4A, 1/2A, A, B, C, or D.

§1028. Supervision. *The permittee shall be responsible for the safety of all spectators and other persons connected with the launching of model rockets.*

SECTION 5611
EXPERIMENTAL HIGH POWER ROCKETS AND MOTORS

[California Code of Regulations, Title 19, Division 1, §1030-1039]

Experimental High Power Rocket. *Non-professional rockets which are propelled by commercially manufactured high-power solid propellant rocket motors.*

Experimental High Power Rocket Motor. *A State Fire Marshal approved, commercially manufactured rocket propulsion device containing a solid propellant charge wherein all the ingredients are pre-mixed and which produces more than 160 Newton-seconds (36 lb.-seconds) but shall not exceed 10,240 Newton-seconds (2302.2 lb.-seconds) of total impulse.*

§1030. General. *This article is intended to regulate the sale, storage, construction and use of experimental high power rocket motors and experimental high power rockets.*

§1031. Classification and Labeling.

(a) All types of experimental high power rocket motors shall be submitted by a licensed experimental high power rocket motor manufacturer, importer/exporter, or wholesaler to the State Fire Marshal for classification.
(b) All motors shall bear the State Fire Marshal seal and the registration number of the licensee. Classified motors contained within packages may have the State Fire Marshal seal and registration number on the package, provided that such packages are sealed.

§1032. Experimental High Power Rocket Motor Standards and Use.

(a) Experimental high power rocket motor design and construction standards shall comply with all of the following:
(1) The maximum total impulse per rocket motor shall not exceed 10,240 Newton-seconds (2302.2 lb.-seconds).
(2) When more than one rocket motor is utilized, the combined total impulse shall not exceed 20,480 Newton-seconds (4604.4
lb.-seconds).
(b) If an experimental high power rocket is equipped with an experimental high power rocket motor, then the rocket shall:
(1) be constructed of paper, plastic, rubber, aluminum or wood except that minor components such as screw eyes or motor mounts may be of other light-gauge metals; and
(2) include an effective means or device for returning the rocket safely to the ground without causing personal injury or property damage; and
(3) The rocket shall not contain any type of explosive or pyrotechnic warhead of any type.
(c) An experimental high power rocket shall not be used as a weapon.

§1033. License Required*. No person shall possess, receive, transport, store, or launch any experimental high power rocket motor without first securing a valid license as a Pyrotechnic Operator--Rockets First, Second, or Third Class from the State Fire Marshal. No person shall sell an experimental high power rocket motor to any person unless the seller possesses a valid license as a wholesaler or retailer under this chapter.*

§1034. Local Permit Required—Seller*. No person shall sell an experimental high power rocket motor without first securing a permit from the authority having jurisdiction. This permit shall be in addition to, not in lieu of, a valid license issued by the State Fire Marshal for the sale of these motors. This permit shall be deemed separate from a local permit allowing the launching of rockets utilizing such motors.*

§1035. Local Permit Required--Launch.

(a) No experimental high power rocket motor user shall launch any experimental high power rocket motor from any site without first securing a permit from the authority having jurisdiction.
(b) The authority having jurisdiction may require notification by the permittee each time an experimental high power rocket motor is to be launched. It shall be the responsibility of the experimental high power rocket motor user to also secure the permission of the owner of private land when such land is intended to be used as a launch site.

§1036. Launching Facilities.
(a) Experimental high power rocket motors shall be launched from platforms meeting the following specifications:
(1) A launch guide (tube, rod, tower or other suitable device) shall be used to restrict the horizontal motion of the rocket until flight velocity sufficient to maintain stability during flight is achieved.

(2) A launch angle of not more than twenty degrees (20o) from the vertical shall be used.
(b) Rocket motor launching shall be by remote electrical means only, and under the supervision and control of an individual properly licensed in accordance with this chapter.
(c) Surface wind at the launch site shall not exceed twenty miles per hour (20 m.p.h.), and visibility above the launching area shall be at least five thousand feet (5,000 ft.).
(d) The recovery device wadding ejected from the rocket during the launch flight sequence, if used, shall be of flame retardant material meeting the standards of Title 19, California Code of Regulations, Chapter 8, Sections 1171 through 1355.
(e) Experimental high power rocket motors shall be launched only during daylight hours unless specifically approved by the authority having jurisdiction.
(f) All personnel, including those conducting the actual launching of the experimental high power rocket motor(s), shall maintain a clear radial distance from the launch platform during the countdown and launch, pursuant to the guidelines in Table 18A.

TABLE 18A

REQUIRED LAUNCH DISTANCES

Total Impulse of Rocket	Radial Distance From launcher
0-320 Newton-Seconds*	30 feet
320.01-1280 Newton-Seconds*	150 feet
1280.01-2560 Newton-Seconds*	200 feet
2560.01-5120 Newton-Seconds*	300 feet
5120.01-10240 Newton Seconds*	500 feet
10241-20480 Newton Seconds*	1000 feet

**Rockets propelled by clusters of motors shall use the distance specified for the next higher impulse category.*

§1037. Launch Site Standards.
(a) The launch site shall consist of a launching area and a recovery area. The launching area shall consist of an area surrounding the launching devices a radial distance from the launching device as specified in Table 18A above. The recovery area shall consist of the launching area and the minimum area necessary to retrieve the rocket, based on the estimated altitude likely to be achieved by the rocket. These calculations shall take into account the weight of the rocket and the specific type of motor used (or combined total impulse). Table 18B shall be used to determine the minimum launch site dimensions for the various classes of experimental high power rockets.
(b) The launch site shall not be located in any grain field, dry grass, brush- or forest-covered lands.
(c) The launch site shall not contain any buildings or structures, unless specifically approved in advance by the authority having jurisdiction, and under no circumstances shall such buildings or structures be less than one thousand five hundred feet (1,500 ft.) from the launch site.
(d) The launch site shall not contain any high voltage electrical lines or major highways.
(e) The launch site shall not contain any natural or artificially constructed obstacle deemed by the authority having jurisdiction to pose a hazard during launching.
(f) The launching area shall be located as near as possible to the center of the launch site but in no case less than seven hundred fifty feet (750 ft.) from the boundary of the launch site.
(g) The launching area shall have appropriate barriers around it such that spectators will be restrained from encroaching upon it. These barriers may be of any type approved by the authority having jurisdiction.

TABLE 18B

MINIMUM EXPERIMENTAL HIGH POWER ROCKET MOTOR LAUNCH SITE STANDARDS

Maximum Combined Equivalent Motor Type	Minimum Launch Total Impulse (N-Seconds)	Site Dimensions (feet)
H	320	1,500
I	640	2,500
J	1,280	3,500
K	2,560	5,000
L	5,120	7,000
M	10,240	10,000
N	20,480	15,000

***§1038. Testing**. At locations approved by the authority having jurisdiction, experimental high power rocket motors may be ignited on the ground for the purpose of determining their performance. All of the following procedures shall be followed during the firing of these motors:*
(a) The experimental high power rocket motor shall be affixed to a testing device or to an immovable structure in such a manner that the motor will not work itself free during the testing or the experimentation process.
(b) The experimental high power rocket motor shall be ignited only by remotely operated electrical means fully under the control and supervision of the licensed pyrotechnic operator conducting the testing or experimentation.
(c) The exhaust path of the motor shall be cleared of all flammable objects prior to its firing.
(d) All persons, whether they are conducting, participating in or observing the testing or experiment, shall stand away from the motor, and particularly its exhaust path, at all times during the test or experiment.
(e) Under no circumstances shall testing or experimentation of experimental high power rocket motors be conducted indoors.

***§1039. Supervision and Responsibility**. The licensed pyrotechnic operator in charge of the launch site or test sites shall supervise the arming of every experimental high power rocket motor, the launching of all motors, and the disposal of all unwanted or defective motors. The licensed pyrotechnic operator shall also be responsible for the safety of all spectators or observers and all other persons connected with the launching of experimental high power rocket motors.*

SECTION 5612
EXPERIMENTAL ROCKETS/UNLIMITED

[California Code of Regulations, Title 19, Division 1, §1010-1015]

***§1010. General**. This article applies to all rockets except approved model rockets as defined in Article 14 and experimental high power rockets and experimental high power rocket motors as defined in Article 2.*

§1011. Test Areas.
(a) Experimental rockets unlimited shall not be launched within this State from any site other than test areas approved for such purpose by the fire authority having jurisdiction.
(b) These test areas shall meet the following minimum requirements:
(1) Test areas shall consist of a launching site and an impact range.
(2) The launching site is that area immediately surrounding the launching devices, including positions to protect all personnel.
(3) The impact range is that area over which rockets may travel by design or accident and upon which they fall. Its length should be not less than the maximum calculated ideal ballistic range of any rocket to be fired from its launching site and extends as the radius of a circular sector 90 from the launching site apex into the prevailing wind.
(c) Test areas should include no dwellings or structures other than those provided for operating and nonoperating personnel protection and loading rockets.
(d) Operating personnel protection shall consist of a bunker, blockhouse or similar protection designed to withstand shrapnel and mass impact equal to the potential created by the heaviest rocket intended to be fired, and falling from its zenith or exploding at any point. This bunker when located not less than 50 feet distant from the launching device shall afford minimum protection equal to a 2-foot wide slit trench not less than 5 feet deep and parapet observation ports with protection equal to a double thickness of sand bags. Overhead protection should consist of substantial structural materials, and these materials shall be covered to afford protection equivalent to that of a double layer of filled sand bags. Non-operating personnel minimum protection when located not less than 250 feet distant from the launching device shall consist of construction at least equal to the slit trench shelter described above.
(e) Rocket loading facilities shall be housed in a lightly constructed and covered structure located not less than 100 feet distant from any other structure including any launching device. Within this State, all fuel or propellant compounding or loading of experimental rockets unlimited shall be performed by licensed pyrotechnic operators or by experienced persons directly supervised by these pyrotechnic operators.

***§1012. Rocket Launchers**. Rocket launchers shall have a length sufficient to insure stabilization to any rocket fired from them and shall be constructed of appropriate material such as metal or rigid flame-resistant plastic and designed for the specific intended purpose and use. Special protection shall be provided for persons setting and arming all rockets. The use of any two rail, "V" or "U" trough launcher, which depends solely on gravity to control the rocket during launching is prohibited.*

***§1013. Setting Rocket Launchers**. All adjustments and alignments of the rocket launcher and connections shall be completed before the rocket is armed. Final rocket launcher adjustments shall be checked by the licensed pyrotechnic operator in charge.*

***§1014. Firing Procedure.** A definite ordered firing procedure shall be established by the licensed pyrotechnic operator in charge. Both visible and audible signals shall be used to alert all persons in the test area. Any launch or firing code used shall be reduced to writing and posted conspicuously in the test area.*

§1015. Launching Rockets.

(a) Rockets may not be armed or launched except by an experienced pyrotechnic operator, who, if he or she is not licensed, shall be directly responsible to the licensed pyrotechnic operator in charge. The actual arming operation shall be accomplished by a competent person. During all arming operations all personnel shall take shelter when launching, excepting only the individual arming the rocket and his or her necessary assistants.
All internal self-contained firing circuits (within the rocket) including, but not by way of limitation, multiple stage ignition, parachute releases, bursting charges, etc., shall be provided with an arming and disarming device operable remotely from without the assembled rocket in the launching position.
(b) The firing circuit shall be shunted at both the control center and the launching site by the pyrotechnic operator assigned to arm the rocket. Both shunts shall be in place and he or she shall test them to insure that the firing circuit is effectively short circuited, before the rocket is set in the launching position.
(c) The single special key, which removes the launching site shunt from the firing circuit, shall be the sole means for completing the firing circuit at the control center. The arming operator shall retain the shunt key in his or her personal possession from the time the circuit is initially shunted until the arming operations are completed and he or she removes the last shunt in the control center and establishes a ready firing circuit.
(d) No other means or device than a remotely controlled electric circuit of an approved design may be used to launch single stage rockets or the first stage of multistage rockets.

SECTION 5613
EMERGENCY SIGNALING DEVICES

[California Code of Regulations, Title 19, Division 1, §1045-1046]

***§1045. Fire Hazard.** Whenever the authority having jurisdiction declares that the use of an emergency signaling device would create a fire hazard, no emergency signaling device shall be used regardless of its indicated registration and labeling. This prohibition shall continue as long as the fire hazard condition exists in the specific area, as determined by the authority having jurisdiction.*

***§1046. License Required**. Manufacturers of emergency signaling devices whose manufacturing operations take place in California must possess a valid fireworks manufacturing license from the State Fire Marshal to manufacture emergency signaling devices.*

Notation:
Authority Cited: Health and Safety Code Sections 12081, 12552, 12553, 13108.
References: Health and Safety Code Sections 12000 through 12401 and 12500 through 12725

[39. The SFM proposes to adopt Chapter 57 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 57
FLAMMABLE AND COMBUSTIBLE LIQUIDS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[40. The SFM proposes to adopt Chapter 58 with the following amendments and California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 58
FLAMMABLE GASES AND FLAMMABLE CRYOGENIC FLUIDS

5801.1 Scope. The storage and use of flammable gases and flammable cryogenic fluids shall be in accordance with this chapter and NFPA 55. Compressed gases shall also comply with Chapter 53 and cryogenic fluids shall also comply with Chapter 55. Flammable cryogenic fluids shall comply with Section 5806. Hydrogen motor fuel-dispensing stations and repair garages and their associated above-ground hydrogen storage systems shall also be designed, constructed and maintained ~~*and maintained*~~ in accordance with Chapter 23 and NFPA 2 ~~*and NFPA 2*~~.

Exceptions:
1. Gases used as refrigerants in refrigeration systems (see Section 606).
2. Liquefied petroleum gases and natural gases regulated by Chapter 61.
3. Fuel-gas systems and appliances regulated under the ~~*International Fuel Gas*~~*California Mechanical Code or the California Plumbing Code* other than gaseous hydrogen systems and appliances.
4. Pyrophoric gases in accordance with Chapter 64.

5802.1 Definitions. The following terms are defined in Chapter 2:
FLAMMABLE GAS.
FLAMMABLE LIQUEFIED GAS.
GASEOUS HYDROGEN SYSTEM.
~~***GASEOUS HYDROGEN SYSTEM.***~~
HYDROGEN FUEL GAS ROOM.
~~***HYDROGEN GAS ROOM.***~~
METAL HYDRIDE.
METAL HYDRIDE STORAGE SYSTEM.

5803.1.1 Special limitations for indoor storage and use. Flammable gases shall not be stored or used in Group A, E, I or R occupancies or in offices in Group B occupancies.

Exceptions:
1. Cylinders of nonliquefied compressed gases not exceeding a capacity of 250 cubic feet (7.08 m3) or liquefied gases not exceeding a capacity of 40 pounds (18 kg) each at normal temperature and pressure (NTP) used for maintenance purposes, patient care or operation of equipment.
2. Food service operations in accordance with Section 6103.2.1.7.
3. Hydrogen gas systems located in a hydrogen fuel gas room constructed in accordance with Section 421 of the ~~International~~*California* Building Code.
~~*3. Hydrogen gas systems located in a hydrogen cutoff room constructed in accordance with Section 421 of the California Building Code.*~~

SECTION 5808
HYDROGEN FUEL GAS ROOMS
~~***SECTION 5808***~~
~~***HYDROGEN FUEL GAS ROOMS***~~

5808.1 General. Where required by this code, hydrogen fuel gas rooms shall be designed and constructed in accordance with Sections 5808.1 through 5808.7 and the ~~International~~*California Building Code*.
~~***5808.1 General.*** *Where required by the California Fire Code, hydrogen gas rooms shall be designed and constructed in accordance with Sections 5808.1 through 5808.7 and the California Building Code.*~~

5808.2 Location. Hydrogen fuel gas rooms shall not be located below grade.

~~***5808.2 Location.*** *Hydrogen gas rooms shall not be located below grade.*~~

5808.3 Design and construction. Hydrogen fuel gas rooms not exceeding the maximum allowable quantity per control area in Table 5003.1.1(1) shall be separated from other areas of the building in accordance with Section 509.1 of the ~~International~~*California Building Code*.
~~***5808.3 Design and construction.*** *Hydrogen gas rooms not exceeding the maximum allowable quantities in Table 5003.1.1(1) shall be separated from other areas of the building in accordance with Section 509.1 of the California Building Code.*~~

5808.3.1 Pressure control. Hydrogen fuel gas rooms shall be provided with a ventilation system designed to maintain the room at a negative pressure in relation to surrounding rooms and spaces.
~~***5808.3.1 Pressure control.*** *Hydrogen gas rooms shall be provided with a ventilation system designed to maintain the room at a negative pressure in relation to surrounding rooms and spaces.*~~

5808.3.2 Windows. Operable windows in interior walls shall not be permitted. Fixed windows shall be permitted where in accordance with Section 716 of the ~~International~~*California* Building Code.
~~***5808.3.2 Windows.*** *Operable windows in interior walls shall not be permitted. Fixed windows shall be permitted where in accordance with Section 716 of the California Building Code.*~~

5808.4 Exhaust ventilation. Hydrogen fuel gas rooms shall be provided with mechanical exhaust ventilation in accordance with the applicable provisions of Section 2311.7.1.1.
~~***5808.4 Exhaust Ventilation****. Gas rooms shall be provided with mechanical exhaust ventilation in accordance with the applicable provisions of the California Mechanical Code.*~~

5808.5 Gas detection system. Hydrogen fuel gas rooms shall be provided with an approved flammable gas detection system in accordance with Sections 5808.5.1 through 5808.5.4.
~~***5808.5 Gas detection system.*** *Hydrogen gas rooms shall be provided with an approved flammable gas detection system in accordance with Sections 5808.5.1 through 5808.5.4.*~~

5808.5.1 System design. The flammable gas detection system shall be listed for use with hydrogen and any other flammable gases used in the hydrogen fuel gas room. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 percent of the lower flammable limit (LFL) for the gas or mixtures present at their anticipated temperature and pressure.
~~***5808.5.1 System design.*** *The flammable gas detection system shall be listed for use with hydrogen and any other flammable gases used in the room. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 percent of the lower flammability limit (LFL) for the gas or mixtures present at their anticipated temperature and pressure.*~~

5808.5.2 Gas detection system components. Gas detection system control units shall be listed and labeled in accordance with UL 864 or UL 2017. Gas detectors shall be listed and labeled in accordance with UL 2075 for use with the gases and vapors being detected.
~~***5808.5.2 Gas detection system components.*** *Gas detection system control units shall be listed and labeled in accordance with UL 864 or UL 2017. Gas detectors shall be listed and labeled in accordance with UL 2075 for use with the gases and vapors being detected.*~~

5808.5.3 Operation. Activation of the gas detection system shall result in both of the following:

1. Initiation of distinct audible and visual alarm signals both inside and outside of the hydrogen fuel gas room.
2. Activation of the mechanical exhaust ventilation system.

~~***5808.5.3 Operation.*** *Activation of the gas detection system shall result in all of the following:*~~

~~*1. Initiation of distinct audible and visual alarm signals both inside and outside of the gas room.*~~
~~*2. Activation of the mechanical exhaust ventilation system.*~~

5808.5.4 Failure of the gas detection system. Failure of the gas detection system shall result in activation of the mechanical exhaust ventilation system, cessation of hydrogen generation and the sounding of a trouble signal in an approved location.

~~***5808.5.4 Failure of the gas detection system.*** *Failure of the gas detection system shall result in activation of the mechanical exhaust ventilation system, cessation of hydrogen generation and the sounding of a trouble signal in an approved location.*~~

5808.6 Explosion control. Explosion control shall be provided where required by Section 911.
~~***5808.6 Explosion control.*** *Explosion control shall be provided where required by Section 911.*~~

5808.7 Standby power. Mechanical ventilation and gas detection systems shall be connected to a standby power system in accordance with Section 604.
~~***5808.7 Standby power.*** *Mechanical ventilation and gas detection systems shall be connected to a standby power system in accordance with Chapter 6.*~~

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[41. The SFM proposes to adopt Chapter 59 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 59
FLAMMABLE SOLIDS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[42. The SFM proposes to adopt Chapter 60 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 60
HIGHLY TOXIC AND TOXIC MATERIALS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[43. The SFM proposes to adopt Chapter 61 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 61
LIQUEFIED PETROLEUM GASES

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[44. The SFM proposes to adopt Chapter 62 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 62

ORGANIC PEROXIDES

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[45 The SFM proposes to adopt Chapter 63 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 63
OXIDIZERS, OXIDIZING GASES AND OXIDIZING CRYOGENIC FLUIDS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[46. The SFM proposes to adopt Chapter 64 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 64
PYROPHORIC MATERIALS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[47. The SFM proposes to adopt Chapter 65 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 65
PYROXYLIN (CELLULOSE NITRATE) PLASTICS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[48. The SFM proposes to adopt Chapter 66 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 66
UNSTABLE (REACTIVE) MATERIALS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[49. The SFM proposes to adopt Chapter 67 without amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 67
WATER-REACTIVE SOLIDS AND LIQUIDS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

CHAPTERS 68 through 79
RESERVED

[50. The SFM proposes to adopt Chapter 80 with the following amendments and California regulations.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

CHAPTER 80
REFERENCED STANDARDS

NFPA

2-11	Hydrogen Technologies Code
~~*2-11*~~	~~*Hydrogen Technologies Code*~~
13—13 ~~*13*~~	Installation of Sprinkler Systems
13D—13 ~~*13*~~	Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes
13R—13 ~~*13*~~	Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height
14—13 ~~*13*~~	Installation of Standpipe<u>s</u> and Hose Systems
20—13 ~~*13*~~	Installation of Stationary Pumps for Fire Protection
22—13 ~~*13*~~	Water Tanks for Private Fire Protection
24—13 ~~*13*~~	Installation of Private Fire Service Mains and Their Appurtenances
31—11 ~~*11*~~	Installation of Oil-burning Equipment
~~*37—10*~~ <u>*15*</u>	*Installation and Use of Stationary Combustion Engines and Gas Turbines*
51A—12 ~~*12*~~	Acetylene Cylinder Charging Plants
52—13 ~~*13*~~	Vehicular Gaseous ~~*Gaseous*~~ Fuel System Code
~~*54—12*~~ <u>*15*</u>	*National Fuel Gas Code*
55—13 ~~*13*~~	Compressed Gases and Cryogenic Fluids Code
59A—13 ~~*13*~~	Production, Storage and Handling of Liquefied Natural Gas (LNG)
61—13 ~~*13*~~	Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities
72—13 ~~*13*~~	National Fire and Signaling ~~*and Signaling*~~ Alarm Code
80—13 ~~*13*~~	Fire Doors and Other Opening Protectives
~~*82—09*~~ <u>*14*</u>	*Standard for Incinerators and Waste and Linen Handling Systems and Equipment*

[Editor's Note: Keep model code NFPA 92, repeal CA amendment for NFPA 92.]

92—12	Standard for Smoke Control Systems
~~*92—12*~~	~~*Standard for Smoke Control Systems*~~
99—15 ~~*12*~~	Health Care Facilities <u>*Code*</u>
101- 15 ~~*12*~~	Life Safety Code
105—13 ~~*13*~~	Installation of Smoke Door Assemblies and Other Opening Protectives
110—13 ~~*13*~~	Emergency and Standby Power Systems
111—13 ~~*13*~~	Stored Electrical Energy Emergency and Standby Power Systems
120—15	Fire Prevention and Control in Coal Mines ~~*Fire Prevention and Control in Coal Mines*~~
204—15 ~~*12*~~	Standard for Smoke and Heat Venting

211—13 ~~*13*~~ Chimneys, Fireplaces, Vents and Solid Fuel-burning Appliances
241—13 ~~*13*~~ Safeguarding Construction, Alteration and Demolition Operations
260—13 ~~*13*~~ Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture
261—13 ~~*13*~~ Method of Test for Determining Resistance of Mock-up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes
289—13 ~~*13*~~ Standard Method of Fire Test for Individual Fuel Packages
318—15 ~~*13*~~ Standard for the Protection of Semiconductor Fabrication Facilities
385—12 ~~*12*~~ Tank Vehicles for Flammable and Combustible Liquids

[Editor's Note: Keep model code NFPA 400, repeal CA amendment for NFPA 400.]
400—13 Hazardous Materials Code
~~*400—13 Hazardous Materials Code*~~

409—11 ~~*11*~~ Aircraft Hangars
495—13 ~~*13*~~ Explosive Materials Code
498—13 ~~*13*~~ Safe Havens and Interchange Lots for Vehicles Transporting Explosives
505—13 ~~*13*~~ Powered Industrial Trucks, Including Type Designations, Areas of Use, Conversions, Maintenance and Operation
654—13 ~~*13*~~ Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids
703—12 Fire Retardant Treated ~~*Treated*~~ Wood and Fire Retardant Coatings for Building Materials
720—15 ~~*12*~~ Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment
1122—13 ~~*13*~~ Model Rocketry
1127—13 ~~*13*~~ High Power Rocketry
2001—15 ~~*12*~~ Clean Agent Fire Extinguishing Systems

Notation:
Authority: Health and Safety Code Sections 13108, 13108.5(a), 13143, 13143.6, 13210, 17920(b), 18949.2(b) 18949.2(c), Government Code Section 51189, Public Education Code 17074.50.
References: Health and Safety Code Sections 13143, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

[51. The SFM proposes to maintain the adoption of SFM Appendix Chapter 4 with no new modifications.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

APPENDIX CHAPTER 4 [SFM]
SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

~~425.8.7~~435.8.7 Floor separation. *Group R-3.1 occupancies with non-ambulatory clients housed above the first floor shall be provided with a non-fire resistance constructed floor separation at stairs which will prevent smoke migration between floors. Such floor separation shall have equivalent construction of 0.5 inch (12.7 mm) gypsum wallboard on one side of wall framing.*

Exceptions:
1. *Occupancies with at least one exterior exit from floors occupied by clients.*
2. *Occupancies provided with automatic fire sprinkler systems complying with chapter 9.*

Notation:
Authority: Health and Safety Code Sections 1250, 1502, 1568.02, 1569.72, 1569.78, 11159.2, 13131.5, 13133, 13143, 13143.6
References: Health and Safety Code Sections 13143, 18949.2

[52. The SFM proposes to not adopt Appendix A.]

APPENDIX A
BOARD OF APPEALS

Notation:
Authority: Health and Safety Code Sections 13143
References: Health and Safety Code Section 13143

[53. The SFM proposes to adopt Appendix B with amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

APPENDIX B
FIRE-FLOW REQUIREMENTS FOR BUILDINGS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[54. The SFM proposes to maintain the adoption of SFM Appendix BB without modification.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

APPENDIX BB [SFM]
FIRE-FLOW REQUIREMENTS FOR BUILDINGS

BB105.1 *The minimum fire flow and flow duration for school buildings shall be as specified in Table BB105.1.*

Exception: *A reduction in required fire flow of up to 75 percent, is allowed when the building is provided with an approved automatic sprinkler system. When a reduction in fire flow is used, fire flow shall not be less than 1500 GPM.*

Notation:
Authority cited—Health and Safety Code Section 13143 and California Education Code Article 7.5, Sections 17074.50, 17074.52 and 17074.54.
Reference—Government Code Section 11152.5, Health and Safety Code Section 13143 and California Education Code Chapter 12.5, Leroy F. Greene School Facilities Act of 1998, Article 1.

[55. The SFM proposes to adopt Appendix C with amendment.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

APPENDIX C
FIRE HYDRANT LOCATIONS AND DISTRIBUTION

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[56. The SFM proposes to maintain the adoption of SFM Appendix CC without modification.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

APPENDIX CC [SFM]
FIRE HYDRANT LOCATIONS AND DISTRIBUTION

Notation:
Authority cited—Health and Safety Code Section 13143 and California Education Code Article 7.5, Sections 17074.50, 17074.52 and 17074.54.
Reference—Government Code Section 11152.5, Health and Safety Code Section 13143 and California Education Code Chapter 12.5, Leroy F. Greene School Facilities Act of 1998, Article 1.

[57. The SFM proposes to not adopt Appendices D through G.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

APPENDIX D
FIRE APPARATUS ACCESS ROADS

APPENDIX E
HAZARD CATEGORIES

APPENDIX F
HAZARD RANKING

APPENDIX G
CRYOGENIC FLUIDS—WEIGHT AND VOLUME EQUIVALENTS

Notation:
Authority: Health and Safety Code Sections 13108, 13143, 13210, 13211, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[58. The SFM proposes to not adopt Appendix H.]

~~**APPENDIX H**~~
~~**HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP) AND**~~
~~**HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS)**~~
~~**INSTRUCTIONS**~~

(Note: This IFC appendix chapter will not be printed in the California Fire Code.)

Notation:
Authority: Health and Safety Code Sections 13143, 25500 through 25545
References: Health and Safety Code Sections 13143, 25500 through 25545, Chapter 6.95 and Title 19, Division 2, Chapter 4

[59. The SFM proposes to maintain the adoption of the California Appendix H without modification.]

See item 63 for existing SFM amendments and California regulations that are brought forward without modification.

APPENDIX H

HAZARDOUS MATERIALS MANAGEMENT PLANS AND
HAZARDOUS MATERIALS INVENTORY STATEMENTS
(See Sections 5001.5.1 and 5001.5.2)

Notation:
Authority: Health and Safety Code Sections 13143, 25500 through 25545
References: Health and Safety Code Sections 13143, 25500 through 25545, Chapter 6.95 and Title 19, Division 2, Chapter 4

[60. The SFM proposes to not adopt Appendix I or J.]

APPENDIX I
FIRE PROTECTION SYSTEMS—UNSAFE CONDITIONS

APPENDIX J
BUILDING INFORMATION SIGN

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2
References: Health and Safety Code Sections 13143, 13211, 18949.2

[61. The SFM proposes to adopt a new Appendix K.]

APPENDIX K
TEMPORARY HAUNTED HOUSES, GHOST WALKS, AND SIMILAR AMUSEMENT USES

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
References: Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

[62. Incorporation and correlation of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems into the California Codes.]

SECTION 202
GENERAL DEFINITIONS

FIXED GUIDEWAY <u>AND PASSENGER RAIL</u> TRANSIT SYSTEMS*. (See California Building Code, Section ~~433~~<u>443</u>.)*

SECTION 903
AUTOMATIC SPRINKLER SYSTEMS

903.2.17 Fixed guideway <u>and passenger rail</u> transit systems.

SECTION 905
STANDPIPE SYSTEMS

***905.3.11 Fixed guideway and passenger rail transit systems**. Fixed-guideway and passenger rail transit systems shall be provided with a Class 1 standpipe system in accordance with this section.*

***~~905.3.11~~905.3.11.1 ~~Fixed guideway transit systems~~Underground Stations**. Underground stations shall be provided with an automatic ~~class III~~Class I-standpipe system. ~~designed to comply with the following:~~*
~~1. Automatically supply 65 pounds per square inch~~
~~(psi) for each outlet.~~
~~2. Supply a 250 gpm (946 L/m) flow to each of the two most remote 21/2 inch (64 mm) outlets when pressurized through the fire department connection(s).~~

***~~905.3.11.1~~905.3.11.2 All other Stations.** All other stations shall be provided with a ~~class~~ Class I ~~manual wet~~ standpipe system~~; a manual dry class I standpipe system may be allowed in areas subject to freezing~~.*

***Exception**: Open at-grade stations with unrestricted fire department access need not be provided with a standpipe system.*

SECTION 907
FIRE ALARM AND DETECTION SYSTEMS

907.2.26 Fixed guideway and passenger rail transits systems fire alarm and communication systems.

Notation:
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
References: Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

PART 2

[63. The SFM proposes to bring forward previously existing California building standards or amendments, which represent no change in their effect from the 2013 California Fire Code and is displayed for context and for the convenience of code users. Furthermore, the SFM proposes to codify non-substantive editorial and formatting amendments from the format based upon the 2012 International Fire Code to the format of the 2015 International Fire Code.]

CHAPTER 1

SCOPE AND ADMINISTRATION

DIVISION I
CALIFORNIA ADMINISTRATION

SECTION 1.1
GENERAL

1.1.2 Purpose. *The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations.*

1.1.3 Scope. *The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.*

This code establishes regulations affecting or relating to buildings, structures, processes, premises and a reasonable degree of life and property safeguards regarding:

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 use of, occupancy of buildings, structures, or premises;
3. Fire hazards in the buildings, structures, or on premises from use of, occupancy of, or operation;
4. Matters related to the construction, extension, repair, alteration or removal of fire suppression or alarm systems,
5. Conditions affecting the safety of fire fighters and emergency responders during emergency operations.

1.1.3.1 Nonstate-regulated buildings, structures and applications. *Except as modified by local ordinance pursuant to Section 1.1.8, the following standards in the California Code of Regulations, Title 24, Parts 2, 2.5, 3, 4, 5, 6, 9, 10 and 11 shall apply to all occupancies and applications not regulated by a state agency.*

1.1.3.2 State-Regulated Buildings, Structures, and Applications. *The model code, state amendments to the model code, and/or state amendments where there are no relevant model code provisions~~,~~ shall apply to the following buildings, structures, and applications regulated by state agencies as specified in Sections 1.2 through 1.14, except where modified by local ordinance pursuant to Section 1.1.8. When adopted by a state agency, the provisions of this code shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by the state legislature.*

Note: *See Preface to distinguish the model code provisions from the California provisions.*

1. State-owned buildings, including buildings constructed by the Trustees of the California State University, and to the extent permitted by California laws, buildings designed and constructed by the Regents of the University of California, and regulated by the Building Standards Commission. See Section 1.2 for additional scope provisions.
2. Local detention facilities regulated by the Corrections Standards Authority. See Section 1.3 for additional scope provisions.
3. Barbering, cosmetology or electrolysis establishments, acupuncture offices, pharmacies, veterinary facilities and structural pest control locations regulated by the Department of Consumer Affairs. See Section 1.4 for additional scope provisions.
4. Energy efficiency standards regulated by the California Energy Commission. See Section 1.5 for additional scope provisions.
5. Dairies and places of meat inspection regulated by the Department of Food and Agriculture. See Section 1.6 for additional scope provisions.
6. Organized camps, laboratory animal quarters, public swimming pools, radiation protection, commissaries serving mobile food preparation vehicles and wild animal quarantine facilities regulated by the Department of Public Health . See Section 1.7 for additional scope provisions.
7. Hotels, motels, lodging houses, apartment houses, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing and other types of dwellings containing sleeping accommodations with or without common toilets or cooking facilities. See Section 1.8.2.1.1 for additional scope provisions.
8. Accommodations for persons with disabilities in buildings containing newly constructed covered multifamily dwellings, new common use spaces serving existing covered multifamily dwellings, additions to existing buildings where the addition alone meets the definition of a "COVERED MULTIFAMILY DWELLING," and common-use spaces serving covered multifamily dwellings which are regulated by the Department of Housing and Community Development. See Section 1.8.2.1.2 for additional scope provisions.
9. Permanent buildings and permanent accessory buildings or structures constructed within mobilehome parks and special occupancy parks regulated by the Department of Housing and Community Development. See Section 1.8.2.1.3 for additional scope provisions.
10. Accommodations for persons with disabilities regulated by the Division of the State Architect. See Section 1.9.1 for additional scope provisions.
11. Public elementary and secondary schools, community college buildings and state-owned or state-leased essential service buildings regulated by the Division of the State Architect. See Section 1.9.2 for additional scope provisions.
12. Qualified historical buildings and structures and their associated sites regulated by the State Historical Building Safety Board with the Division of the State Architect. See Section 1.9.3 for additional scope provisions.
13. General acute care hospitals, acute psychiatric hospitals, skilled nursing and/or intermediate care facilities, clinics licensed by the Department of Public Health and correctional treatment centers regulated by the Office of Statewide Health Planning and Development. See Section 1.10 for additional scope provisions.
14. Applications regulated by the Office of the State Fire Marshal include, but are not limited to, the following in accordance with Section 1.11:
14.1. Buildings or structures used or intended for use as an:
1. Asylum, jail, prison.
2. Mental hospital, hospital, home for the elderly, children's nursery, children's home or institution, school or any similar occupancy of any capacity.
3. Theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education.
4. Small family day care homes, large family day care homes, residential facilities and residential facilities for the elderly, residential care facilities.
5. State institutions or other state-owned or state-occupied buildings.
6. High rise structures.
7. Motion picture production studios.
8. Organized camps.
9. Residential structures.
14.2. Tents, awnings or other fabric enclosures used in connection with any occupancy.
14.3. Fire alarm devices, equipment and systems in connection with any occupancy .
14.4. Hazardous materials, flammable and combustible liquids.
14.5. Public school automatic fire detection, alarm and sprinkler systems.
14.6. Wildland-urban interface fire areas.

15. Public libraries constructed and renovated using funds from the California Library Construction and Renovation Bond Act of 1988 and regulated by the State Librarian. See Section 1.12 of the California Building Code for additional scope provisions.
16. Graywater systems regulated by the Department of Water Resources. See Section 1.13 of the California Building Code for additional scope provisions.
17. For applications listed in Section 1.9.1 regulated by the Division of the State Architect—Access Compliance, outdoor environments and uses shall be classified according to accessibility uses described in Chapters 11A, 11B and 11C.
18. Marine Oil Terminals regulated by the California State Lands Commission. See Section 1.14 of the California Building Code for additional scope provisions.

1.1.4 Appendices. *Provisions contained in the appendices of this code shall not apply unless specifically adopted by a state agency or adopted by a local enforcing agency in compliance with Health and Safety Code Section 18901 et. seq. for Building Standards Law, Health and Safety Code Section 17950 for State Housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts. See Section 1.1.8 of this code.*

1.1.5 Referenced codes. *The codes, standards and publications adopted and set forth in this code, including other codes, standards and publications referred to therein are, by title and date of publication, hereby adopted as standard reference documents of this code. When this code does not specifically cover any subject related to building design and construction, recognized architectural or engineering practices shall be employed. The National Fire Codes, standards, and the Fire Protection Handbook of the National Fire Protection Association are permitted to be used as authoritative guides in determining recognized fire prevention engineering practices.*

1.1.6 Nonbuilding standards, orders and regulations. *Requirements contained in the International Fire Code, or in any other referenced standard, code or document, which are not building standards as defined in Health and Safety Code Section 18909, shall not be construed as part of the provisions of this code. For nonbuilding standards, orders and regulations, see other titles of the California Code of Regulations.*

1.1.7 Order of precedence and use.

1.1.7.1 Differences. *In the event of any differences between these building standards and the standard reference documents, the text of these building standards shall govern.*

1.1.7.2 Specific provisions. *Where a specific provision varies from a general provision, the specific provision shall apply.*

1.1.7.3 Conflicts. *When the requirements of this code conflict with the requirements of any other part of the California Building Standards Code, Title 24, the most restrictive requirements shall prevail.*

1.1.8 City, county or city and county amendments, additions or deletions. *The provisions of this code do not limit the authority of city, county or city and county governments to establish more restrictive and reasonably necessary differences to the provisions contained in this code pursuant to complying with Section 1.1.8.1. The effective date of amendments, additions or deletions to this code of a city, county or a city and county filed pursuant to Section 1.1.8.1 shall be the date filed. However, in no case shall the amendments, additions or deletions to this code be effective any sooner than the effective date of this code.*

Local modifications shall comply with Health and Safety Code Section 18941.5 for Building Standards Law, Health and Safety Code Section 17958 for State Housing Law or Health and Safety Code Section 13869.7 for Fire Protection Districts.

1.1.8.1 Findings and filings.

1. The city, county or city and county shall make express findings for each amendment, addition or deletion based upon climatic, topographical or geological conditions.

Exception: *Hazardous building ordinances and programs mitigating unreinforced masonry buildings.*

2. The city, county or city and county shall file the amendments, additions or deletions expressly marked and identified as to the applicable findings. Cities, counties, cities and counties, and fire departments shall file the

amendments, additions or deletions, and the findings with the California Building Standards Commission at 2525 Natomas Park Drive, Suite 130, Sacramento, CA 95833.
3. Findings prepared by fire protection districts shall be ratified by the local city, county or city and county and filed with the California Department of Housing and Community Development, Division of Codes and Standards, P.O. Box 1407, Sacramento, CA 95812-1407 or 1800 3rd Street, Room 260, Sacramento, CA 95811.

1.1.9 Effective date of this code. *Only those standards approved by the California Building Standards Commission that are effective at the time an application for building permit is submitted shall apply to the plans and specifications for, and to the construction performed under, that permit. For the effective dates of the provisions contained in this code, see the History Note page of this code.*

1.1.10 Availability of codes. *At least one complete copy each of Titles 8, 19, 20, 24 and 25 with all revisions shall be maintained in the office of the building official responsible for the administration and enforcement of this code. Each state department concerned and each city, county or city and county shall have an up-to-date copy of the code available for public inspection. See Health and Safety Code Section 18942(d)(1) and (2).*

1.1.11 Format. *This part fundamentally adopts the International Fire Code by reference on a chapter-by-chapter basis. When a specific chapter of the International Fire Code is not printed in the code and is marked "Reserved" such chapter of the International Fire Code is not adopted as a portion of this code. When a specific chapter of the International Fire Code is marked "Not adopted by the State of California" but appears in the code, it may be available for adoption by local ordinance.*

Note: *Matrix Adoption Tables at the front of each chapter may aid the code user in determining which chapter or sections within a chapter are applicable to buildings under the authority of a specific state agency, but they are not to be considered regulatory.*

1.1.12 Validity. *If any chapter, section, subsection, sentence, clause or phrase of this code is for any reason held to be unconstitutional, contrary to statute, exceeding the authority of the state as stipulated by statutes or otherwise inoperative, such decision shall not affect the validity of the remaining portion of this code.*

SECTION 1.11
OFFICE OF THE STATE FIRE MARSHAL

1.11.1 SFM—Office of the State Fire Marshal. *Specific scope of application of the agency responsible for enforcement, the enforcement agency and the specific authority to adopt and enforce such provisions of this code, unless otherwise stated.*

Application:

Institutional, educational or any similar occupancy*. Any building or structure used or intended for use as an asylum, jail, mental hospital, hospital, sanitarium, home for the aged, children's nursery, children's home, school or any similar occupancy of any capacity.*

Authority cited—*Health and Safety Code Section 13143.*
Reference—*Health and Safety Code Section 13143.*

Assembly or similar place of assemblage. *Any theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education.*

Authority cited—*Health and Safety Code Section 13143.*
Reference—*Health and Safety Code Section 13143.*

Small family day care homes.

Authority cited—*Health and Safety Code Sections 1597.45, 1597.54, 13143 and 17921.*
Reference - *Health and Safety Code Section 13143.*

Large family day care homes.

Authority cited—*Health and Safety Code Sections 1597.46, 1597.54 and 17921.*
Reference - *Health and Safety Code Section 13143.*

Residential facilities and residential facilities for the elderly.

Authority cited—*Health and Safety Code Section 13133.*
Reference—*Health and Safety Code Section 13143.*

Any state institution or other state-owned or state-occupied building.

Authority cited—*Health and Safety Code Section 13108.*
Reference—*Health and Safety Code Section 13143.*

High-rise structures.

Authority cited—*Health and Safety Code Section 13211.*
Reference—*Health and Safety Code Section 13143.*

Motion picture production studios.

Authority cited—*Health and Safety Code Section 13143.1.*
Reference—*Health and Safety Code Section 13143.*

Organized camps.

Authority cited—*Health and Safety Code Section 18897.3.*
Reference—*Health and Safety Code Section 13143.*

Residential. *All hotels, motels, lodging houses, apartment houses and dwellings, including congregate residences and buildings and structures accessory thereto. Multiple-story structures existing on January 1, 1975, let for human habitation, including and limited to, hotels, motels and apartment houses, less than 75 feet (22 860 mm) above the lowest floor level having building access, wherein rooms used for sleeping are let above the ground floor.*

Authority cited—*Health and Safety Code Sections 13143.2 and 17921.*
Reference—*Health and Safety Code Section 13143.*

Residential care facilities. *Certified family care homes, out-of-home placement facilities, halfway houses, drug and/or alcohol rehabilitation facilities and any building or structure used or intended for use as a home or institution for the housing of any person of any age when such person is referred to or placed within such home or institution for protective social care and supervision services by any governmental agency.*

Authority cited—*Health and Safety Code Section 13143.6.*
Reference—*Health and Safety Code Section 13143.*

Tents, awnings or other fabric enclosures used in connection with any occupancy.

Authority cited—*Health and Safety Code Section 13116.*
Reference—*Health and Safety Code Section 13143.*

Fire alarm devices, equipment and systems in connection with any occupancy.

Authority cited—*Health and Safety Code Section 13114.*
Reference—*Health and Safety Code Section 13143.*

Hazardous materials.

Authority cited—*Health and Safety Code Section 13143.9.*

Reference—*Health and Safety Code Section 13143.*

Flammable and combustible liquids.

Authority cited—*Health and Safety Code Section 13143.6.*
Reference—*Health and Safety Code Section 13143.*

Public school automatic fire detection, alarm and sprinkler systems.

Authority cited—*Health and Safety Code Section 13143 and California Education Code Article 7.5, Sections 17074.50, 17074.52 and 17074.54.*
Reference—*Government Code Section 11152.5, Health and Safety Code Section 13143 and California Education Code Chapter 12.5, Leroy F. Greene School Facilities Act of 1998, Article 1.*

Wildland-Urban interface fire area.

Authority cited—*Health and Safety Code Sections 13143, 13108.5(a) and 18949.2(b) and (c) and Government Code Section 51189.*
Reference—*Health and Safety Code Sections 13143, Government Code Sections 51176, 51177, 51178 and 51179 and Public Resources Code Sections 4201 through 4204.*

1.11.2 Duties and powers of the enforcing agency.

1.11.2.1 Enforcement.

1.11.2.1.1 *The responsibility for enforcement of building standards adopted by the State Fire Marshal and published in the California Building Standards Code relating to fire and panic safety and other regulations of the State Fire Marshal shall except as provided in Section 1.11.2.1.2 be as follows:*

1. The city, county or city and county with jurisdiction in the area affected by the standard or regulation shall delegate the enforcement of the building standards relating to fire and panic safety and other regulations of the State Fire Marshal as they relate to Group R-3 occupancies, as described in Section 310.1 of Part 2 of the California Building Standards Code, to either of the following:

1.1. The chief of the fire authority of the city, county or city and county, or an authorized representative.
1.2. The chief building official of the city, county or city and county, or an authorized representative.

2. The chief of any city or county fire department or of any fire protection district, and authorized representatives, shall enforce within the jurisdiction the building standards and other regulations of the State Fire Marshal, except those described in Item 1 or 4.
3. The State Fire Marshal shall have authority to enforce the building standards and other regulations of the State Fire Marshal in areas outside of corporate cities and districts providing fire protection services.
4. The State Fire Marshal shall have authority to enforce the building standards and other regulations of the State Fire Marshal in corporate cities and districts providing fire protection services on request of the chief fire official or the governing body.
5. Any fee charged pursuant to the enforcement authority of this section shall not exceed the estimated reasonable cost of providing the service for which the fee is charged pursuant to Section 66014 of the Government Code.

[California Code of Regulations, Title 19, Division 1, §1.11] Enforcement of Regulations.

In most instances the application of California Code of Regulations, Title 19, Division 1 to existing occupancies will necessitate the granting of sufficient time to effect the necessary changes. The inspection authority must, therefore, exercise good judgment in authorizing sufficient time to complete the required changes, taking into consideration the degree of danger to life in event of fire while rectification is being carried out. The inspection authority may require immediate compliance with any or all of the regulations, or he may grant a reasonable length of time in which to conform.

[California Code of Regulations, Title 19, Division 1, §3.12] Enforcement Agency.

(a) The provisions of California Code of Regulations, Title 19, Division 1 regulations shall be enforced by the State Fire Marshal, the chief of any city or county fire department or fire protection district, and their authorized representatives, in their respective areas of jurisdiction.

(b) The division of authority for the enforcement of these regulations shall be in accordance with the following:

(1) The chief of any city or county fire department or fire protection district, and their authorized representatives shall enforce the rules and regulations in their respective areas.
(2) The State Fire Marshal shall have authority to enforce the rules and regulations in areas outside of corporate cities and county fire protection districts.
(3) The State Fire Marshal shall have authority to enforce the rules and regulations in corporate cities and county fire protection districts upon request of the chief fire official or the governing body.

(c) Regardless of the provisions of subsections (a) and (b) above, these regulations shall be enforced in state institutions, state-owned and state-occupied buildings in accordance with the provisions of Section 13108, Health and Safety Code.

(d) Regardless of the above provisions of this section, these regulations shall be enforced only by the State Fire Marshal in every jail or place of detention for persons charged with or convicted of a crime, unless the chief of a city or county fire department or fire protection district, or such chief's authorized representative, indicates in writing to the State Fire Marshal that inspections of such jails or places of detention will be conducted by the chief or such person's authorized representative, in their respective area of jurisdiction. The inspections shall be made at least once every two years for the purpose of enforcing the regulations adopted by the State Fire Marshal, pursuant to Section 13143. Reports of inspection conducted pursuant to this subsection shall be on forms provided by the State Fire Marshal and shall be submitted to the official in charge of the facility, the local governing body, the State Fire Marshal and the Corrections Standards Authority within 30 days of the inspections.

1.11.2.1.2 *Pursuant to Health and Safety Code Section 13108, and except as otherwise provided in this section, building standards adopted by the State Fire Marshal published in the California Building Standards Code relating to fire and panic safety shall be enforced by the State Fire Marshal in all state-owned buildings, state-occupied buildings, and state institutions throughout the state. Upon the written request of the chief fire official of any city, county or fire protection district, the State Fire Marshal may authorize such chief fire official and his or her authorized representatives, in their geographical area of responsibility, to make fire prevention inspections of state-owned or state-occupied buildings, other than state institutions, for the purpose of enforcing the regulations relating to fire and panic safety adopted by the State Fire Marshal pursuant to this section and building standards relating to fire and panic safety published in the California Building Standards Code. Authorization from the State Fire Marshal shall be limited to those fire departments or fire districts which maintain a fire prevention bureau staffed by paid personnel.*

Pursuant to Health and Safety Code Section 13108, any requirement or order made by any chief fire official who is authorized by the State Fire Marshal to make fire prevention inspections of state-owned or state-occupied buildings, other than state institutions, may be appealed to the State Fire Marshal. The State Fire Marshal shall, upon receiving an appeal and subject to the provisions of Chapter 5 (commencing with Section 18945) of Part 2.5 of Division 13 of the Health and Safety Code, determine if the requirement or order made is reasonably consistent with the fire and panic safety regulations adopted by the State Fire Marshal and building standards relating to fire and panic safety published in the California Building Code.

Any person may request a code interpretation from the State Fire Marshal relative to the intent of any regulation or provision adopted by the State Fire Marshal. When the request relates to a specific project, occupancy or building, the State Fire Marshal shall review the issue with the appropriate local enforcing agency prior to rendering such code interpretation.

1.11.2.1.3 *Pursuant to Health and Safety Code Section 13112, any person who violates any order, rule or regulation of the State Fire Marshal is guilty of a misdemeanor punishable by a fine of not less than $100.00 or more than $500.00, or by imprisonment for not less than six months, or by both. A person is guilty of a separate offense each day during which he or she commits, continues or permits a violation of any provision of, or any order, rule or regulation of, the State Fire Marshal as contained in this code.*

Any inspection authority who, in the exercise of his or her authority as a deputy State Fire Marshal, causes any legal

complaints to be filed or any arrest to be made shall notify the State Fire Marshal immediately following such action.

1.11.2.2 Right of entry. *The fire chief of any city, county or fire protection district, or such person's authorized representative, may enter any state institution or any other state-owned or state-occupied building for the purpose of preparing a fire suppression preplanning program or for the purpose of investigating any fire in a state-occupied building.*

The State Fire Marshal, his or her deputies or salaried assistants, the chief of any city or county fire department or fire protection district and his or her authorized representatives may enter any building or premises not used for dwelling purposes at any reasonable hour for the purpose of enforcing this chapter. The owner, lessee, manager or operator of any such building or premises shall permit the State Fire Marshal, his or her deputies or salaried assistants and the chief of any city or county fire department or fire protection district and his or her authorized representatives to enter and inspect them at the time and for the purpose stated in this section.

[California Code of Regulations, Title 19, Division 1, §1.08] Report of Arrest.

Any inspection authority who, in the exercise of his authority as a Deputy State Fire Marshal, causes any legal complaints to be filed or any arrest to be made shall notify the State Fire Marshal immediately following such action.

[California Code of Regulations, Title 19, Division 1, §1.13] Penalty.

Section 13112 of the Health and Safety Code provides that:

(a) "Every person who violates any provision of this chapter, or any order, rule or regulation made pursuant to this chapter is guilty of a misdemeanor punishable by a fine of not less than one hundred dollars ($100) or more than five hundred dollars ($500), or by imprisonment for not more than six months, or by both."
(b) "A person is guilty of a separate offense each day during which he commits, continues, or permits a violation of any provision of, or any order, rule or regulation made pursuant to, this chapter."

1.11.2.3 More restrictive fire and panic safety building standards.

1.11.2.3.1 *Any fire protection district organized pursuant to Health and Safety Code Part 2.7 (commencing with Section 13800) of Division 12 may adopt building standards relating to fire and panic safety that are more stringent than those building standards adopted by the State Fire Marshal and contained in the California Building Standards Code. For these purposes, the district board shall be deemed a legislative body and the district shall be deemed a local agency. Any changes or modifications that are more stringent than the requirements published in the California Building Standards Code relating to fire and panic safety shall be subject to Section 1.1.8.1.*

1.11.2.3.2 *Any fire protection district that proposes to adopt an ordinance pursuant to this section shall, not less than 30 days prior to noticing a proposed ordinance for public hearing, provide a copy of that ordinance, together with the adopted findings made pursuant to Section 1.11.2.3.1, to the city, county or city and county where the ordinance will apply. The city, county or city and county may provide the district with written comments, which shall become part of the fire protection district's public hearing record.*

1.11.2.3.3 *The fire protection district shall transmit the adopted ordinance to the city, county or city and county where the ordinance will apply. The legislative body of the city, county or city and county may ratify, modify or deny an adopted ordinance and transmit its determination to the district within 15 days of the determination. Any modification or denial of an adopted ordinance shall include a written statement describing the reasons for any modifications or denial. No ordinance adopted by the district shall be effective until ratification by the city, county or city and county where the ordinance will apply. Upon ratification of an adopted ordinance, the city, county or city and county shall file a copy of the findings of the district, and any findings of the city, county or city and county, together with the adopted ordinance expressly marked and identified to which each finding refers, in accordance with Section 1.1.8.1(3).*

1.11.2.4 Request for alternate means of protection. *Requests for approval to use an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment or means of protection shall be made in writing to the enforcing agency by the owner or the owner's authorized representative and shall be accompanied by a full statement of the conditions. Sufficient evidence or proof shall be submitted to substantiate any claim that may be made regarding its conformance. The enforcing agency may require tests and the submission of a test report from an approved testing organization as set forth in Title 19, California Code of Regulation, to*

substantiate the equivalency of the proposed alternative means of protection.

When a request for alternate means of protection involves hazardous materials, the authority having jurisdiction may consider implementation of the findings and recommendations identified in a Risk Management Plan (RMP) developed in accordance with Title 19, Division 2, Chapter 4.5, Article 3.

Approval of a request for use of an alternative material, assembly of materials, equipment, method of construction, method of installation of equipment or means of protection made pursuant to these provisions shall be limited to the particular case covered by request and shall not be construed as establishing any precedent for any future request.

1.11.2.5 Appeals. *When a request for an alternate means of protection has been denied by the enforcing agency, the applicant may file a written appeal to the State Fire Marshal for consideration of the applicant's proposal. In considering such appeal, the State Fire Marshal may seek the advice of the State Board of Fire Services. The State Fire Marshal shall, after considering all of the facts presented, including any recommendations of the State Board of Fire Services, determine if the proposal is for the purposes intended, at least equivalent to that specified in these regulations in quality, strength, effectiveness, fire resistance, durability and safety, and shall transmit such findings and any recommendations to the applicant and to the enforcing agency.*

1.11.3 Construction documents.

1.11.3.1 Public schools. *Plans and specifications for the construction, alteration or addition to any building owned, leased or rented by any public school district shall be submitted to the Division of the State Architect.*

1.11.3.2 Movable walls and partitions. *Plans or diagrams shall be submitted to the enforcing agency for approval before the installation of, or rearrangement of, any movable wall or partition in any occupancy. Approval shall be granted only if there is no increase in the fire hazard.*

1.11.3.3 New construction high-rise buildings.

1. Complete plans or specifications, or both, shall be prepared covering all work required to comply with new construction high-rise buildings. Such plans and specifications shall be submitted to the enforcing agency having jurisdiction.

2. All plans and specifications shall be prepared under the responsible charge of an architect or a civil or structural engineer authorized by law to develop construction plans and specifications, or by both such architect and engineer. Plans and specifications shall be prepared by an engineer duly qualified in that branch of engineering necessary to perform such services. Administration of the work of construction shall be under the charge of the responsible architect or engineer except that where plans and specifications involve alterations or repairs, such work of construction may be administered by an engineer duly qualified to perform such services and holding a valid certificate under Chapter 7 (commencing with Section 65700) of Division 3 of the Business and Professions Code for performance of services in that branch of engineering in which said plans, specifications and estimates and work of construction are applicable.

This section shall not be construed as preventing the design of fire-extinguishing systems by persons holding a C-16 license issued pursuant to Division 3, Chapter 9, Business and Professions Code. In such instances, however, the responsibility charge of this section shall prevail.

1.11.3.4 Existing high-rise buildings.

1. Complete plans or specifications, or both, shall be prepared covering all work required by ~~Section 3412~~Chapter 11 and California Existing Building Code or existing high-rise buildings. Such plans or specifications shall be submitted to the enforcing agency having jurisdiction.

2. When new construction is required to conform with the provisions of these regulations, complete plans or specifications, or both, shall be prepared in accordance with the provisions of this subsection. As used in this section, "new construction" is not intended to include repairs, replacements or minor alterations which do not disrupt or appreciably add to or affect the structural aspects of the building.

1.11.3.5 Retention of plans. *Refer to Building Standards Law, Health and Safety Code Sections 19850 and 19851 for permanent retention of plans.*

1.11.4 Fees.

1.11.4.1 Other fees. *Pursuant to Health and Safety Code Section 13146.2, a city, county or district which inspects a hotel, motel, lodging house or apartment house may charge and collect a fee for the inspection from the owner of the structure in an amount, as determined by the city, county or district, sufficient to pay its costs of that inspection.*

1.11.4.2 Large family day care. *Pursuant to Health and Safety Code Section 1597.46, Large Family Day Care Homes, the local government shall process any required permit as economically as possible, and fees charged for review shall not exceed the costs of the review and permit process.*

1.11.4.3 High-rise. *Pursuant to Health and Safety Code Section 13217, High-rise Structure Inspection: Fees and costs, a local agency which inspects a high-rise structure pursuant to Health and Safety Code Section 13217 may charge and collect a fee for the inspection from the owner of the high-rise structure in an amount, as determined by the local agency, sufficient to pay its costs of that inspection.*

1.11.4.4 Fire clearance preinspection. *Pursuant to Health and Safety Code Section 13235, Fire Clearance Preinspection, fee, upon receipt of a request from a prospective licensee of a community care facility, as defined in Section 1502, of a residential care facility for the elderly, as defined in Section 1569.2, or of a child day care facility, as defined in Section 1596.750, the local fire enforcing agency, as defined in Section 13244, or State Fire Marshal, whichever has primary jurisdiction, shall conduct a preinspection of the facility prior to the final fire clearance approval. At the time of the preinspection, the primary fire enforcing agency shall price consultation and interpretation of the fire safety regulations and shall notify the prospective licensee of the facility in writing of the specific fire safety regulations which shall be enforced in order to obtain fire clearance approval. A fee of not more than $50.00 may be charged for the preinspection of a facility with a capacity to serve 25 or fewer persons. A fee of not more than $100.00 may be charged for a preinspection of a facility with a capacity to serve 26 or more persons.*

1.11.4.5 Care facilities. *The primary fire enforcing agency shall complete the final fire clearance inspection for a community care facility, residential care facility for the elderly, or child day care facility within 30 days of receipt of the request for the final inspection, or as of the date the prospective facility requests the final prelicensure inspection by the State Department of Social Services, whichever is later.*

Pursuant to Health and Safety Code Section 13235, a preinspection fee of not more than $50.00 may be charged for a facility with a capacity to serve 25 or less clients. A fee of not more than $100.00 may be charged for a preinspection of a facility with a capacity to serve 26 or more clients.

Pursuant to Health and Safety Code Section 13131.5, a reasonable final inspection fee, not to exceed the actual cost of inspection services necessary to complete a final inspection may be charged for occupancies classified as residential care facilities for the elderly (RCFE)

Pursuant to Health and Safety Code Section 1569.84, neither the State Fire Marshal nor any local public entity shall charge any fee for enforcing fire inspection regulations pursuant to state law or regulation or local ordinance, with respect to residential care facilities for the elderly (RCFE) which service six or fewer persons.

1.11.4.6 Requests of the Office of the State Fire Marshal. *Whenever a local authority having jurisdiction requests that the State Fire Marshal perform plan review and/or inspection services related to a building permit, the applicable fees for such shall be payable to the Office of the State Fire Marshal.*

1.11.5 Inspections. *Work performed subject to the provisions of this Code shall comply with the inspection requirements contained in Section 106 as adopted by the Office of the State Fire Marshal.*

1.11.5.1 Existing Group I -1 or R occupancies. *Licensed 24-hour care in a Group I-1 or R occupancy in existence and originally classified under previously adopted state codes shall be reinspected under the appropriate previous code, provided there is no change in the use or character which would place the facility in a different occupancy group.*

1.11.6 Certificate of Occupancy. *A Certificate of Occupancy shall be issued as specified in Title 24, Part 2, California*

Building Code, Section 111.

1.11.7 Temporary Structures and Uses. *See Title 24, Part 2, California Building Code, Section 108.*

1.11.8 Service Utilities. *See Title 24, Part 2, California Building Code, Section 112.*

1.11.9 Stop Work Order. *See Title 24, Part 2, California Building Code, Section 115.*

1.11.10 Unsafe Buildings, Structures and Equipment. *See Title 24, Part 2, California Building Code, Section 116.*

[California Code of Regulations, Title 19, Division 1, §1.03] Scope.

(a) California Code of Regulations, Title 19, Division 1 regulations shall govern the use and maintenance of any building or structure used or intended for use as an asylum, jail, mental hospital, hospital, sanitarium, home for aged, children's home or institution, school or any similar occupancy of any capacity; and any theater, dance hall, skating rink, auditorium, assembly hall, meeting hall, night club, fair building, or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education, and in any building or structure which is open to the public and is used or intended to be used for the showing of motion pictures when an admission fee is charged and when such building or structure has a capacity of 10 or more persons, and shall apply to both new and existing occupancies.

Exception:
(1) Buildings controlled by the Federal Government, provided they are not subject to the provisions of Section 15452, Education Code.
(2) Homes and institutions and day care facilities which provide nonmedical board, room, and care for 6 or fewer ambulatory children.

California Code of Regulations, Title 19, Division 1 regulations shall also apply to any building housing any occupancy when such building is used as an auxiliary or accessory structure to any of the occupancies specified herein. They do not apply to structural requirements not relating to fire and panic safety nor to matters dealing exclusively with health and sanitation.

(b) In accordance with Section 13108 of the Health and Safety Code, California Code of Regulations, Title 19, Division 1 regulations shall govern the design and construction relating to fire protection in any state institution and in any
state-owned or state-occupied building. For purposes of California Code of Regulations, Title 19, Division 1 regulations, "state-occupied buildings" are defined as those portions of a building which are leased or rented by the state and shall include all required exits leading therefrom to a public way. Portions of state-occupied buildings which are not leased or rented by the state shall not fall within the scope of this subsection unless such portions present an exposure hazard to the state-occupied area.

(c) California Code of Regulations, Title 19, Division 1 regulations shall also govern the use and maintenance of "organized camps" as defined in Section 18897, Health and Safety Code.
(d) California Code of Regulations, Title 19, Division 1 regulations shall also govern the use and maintenance of any building or structure used or intended for the housing of any person of any age when such person is referred to or placed within such home or facility for protective social care and supervision services by any governmental agency.

(e) California Code of Regulations, Title 19, Division 1 regulations shall also govern the construction, use and maintenance of every building of any type of construction or occupancy having floors used for human occupancy located more than 75 feet above the lowest floor level having building access. For the purpose of this subsection, "building access" shall mean an exterior door opening conforming to all of the following:

(1) Suitable and available for fire department use.
(2) Located not more than 2 feet above the adjacent ground level.
(3) Leading to a space, room or area having foot traffic communication capabilities with the remainder of the building.
(4) Designed to permit penetration through the use of fire department forcible entry tools and equipment unless other approved arrangements have been made with the fire authority having

jurisdiction.
(f) California Code of Regulations, Title 19, Division 1 regulations shall also apply to vehicles, ships and boats or other mobile structures when fixed in a specific location and used for any occupancy within the scope of this section.

Note: Unless otherwise specified, Title 19 applies to all building occupancies, and related features and equipment throughout the state.

[California Code of Regulations, Title 19, Division 1, §1.09.1] Order of Precedence.

In the event of any differences between California Code of Regulations, Title 19, Division 1 regulations and the standard reference documents or standard fire prevention practices, the text of California Code of Regulations, Title 19, Division 1 regulations shall govern. Where a specific provision varies from a general provision, the specific provision shall apply.

DIVISION II
SCOPE AND ADMINISTRATION

SECTION 101
GENERAL

Note: *Sections adopted or amended by state agencies are specifically indicated by an agency banner or indicated in the Matrix Adoption Table.*

102.3 Change of use or occupancy. Change 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 is made to comply with the requirements of this code and the ~~*International*~~*California Building Code*. Subject to the approval of the *fire code official*, the use or occupancy of an existing structure shall be allowed to be changed and the structure is allowed to be occupied for purposes in other groups without conforming to all the requirements of this code and the ~~*International*~~*California Building Code* for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

102.4 Application of building code. The design and construction of new structures shall comply with the ~~*International*~~*California Building Code*, and any *alterations*, additions, changes in use or changes in structures required by this code, which are within the scope of the ~~*International*~~*California Building Code*, shall be made in accordance therewith.

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

1. Construction and design 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, construction permits required by Section 105.7 of this code shall apply.
2. Administrative, operational and maintenance provisions of this code shall apply.

TABLE 105.6.21
PERMIT AMOUNTS FOR HAZARDOUS MATERIALS

TYPE OF MATERIAL	**AMOUNT**
Combustible liquids	See Section 105.6.16
Corrosive materials	
Gases	See Section 105.6.8
Liquids	55 gallons
Solids	~~1000~~ *500* pounds

(Remainder of Table 105.6.21 unchanged.)

~~105.6.47~~105.6.49 Additional Permits. *In addition to the permits required by Section 105.6, the following permits shall be obtained from the Bureau of Fire Prevention prior to engaging in the following activities, operations, practices or functions:*

1. Production facilities*. To change use or occupancy, or allow the attendance of a live audience, or for wrap parties.*

2. Pyrotechnics and special effects*. To use pyrotechnic special effects, open flame, use of flammable or combustible liquids and gases, welding, and the parking of motor vehicles in any building or location used for the purpose of motion picture, television and commercial production.*
3. Live audiences*.. To install seating arrangements for live audiences in approved production facilities, production studios and sound stages. See Chapter 48.*

CHAPTER 2
DEFINITIONS

SECTION 202
GENERAL DEFINITIONS

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the ~~*International*~~*California Building Code*, ~~*International Fuel Gas Code*~~, ~~*International*~~*California Mechanical Code* or ~~*International*~~*California Plumbing Code,* such terms shall have the meanings ascribed to them as in those codes.

AGED HOME OR INSTITUTION*, is a facility used for the housing of persons 65 years of age or older in need of care and supervision. (See definition of "care and supervision")*

ASSEMBLY. *The gathering together of 50 or more persons for such purposes as deliberation, education, instruction, worship, entertainment, amusement, drinking, dining or awaiting transportation.*

BEDRIDDEN PERSON. *A person, requiring assistance in turning and repositioning in bed, or being unable to independently transfer to and from bed, except in facilities with appropriate and sufficient care staff, mechanical devices if necessary, and safety precautions as determined in Title 22 regulations, by the Director of Social Services or his or her designated representative. Persons who are unable to independently transfer to and from bed, but who do not need assistance to turn or reposition in bed, shall be considered nonambulatory.*

The Director of Social Services or his or her designated representative shall make the determination of the bedridden status of persons with developmental disabilities, in consultation with the Director of Developmental Services or his or her designated representative.

The Director of Social Services or his or her designated representative shall make the determination of the bedridden status of all other persons with disabilities who are not developmentally disabled.

BUILDING. Any structure used or intended for supporting or sheltering any use or occupancy.

Note: *Building shall have the same meaning as defined in Health and Safety Code Section 17920 and 18908 for the applications specified in Section 1.11.*

CARE AND SUPERVISION *means any one or more of the following activities provided by a person or facility to meet the needs of the clients:*

Assistance in dressing, grooming, bathing and other personal hygiene.
Assistance with taking medication.
Central storing and/or distribution of medications.
Arrangement of and assistance with medical and dental care.
Maintenance of house rules for the protection of clients.
Supervision of client schedules and activities.
Maintenance and/or supervision of client cash resources or property.
Monitoring food intake or special diets.
Providing basic services required by applicable law and regulation to be provided by the licensee in order to obtain and maintain a community-care facility license.

CATASTROPHICALLY INJURED*, as termed, means a person whose origin of disability was acquired through trauma or nondegenerative neurologic illness, for whom it has been determined by the Department of Health Services Certification and Licensing that active rehabilitation would be beneficial.*

CELL *Detention or correctional facility***).** *A sleeping or housing unit in a detention or correctional facility for the*

confinement of not more than two inmates or prisoners

CELL COMPLEX *is a cluster or group of cells or dormitories in a jail, prison or other detention facility, together with rooms used for accessory purposes, all of which open into the cell complex, and are used for functions such as dining, counseling, exercise, classrooms, sick call, visiting, storage, staff offices, control rooms or similar functions, and interconnecting corridors all within the cell complex.*

CELL TIERS *are cells, dormitories and accessory spaces. Cell tiers are located one level above the other, and do not exceed two levels per floor. A cell tier shall not be considered a story or mezzanine.*

CHARTER SCHOOL *A Charter School is a public school providing instruction from kindergarten through 12th grade, established pursuant to Education Code, Title 2, Division 4, Part 26.8, section 47600, et seq.*

CHILD-CARE CENTER*, is any facility of any capacity other than a large or small family day-care home as defined in these regulations in which less than 24-hour-per-day nonmedical supervision is provided for children in a group setting.*

CHILD OR CHILDREN*, is a person or persons under the age of 18 years.*

CHRONICALLY ILL*. See "Terminally ill."*

CLINIC, OUTPATIENT. Buildings or portions thereof used to provide medical care on a less-than 24-hour basis to persons who are not *classified as non-ambulatory or bedridden or* rendered incapable of self-preservation by the services provided.

COMMUNITY CARE FACILITY. *Community care facility means any facility, place, or building that is maintained and operated to provide nonmedical residential care, day treatment, adult day care, or foster family agency services for children, adults, or children and adults, including, but not limited to, the physically handicapped, mentally impaired, incompetent persons, and abused or neglected children, and includes the following as defined in Health and Safety Code Section 1502:*

1. Residential facility
2. Adult day program
3. Therapeutic day services facility
4. Foster family agency
5. Foster family home
6. Small family home
7. Social rehabilitation facility
8. Community treatment facility
9. Full-service adoption agency
10. Noncustodial adoption agency
11. Transitional shelter care facility
12. Transitional housing placement facility

~~**CONGREGATE LIVING FACILITIES.** A building or part thereof that contains sleeping units where residents share bathroom and/or kitchen facilities.~~

CONGREGATE LIVING HEALTH FACILITY (CLHF)*, as termed, is a residential home with a capacity of no more than six beds, which provides inpatient care, including the following basic services: medical supervision, 24-hour skilled nursing and supportive care, pharmacy, dietary, social recreational, and at least provides services for persons who are diagnosed with a terminal illness or who are catastrophically and severely disabled*.

CONGREGATE RESIDENCE*, is any building or portion thereof that contains facilities for living, sleeping and sanitation, as required by this code, and may include facilities for eating and cooking, for occupancy by other than a family. A congregate residence may be a shelter, convent, monastery, dormitory, fraternity or sorority house, but does not include jails, hospitals, nursing homes, hotels or lodging houses.*

COURTROOM DOCK. *Courtroom Dock shall mean an area within a courtroom where persons may be restrained and are awaiting court proceedings.*

COURTHOUSE HOLDING FACILITY [SFM]. *Courthouse Holding Facility shall mean a room, cell, cell complex or building for the confinement of persons for the purpose of a court appearance for a period not to exceed 12 hours.*

DAY-CARE *shall, for the purposes of these regulations, mean the care of persons during any period of a 24-hour day where permanent sleeping accommodations are not provided.*

Note: "*Day-care" shall not be construed to preclude the use of cots or mats for napping purposes, provided all employees, attendants and staff personnel are awake and on duty in the area where napping occurs.*

DAY-CARE HOME, FAMILY. *A home that regularly provides care, protection, and supervision for 14 or fewer children, in the provider's own home, for periods of less than 24 hours per day, while the parents or guardians are away, and is either a large family day-care home or a small family day-care home.*

DAY-CARE HOME, LARGE FAMILY. *A providers own home licensed to provide day care for periods less than 24-hours per day for nine to 14 persons, including children under the age of 10 years who reside at the home.*

DAY-CARE HOME, SMALL FAMILY. *A home which provides family day-care to eight or fewer children, including children under the age of 10 years who reside at the home, in the provider's own home, for periods of less than 24 hours per day. Small family day-care homes are exempted from state fire and life safety regulations other than those state and local standards applicable to Group R-3 occupancies. (See Health and Safety Code, Section 13143 (b).)*

DAY ROOM *is a room which is adjacent to a cell, or cell tier, or dormitory and which is used as a dining, exercise or other activity room for inmates.*

DETENTION ELEVATOR [SFM]. *Detention Elevator shall mean an elevator which moves in-custody individuals within a secure and restrained environment.*

DETENTION TREATMENT ROOM. [SFM]. *Detention Treatment Room shall mean a lockable room or rooms within Group I-3 occupancies used for recreational therapy, group rooms, interdisciplinary treatment team rooms, and interview rooms not classified solely as an Group I-2 occupancy*

DETOXIFICATION FACILITIES. Facilities that provide treatment for substance abuse serving care recipients who are incapable of self-preservation *or classified as non-ambulatory or bedridden* or who are harmful to themselves or others.

DIRECT ACCESS. *A path of travel from a space to an immediately adjacent space through an opening in the common wall between the two spaces.*

ENFORCING AGENCY. *Enforcing Agency is the designated department or agency as specified by statute or regulation.*

FIRE APPLIANCE *See Section 902.1.*

FOSTER FAMILY HOME. *Foster family home means any residential facility providing 24-hour care for six or fewer foster children that is owned, leased, or rented and is the residence of the foster parent or parents, including their family, in whose care the foster children have been placed. The placement may be by a public or private child placement agency or by a court order, or by voluntary placement by a parent, parents, or guardian. It also means a foster family home described in Section 1505.2.*

FULL-TIME CARE *shall mean the establishment and routine care of persons on an hourly, daily, weekly, monthly, yearly or permanent basis, whether for 24-hours per day or less, and where sleeping accommodations are provided.*

~~**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.~~

GROUP HOME. *Group Home means a facility which provides 24-hour care and supervision to children, provides services specified in this chapter to a specific client group, and maintains a structured environment, with such services provided at least in part by staff employed by the licensee. The care and supervision provided by a group*

home shall be nonmedical except as permitted by Welfare and Institutions Code Section 17736(b). Since small family and foster family homes, by definition, care for six or fewer children only, any facility providing 24-hour care for seven or more children must be licensed as a group home.

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.~~*In other than Group I-2 occupancies "high-rise buildings" as used in this code:*

Existing high-rise structure*. A high-rise structure, the construction of which is commenced or completed prior to July 1, 1974.*

High-rise structure. *Every building of any type of construction or occupancy having floors used for human occupancy located more than 75 feet above the lowest floor level having building access (see Section 403), except buildings used as hospitals as defined in Health and Safety Code Section 1250.*

New High-rise Building. *A high-rise structure, the construction of which is commenced on or after July 1, 1974. For the purpose of this section, construction shall be deemed to have commenced when plans and specifications are more than 50 percent complete and have been presented to the local jurisdiction prior to July 1, 1974. Unless all provisions of this section have been met, the construction of such buildings shall commence on or before January 1, 1976.*

New high-rise structure. *A high-rise structure, the construction of which is commenced on or after July 1, 1974.*

HOLDING FACILITY *means a detention or correctional facility or area where inmates, staff and public are not housed but are restrained.*

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 *or classified as non-ambulatory or bedridden*.

HOUSING UNIT *is an area intended to lodge inmates on a 24-hour basis where accommodations are provided for sleeping.*

INFANT, *for the purpose of these regulations, shall mean any child who because of age only, is unable to walk and requires the aid of another person to evacuate the building. In no case shall the term "infant" mean a child 2 years of age or older.*

LABORATORY. [SFM] *A room, building or area where the use and storage of hazardous materials are utilized for testing, analysis, instruction, research or developmental activities.*

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.

For applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, "listed" shall also mean equipment or materials accepted by the state fire marshal as conforming to the provisions of the State Fire Marshal's regulations and which are included in a list published by the State Fire Marshal.

LABORATORY SUITE. [SFM] *See Section ~~443~~453 of the California Building Code.*

~~**LODGING HOUSE.** A one-family dwelling where one or more occupants are primarily permanent in nature and rent is paid for guest rooms.~~
LODGING HOUSE *is any building or portion thereof containing not more than five guest rooms where rent is paid in money, goods, labor or otherwise.*

MEMBRANE STRUCTURE. An air-inflated, air-supported, cable or frame-covered structure as defined by the ~~*International*~~*California Building Code* and not otherwise defined as a tent. See Chapter 31 of the ~~*International*~~*California Building Code*.

NON-ACCESSIBLE AREA *is an enclosed area that creates a cavity by the application of any construction feature and or building materials. This area shall be recognized by the enforcing agency as a separation between the non-accessible space and any adjacent, occupied space of the building.*

NONAMBULATORY PERSONS*, are persons unable to leave a building unassisted under emergency conditions. It includes, but is not limited to, persons who depend on mechanical aids such as crutches, walkers and wheelchairs and any person who is unable to physically and mentally respond to a sensory signal approved by the state fire marshal or an oral instruction relating to fire danger.*

The determination of ambulatory or non-ambulatory status of persons with developmental disabilities shall be made by the Director of Social Services or his or her designated representative, in consultation with the director of Developmental Services or his or her designated representative. The determination of ambulatory or nonambulatory status of all other disabled persons placed after January 1, 1984, who are not developmentally disabled shall be made by the Director of Social Services or his or her designated representative.

NONCOMBUSTIBLE. [SFM] *Noncombustible as applied to building construction material means a material which, in the form in which it is used, is either one of the following:*

1. Material of which no part will ignite and burn when subjected to fire. Any material passing ASTM E 136 shall be considered noncombustible.
2. Material having a structural base of noncombustible material as defined in Item 1 above, with a surfacing material not over $^{1}/_{8}$ inch (3.2 mm) thick which has a flame-spread index of 50 or less.

"Noncombustible" does not apply to surface finish materials. Material required to be noncombustible for reduced clearances to flues, heating appliances or other sources of high temperature shall refer to material conforming to Item 1. No material shall be classed as noncombustible which is subject to increase in combustibility or flame-spread index, beyond the limits herein established, through the effects of age, moisture or other atmospheric condition

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 *or classified as nonambulatory or bedridden*.

OCCUPANCY CLASSIFICATION

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 *or Motion Picture and Television Production Studio Sound Stages, Approved Production Facilities and production locations*. *Any building or structure or portion thereof used or intended to be used for the showing of motion pictures when an admission fee is charged and when such building or structure is open to the public and has a capacity of 10 or more persons.*

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.

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 m2) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.

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.

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.

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 and television production studio Sound Stages, Approved Production Facilities and production locations. (With live audiences).
Motion picture theaters
Symphony and concert halls
Television and radio studios admitting an audience
Theaters

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)
Taverns and bars

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
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

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

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

Fixed guideway transit systems. [SFM] *Fixed guideway transit system buildings shall conform to the requirements of this code for their occupancy classification in addition to the provisions set forth in Section 443 of the California Building Code.*

Subterranean spaces for winery facilities in natural or manmade caves. [SFM] *For fire and life safety requirements, see Section 446 of the California Building Code.*

Group C (CAMPS, ORGANIZED). *. An organized camp is a site with programs and facilities established for the primary purpose of providing an outdoor group living experience with social, spiritual, educational or recreational objectives, for five days or more during one or more seasons of the year.*

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 *than six* persons at any one time for educational purposes through the 12th grade.

Exception: *A residence used as a home school for the children who normally reside at the residence. Such residences shall remain classified as Group R-2, or Group R-3 Occupancies.*

Group E, day care facilities. This group includes buildings and structures or portions thereof, occupied by more than ~~five~~ *six* children ~~older than~~ 2~~1/2~~ years of age *and older* who receive educational, supervision or personal care services for less than 24 hours per day.

Exception: [SFM] *A Day-care facility not otherwise classified as an R-3 occupancy, where occupants are not capable of responding to an emergency situation without physical assistance from the staff shall be classified as Group I-4.*

~~**Within places of worship.** Rooms and spaces within places of worship providing such care during religious functions shall be classified as part of the primary occupancy.~~

~~**Five or fewer children.** A facility having five or fewer children receiving such care shall be classified as part of the primary occupancy.~~

~~**Five or fewer children in a dwelling unit.** 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 or shall comply with the *International Residential Code*.~~

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 or similar fabric
Carpets and rugs (includes cleaning)
Clothing
Construction and agricultural machinery
Disinfectants
Dry cleaning and dyeing
Electric generation plants
Electronics
Engines (including rebuilding)
Food processing and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m2) in area.
Furniture
Hemp products

Jute products
Laundries
Leather products
Machinery
Metals
Millwork (sash & door)
Motion picture and television production studio Sound Stages, Approved Production Facilities and production locations (without live audiences)
~~Motion pictures and television filming (without spectators)~~
Musical instruments
Optical goods
Paper mills or products
Photographic film
Plastic products
Printing or publishing
Refuse incineration
Shoes
Soaps and detergents
Textiles
Tobacco
Trailers
Upholstering
Wood; distillation
Woodworking (cabinet)

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 ~~*International*~~*California 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.

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 ~~*International*~~*California 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 or 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 ~~International~~*California* Building Code or 1-hour horizontal assemblies in accordance with Section 711 of the ~~International~~*California* 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 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 ~~*International*~~*California Mechanical 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 storage 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.
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 such storage conforms to the quantity limits and requirements of this code.
~~14.~~15. [SFM] Group L occupancies as defined in section ~~443.1~~453.1 of the California Building Code.

Institutional Group I. Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which care 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. *Restraint shall not be permitted in any building except in Group I-3 occupancies constructed for such use. See California Building Code Section 408.1.1.*

Where occupancies house both ambulatory and non-ambulatory persons, the more restrictive requirements shall apply.

Institutional Group I-1. *Not used. (See Group R-2.1 or Section 310.1 California Building Code).* ~~Institutional Group I-1 occupancy shall include buildings, structures or portions thereof for more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised environment and receive custodial care. Buildings of Group I-1 shall be classified as one of the occupancy conditions indicated below. This group shall include, but 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~~
~~Residential board and custodial care facilities~~
~~Social rehabilitation facilities~~

~~**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.~~

~~**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.~~

~~**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.~~

~~**Five or fewer persons receiving custodial care**. A facility with five or fewer persons receiving custodial care shall be classified as Group R-3 or shall comply with the International Residential Code provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or with Section P2904 of the International Residential Code.~~

Institutional Group I-2.1 Ambulatory Health Care Facility. *A Healthcare facility that receives persons for outpatient medical care that may render the patient incapable of unassisted self-preservation and where each tenant space accommodates more than five such patients.*

Institutional Group I-3. Institutional Group I-3 occupancy shall include buildings *or portions of buildings* and structures which are inhabited by ~~more than five~~ *one or more* 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, *which includes persons restrained*. This group shall include, but not be limited to, the following:

Correctional centers
Courthouse Holding Facility
Detention centers

Detention Treatment Room
Jails
Juvenile Halls
Prerelease centers
Prisons
Reformatories
Secure Interview Rooms
Temporary Holding Facility

Buildings of Group I-3 shall be classified as one of the following occupancy conditions:

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.

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.

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 a smoke compartment to another smoke compartment.

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.

Condition 5. This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Staff-controlled manual release is provided to permit movement from sleeping units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

Condition 6. *This occupancy condition shall include buildings containing only one temporary holding facility with five or less persons under restraint or security where the building is protected throughout with a monitored automatic sprinkler system installed in accordance with Section 903.3.1.1 and where the temporary holding facility is protected throughout with an automatic fire alarm system with notification appliances. A Condition 6 building shall be ~~is~~ permitted to be classified as a Group B occupancy.*

Condition 7. *This occupancy condition shall include buildings containing only one temporary holding facility with nine or less persons under restraint or security where limited to the first or second story, provided the building complies with Section 408.1.2.6 of the California Building Code. A Condition 7 building shall be permitted to be classified as a Group B occupancy*.

Condition 8. *This occupancy condition shall include buildings containing not more than four secure interview rooms located within the same fire area where not more than ~~6~~ six occupants under restraint are located in the same fire area. A Condition 8 building shall be ~~is~~ permitted to be classified as a Group B occupancy, provided the requirements in Section 408.1.2.7 of the California Building Code are met.*

Institutional Group I-4, day care facilities. Institutional Group I-4 shall include buildings and structures occupied by more than ~~five~~*six* ~~persons~~*clients* of any age who receive custodial care for less than 24 hours by persons other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the ~~persons~~*clients* cared for. This group shall include, but not be limited to, the following:

Adult day care
Child day care

Classification as Group E. A child day care facility that provides care for more than ~~five~~*six* but not more than 100 children ~~21/2 years or less of~~ *under 2 years of* age, where the rooms in which the children are cared for are located on a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the

exterior, shall be classified as Group E.

Special provisions. *See Section ~~442.4~~ 452.1.4 of the California Building Code for daycares located above or below the first story.*

~~**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.~~

~~**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.~~

~~**Five or fewer occupants receiving care in a dwelling unit**. A facility such as the above within a dwelling unit and having five or fewer persons receiving custodial care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code.~~

Group L Laboratories. *[SFM] Group L occupancy includes the use of a building or structure, or a portion thereof containing one or more laboratory suites as defined in Section ~~443~~453 of the California Building Code.*

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 ~~International~~*California Residential Code* ~~in accordance with Section 101.2 of the International Building Code~~.

Residential Group R-1. Residential Group R-1 occupancies containing sleeping units where the occupants are primarily transient in nature, including:

Boarding houses (transient) with more than 10 occupants
~~Congregate living facilities~~ *Congregate residences* (transient) with more than 10 occupants
Hotels (transient)
Motels (transient)

Residential Group R-2. Residential Group R-2 occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

Apartment houses
Boarding houses (nontransient) with more than 16 occupants
~~Congregate living facilities~~ *Congregate residences* (nontransient) with more than 16 occupants
Convents
Dormitories
Fraternities and sororities
Hotels (nontransient)
Live/work units
Monasteries
Motels (nontransient)
Vacation timeshare properties

Residential Group R-2.1. *~~This occupancy~~Residential Group R-2.1occupancies shall include buildings, structures or parts thereof housing clients, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services.*

This occupancy may contain more than six non-ambulatory and/or bedridden clients. (See Appendix Chapter 4, Section ~~425~~435 Special Provisions For Licensed 24-Hour Care Facilities in a Group R-2.1, R-3.1, or R-4 Occupancy). This group shall include, but not be limited to, the following:

Assisted living facilities such as:
Residential Care Facilities,
Residential Care Facilities for the Elderly (RCFE's),
Adult Residential Facilities,
Congregate Living Health facilities,
Group homes,

Residential Care Facilities for the Chronically Ill,
Congregate Living Health Facilities for the Terminally Ill.

Social rehabilitation facilities such as:
Halfway houses,
Community Correctional Centers,
Community Correction Reentry Centers,
Community Treatment Programs,
Work Furlough Programs,
Alcoholism or drug abuse recovery or treatment facilities.

Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, *R-2.1, R-3.1,* R-4 or I, including:

Boarding houses (nontransient) with 16 or fewer occupants
Boarding houses (transient) with 10 or fewer occupants
Buildings that do not contain more than two dwelling units.

~~Care facilities that provide accommodations for five or fewer persons receiving care~~
Adult care facilities that provide accommodations for six or fewer clients of any age for less than 24 hours. Licensing categories that may use this classification include, but are not limited to:
Adult Day Programs.

Child care facilities that provide accommodations for six or fewer clients of any age for less than 24 hours. Licensing categories that may use this classification include, but are not limited to:
Day-Care Center for Mildly Ill Children,
Infant Care Center,
School Age Child Day-Care Center.

~~Congregate living facilities~~*Congregate residences* (nontransient) with 16 or fewer occupants.
~~Congregate living facilities~~*Congregate residences* (transient) with 10 or fewer occupants.

Alcoholism or drug abuse recovery homes (ambulatory only)
Foster family homes (ambulatory only)

Family Day-Care Homes that provide accommodations for 14 or fewer children, in the provider's own home for less than 24-hours.

Adult care and child care facilities that are within a single-family home are permitted to comply with the California Residential Code.

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

Residential Group R-3.1. *Residential Group R-3.1 occupancies* ~~*This occupancy group*~~ *may include facilities licensed by a governmental agency for a residentially based 24-hour care facility providing accommodations for six or fewer clients of any age. Clients may be classified as ambulatory, nonambulatory or bedridden. A Group R-3.1 occupancy shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in Appendix Chapter 4 Special Provisions For Licensed 24-Hour Care Facilities in a Group R-2.1, R-3.1 or R-4 Occupancy. This group may include:*

Adult Residential Facilities
Congregate Living Health Facilities
Foster Family Homes
Group Homes
Intermediate Care Facilities for the Developmentally Disabled Habilitative
Intermediate Care Facilities for the Developmentally Disabled Nursing
Nurseries for the full-time care of children under the age of six, but not including "infants" as defined in Section 202

Residential Care Facilities for the Elderly
Small Family Homes and Residential Care Facilities for the Chronically Ill

Exception: *Group Homes licensed by the Department of Social Services which provide nonmedical board, room and care for six or fewer ambulatory children or children two years of age or younger, and which do not have any nonambulatory clients shall not be subject to regulations found in Section Appendix Chapter 4, Section ~~425~~435.*

Pursuant to Health and Safety Code Section 13143 with respect to these exempted facilities, no city, county, or public district shall adopt or enforce any requirement for the prevention of fire or for the protection of life and property against fire and panic unless the requirement would be applicable to a structure regardless of the special occupancy. Nothing shall restrict the application of state or local housing standards to such facilities if the standards are applicable to residential occupancies and are not based on the use of the structure as a facility for ambulatory children. For the purpose of this exception, ambulatory children does not include relatives of the licensee or the licensee's spouse.

PERMANENT PORTABLE BUILDING. *A portable building that is used to serve or house students and is certified as a permanent building on a new public school campus by the public school administration shall comply with the requirements of new campus buildings.*

~~**[B] 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.~~

PROTECTIVE SOCIAL CARE FACILITY. *A facility housing persons, who are referred, placed or caused to be placed in the facility, by any governmental agency and for whom the services, or a portion thereof, are paid for by any governmental agency. These occupancies shall include, but are not limited to, those commonly referred to as "assisted living facilities", "social rehabilitation facilities", "certified family care homes," "out-of-home placement facilities," and "halfway houses."*

RELOCATABLE BUILDING (PUBLIC SCHOOL)*, is any building with an integral floor structure which is capable of being readily moved. (See Education Code Section 17350.) Relocatable buildings that are to be placed on substandard foundations not complying with the requirements of Part 2, Title 24, C.C.R., require a statement from the school district stating that the durability requirements for those foundations may be waived and acknowledging the temporary nature of the foundations.*

RESIDENTIAL CARE FACILITY FOR THE CHRONICALLY ILL (RCF/CI)*, as termed, means a housing arrangement with a maximum capacity of 25 residents that provides a range of services to residents who have chronic, life-threatening illnesses.*

RESIDENTIAL CARE FACILITY FOR THE ELDERLY (RCFE)*, as defined in Health and Safety Code Section §1569.2, shall mean a facility with a housing arrangement chosen voluntarily by persons 60 years of age or over, or their authorized representative, where varying levels and intensities of care and supervision, protective supervision or personal care are provided, based on their varying needs, as determined in order to be admitted and to remain in the facility. Persons under 60 years of age with compatible needs, as determined by the Department of Social Services in regulations, may be allowed to be admitted or retained in a residential-care facility for the elderly.*

Pursuant to Health and Safety Code Section §13133, regulations of the state fire marshal pertaining to Group R, Division 2 Occupancies classified as Residential Facilities (RF) and Residential-care Facilities for the Elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is in consistent with these regulations. A city, county, city and county, including a charter city or charter county may pursuant to Health and Safety Code Section §13143.5, or a fire protection district may pursuant to Health and Safety Code Section §13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological, or topographical conditions relating to roof coverings for Residential-care Facilities for the Elderly.

RESIDENTIAL FACILITY (RF)*, as defined in Section §1502 of the Health and Safety Code, shall mean any family home, group care facility, or similar facility determined by the director of Social Services, for 24-hour non-medical care of persons in need of personal services, supervision, or assistance essential for sustaining the activities of daily living or for the protection of the individual. Such facilities include small family homes and social rehabilitation*

facilities.

Pursuant to Health and Safety Code Section §13133, regulations of the state fire marshal pertaining to Group R, Division 2 Occupancies classified as Residential Facilities (RF) and Residential-care Facilities for the Elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is in consistent with these regulations. A city, county, city and county, including a charter city or charter county may pursuant to Health and Safety Code Section §13143.5, or a fire protection district may pursuant to Health and Safety Code Section §13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological, or topographical conditions relating to roof coverings for Residential-care Facilities for the Elderly.

RESTRAINT. [SFM] *shall mean the physical retention of a person within a room, cell or cell block, holding cells, temporary holding cell, rooms or area, holding facility, secure interview rooms, courthouse holding facilities, courtroom docks, or similar buildings or portions thereof by any means, or within the exterior walls of a building by means of locked doors inoperable by the person restrained. Restraint shall also mean the physical binding, strapping or similar restriction of any person in a chair, walker, bed or other contrivance for the purpose of deliberately restricting the free movement of ambulatory persons.*

Restraint shall not be construed to include nonambulatory persons nor shall it include the use of bandage material, strip sheeting or other fabrics or materials (soft ties) used to restrain persons in hospital-type beds or wheelchairs to prevent injury, provided an approved method of quick release is maintained.

Facilities employing the use of soft ties, however, shall be classified as a building used to house nonambulatory persons. Restraint shall not be practiced in licensed facilities classified as Group R-2.1, R-3.1 and R-4 occupancies unless constructed as a Group I-3 occupancy. For Group I-3 Occupancies see California Building Code Section 408.1.1.

SECURE INTERVIEW ROOMS: *A lockable room used to hold and interview detainees for further processing.*

SPRAY ROOM. A room designed to accommodate spraying operations constructed in accordance with the ~~*International*~~*California Building Code* and separated from the remainder of the building by a minimum 1-hour fire barrier.

STATE-OWNED/LEASED BUILDING *is a building or portion of a building that is owned, leased or rented by the state. State-leased buildings shall include all required exits to a public way serving such leased area or space. Portions of state- leased buildings that are not leased or rented by the state shall not be included within the scope of this section unless such portions present an exposure hazard to the state-leased area or space.*

TEMPORARY HOLDING CELL, ROOM or AREA. [CSA and SFM] *Temporary Holding cell, room or area shall mean a room for temporary holding of inmates, detainees, or in-custody individuals for less than 24 hours.*

TEMPORARY HOLDING FACILITY [SFM] *A building or portion of a building, operated by law enforcement personnel, with one or more temporary holding cells or rooms.*

TENABLE ENVIRONMENT [SFM] *Tenable environment shall mean an environment in which the products of combustion, toxic gases, smoke and heat are limited or otherwise restricted to maintain the impact on occupants to a level that is not life threatening.*

TENT. A structure, enclosure or shelter, with or without sidewalls or drops, constructed of fabric or pliable material supported by any manner except by air or the contents that it protects.

[California Code of Regulations, Title 19, Division 1, §310.(a) through (c)] Definitions.
(a) Tent. A shelter, structure or enclosure made of fabric or similar pliable material.
(b) Large tent. A tent designed for use by 10 or more people.
(C) Small tent. A tent designed for use by less than 10 People.

TERMINALLY ILL, *as termed for an individual, means the individual has a life expectancy of six months or less as stated in writing by his or her attending physician and surgeon.*

WAITING ROOM. [SFM] *Waiting room is a room or area normally provided with seating and used for persons waiting.*

WINERY CAVES. *A subterranean space for winery facilities in natural or manmade caves shall be in accordance with this California Building Code, Section ~~436~~446 of the California Building Code.*

CHAPTER 3
GENERAL REQUIREMENTS

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.

[California Code of Regulations, Title 19, Division 1, §3.14] Fire Hazard.
No person, including but not limited to the State and its political subdivisions, operating any occupancy subject to California Code of Regulations, Title 19, Division 1 regulations shall permit any fire hazard, as defined in this article, to exist on premises under their control, or fail to take immediate action to abate a fire hazard when requested to do so by the enforcing agency.

Note: *"Fire Hazard" as used in California Code of Regulations, Title 19, Division 1 regulations means any condition, arrangement, or act which will increase, or may cause an increase of, the hazard or menace of fire to a greater degree than customarily recognized as normal by persons in the public service of preventing, suppressing or extinguishing fire; or which may obstruct, delay, or hinder, or may become the cause of obstruction, delay or hindrance to the prevention, suppression, or extinguishment of fire.*

[California Code of Regulations, Title 19, Division 1, §3.19(a) through (g)] Housekeeping.
Every building or portion of a building governed by California Code of Regulations, Title 19, Division 1 regulations shall be maintained in a neat orderly manner, free from any condition that would create a fire or life hazard or a condition which would add to or contribute to the rapid spread of fire. Provisions shall be made for the proper storage and disposal of waste materials and rubbish consistent with the following:
(b) All combustible waste material and rubbish shall be stored in approved containers or shall be stored in a manner approved by the enforcing agency as being consistent with standard fire prevention practices until such waste material and rubbish is removed from the premises or otherwise disposed of in a proper manner.
(1) Containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15m^3) shall comply with the provisions of California Code of Regulations, Title 24, Part 9, Section 304.3.
(2) Wastebaskets and linen containers in Group I-2 and I-3 occupancies shall comply with the provisions of California Code of Regulations Title 24, Part 9, Section 808.
(c) Approved self-closing metal containers or listed disposal containers by an approved testing or listing agency shall be provided and maintained in all rooms or locations where oily rags, oily waste, paint rags, or similar materials subject to spontaneous ignition are used, or are stored temporarily. Such containers shall be emptied daily.
(d) Ashes shall not be placed in, on, or near combustible material, but shall be placed in approved metal containers, until removed from the premises or otherwise properly disposed of.
(e) No dry vegetation shall be permitted to exist within 20 feet of any building or occupancies subject to California Code of Regulations, California Code of Regulations, Title 19, Division 1 regulations.
(f) Except when permitted by the enforcing agency, boiler rooms, mechanical rooms, transformer and switchgear vaults and electrical panel rooms, shall not be used for storage.
(g) Electric motors, filters on heating equipment, and grease hoods shall be checked periodically and kept clean and maintained in a safe operating condition.

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.

[California Code of Regulations, Title 19, Division 1, §3.07(a)] Clearances.
(a) General. No combustible material shall be placed or stored within 10 feet of any building or 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 interface areas shall be in accordance with ~~International Wildland-Urban Interface Code~~ *Chapter 49*.

[California Code of Regulations, Title 19, Division 1, §3.07(b)] Clearances.

(b) Ground Clearance. The space surrounding every building or structure shall be maintained in accordance with the following:

Any person that owns, leases, controls, operates, or maintains any building or structure in, upon, or adjoining any mountainous area or forest-covered lands, brush covered lands, or grass-covered lands, or any land which is covered with flammable material, shall at all times do all of the following:

(1) Maintain around and adjacent to such building or structure a firebreak made by removing and clearing away, for a distance of not less than 30 feet on each side thereof or to the property line, whichever is nearer, all flammable vegetation or other combustible growth. This section does not apply to single specimens of trees, ornamental shrubbery, or similar plants which are used as ground cover, if they do not form a means of rapidly transmitting fire from the native growth to any building or structure.

(2) Maintain around and adjacent to any such building or structure additional fire protection or firebreak made by removing all bush, flammable vegetation, or combustible growth which is located from 30 feet to 100 feet from such building or structure or to the property line, whichever is nearer, as may be required by the enforcing agency if he finds that, because of extra hazardous conditions, a firebreak of only 30 feet around such building or structure is not sufficient to provide reasonable fire safety. Grass and other vegetation located more than 30 feet from such building or structure and less than 18 inches in height above the ground may be maintained where necessary to stabilize the soil and prevent erosion.

(3) Remove that portion of any tree which extends within 10 feet of the outlet of any chimney or stovepipe.

(4) Cut and remove all dead or dying portions of trees located adjacent to or overhanging any building.

(5) Maintain the roof of any structure free of leaves, needles, or other dead vegetative growth.

(6) Provide and maintain at all times a screen over the outlet of every chimney or stovepipe that is attached to any fireplace, stove, or other device that burns any solid or liquid fuel. The screen shall be constructed of nonflammable material with openings of not more than ½ inch in size.

(7) Vegetation around all applicable buildings and structures shall be maintained in accordance with the following laws and regulations:

(A) Public Resources Code Section 4291.

(B) California Code of Regulations Title 14 - Natural Resources, Division 1.5 - Department of Forestry and Fire Protection, "General Guideline to Create Defensible Space."

(C) California Government Code Section 51182.

(D) California Code of Regulations, Title 24, Part 9.

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 ~~*International*~~*California Building Code*, spaces underneath grandstand and bleacher seats shall not be occupied or utilized for purposes other than *means of egress*.

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.

[California Code of Regulations, Title 19, Division 1, §3.19(b) and (c) Housekeeping.

Every building or portion of a building governed by California Code of Regulations, Title 19, Division 1 regulations shall be maintained in a neat orderly manner, free from any condition that would create a fire or life hazard or a condition which would add to or contribute to the rapid spread of fire. Provisions shall be made for the proper storage and disposal of waste materials and rubbish consistent with the following:

(b) All combustible waste material and rubbish shall be stored in approved containers or shall be stored in a manner approved by the enforcing agency as being consistent with standard fire prevention practices until such waste material and rubbish is removed from the premises or otherwise disposed of in a proper manner.

(1) Containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15m^3) shall comply with the provisions of California Code of Regulations, Title 24, Part 9, Section 304.3.

(2) Wastebaskets and linen containers in Group I-2 and I-3 occupancies shall comply with the provisions of California Code of Regulations Title 24, Part 9, Section 808.

(c) Approved self-closing metal containers or listed disposal containers by an approved testing or listing agency shall be provided and maintained in all rooms or locations where oily rags, oily waste, paint rags, or similar materials subject to spontaneous ignition are used, or are stored temporarily. Such containers shall be emptied daily.

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 ~~International~~*California Building Code*.

308.1.1 Where prohibited...

[California Code of Regulations, Title 19, Division 1, §3.25(a) and (b)] Open Flame Devices.
(a) Open flame devices shall be prohibited in every Group A, E, I, R-2.1, R-3.1 and R-4 Occupancy.

EXCEPTIONS:
(1) Fuel burning elements of approved appliances shall not be considered as open flame devices.
(2) Upon approval of the enforcing agency, open flame devices may be used under the following conditions.
(A) When necessary for ceremonial or theatrical purposes under such restrictions as may be deemed necessary to avoid danger of ignition of combustible materials or injury to occupants.
(B) In approved and stable candle holders on individual tables of dining establishments.
(b) Under no circumstances shall hand held open flame devices such as exposed candles be permitted for any purpose in any occupancy within the scope of California Code of Regulations, Title 19, Division 1 regulations.

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 *approved* precautions are taken to prevent ignition of a combustible material or injury to occupants:

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 ~~*International*~~*California Mechanical Code*.
3. Gas lights are allowed to be used provided adequate precautions satisfactory to the *fire code official* are taken to prevent ignition of combustible materials.

308.5 Group I, R-2.1, R 3.1, R 4 occupancies or any Licensed Care Facility *A person shall not utilize or allow to be utilized, an open flame in Group I, R-2.1, R 3.1, R 4 occupancies or any Licensed Care Facilities.*

310.2 Prohibited areas…

[California Code of Regulations, Title 19, Division 1, §3.32(a) and (b)] Smoking.
(a) Smoking shall not be permitted in any Group E Occupancy as defined in California Code of Regulations, Title 24, Part 2, except as provided in California Code of Regulations, Title 19, Division 1, subsection (b) below.
(b) The governing board of any school district maintaining a community college or high school may adopt rules and regulations permitting the smoking and possession of tobacco on the campus of a community college or high school or while under the authority of school personnel by pupils of the community college or high school; provided that such rules and regulations shall not permit students to smoke in any classroom or other enclosed facility which any student is required to occupy or which is customarily occupied by nonsmoking students. Areas designated for smoking shall be approved by the enforcing agency.
NOTE: See Section 48901 of the Education Code relating to the smoking or possession of tobacco by pupils.

[California Code of Regulations, Title 19, Division 1, §3.32(d)] Smoking.
(d) Smoking shall be prohibited in any patient room of a Group I, R-2.1,R-3.1 or R-4. Occupancy utilizing air-induced mattresses. No Smoking – Open Flame signs shall be installed as specified in NFPA 99B, Hypobaric Facilities, 2005 edition.

310.3 "No Smoking" signs...

[California Code of Regulations, Title 19, Division 1, §3.32(c)] Smoking.
(c) Approved no smoking signs shall be posted on all stages and platforms of Group A occupancies. Smoking shall not be permitted on stages or platforms except in approved designated areas and as necessary for theatrical, opera or similar productions.

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 abandoned, declared unsafe and abated by demolition or rehabilitation in accordance with the *International Property Maintenance Code* and the ~~*International*~~*California Building Code*.

311.3 Removal of combustibles. *Persons* owning, or in charge or control of, a vacant building or portion thereof, shall remove there from 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 ~~*International*~~*California Building Code*, where waste is controlled and removed as required by Section 304.
2. Seasonally occupied buildings.

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 ~~*International*~~*California 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.

316.4 Obstructions on roofs…

[California Code of Regulations, Title 19, Division 1, §3.05(b)] Fire Department Access and Egress. (Roofs)
(b) Roofs. No person shall install or maintain any security barrier such as barbed wire fencing, razor wire fencing, chain link fencing, or any other fencing material, cable, aerial, antenna, or other obstruction on the roof of any commercial establishment in such a manner as to obstruct or render egress or access hazardous in the event of fire or other emergency.

Exception: *Guy wire, rods and aerial antenna masts may be attached to a roof structure having a slope of less than 30 degrees provided there is full clearance of seven feet or more between the roof and said obstruction. Guy wire or rods required to support aerial or antenna masts may be attached to a roof structure a lateral distance from the mast not in excess of one –sixth the height of the mast.*

SECTION 319
ROAD TUNNELS, BRIDGES, AND OTHER LIMITED ACCESS HIGHWAYS [SFM]

319.1 General. *Road tunnels, bridges, and other limited access highways that are state owned shall comply with NFPA 502.*

CHAPTER 4
EMERGENCY PLANNING AND PREPAREDNESS

401.3.4 Group E Fire Alarm Initiation. *Every person and public officer managing, controlling, or in charge of any public, private, or parochial school shall cause the fire alarm signal to be sounded upon the discovery of fire.*

401.9 Evacuation of Buildings. *Upon notification of fire, conduct of any fire drill, upon activation of the fire alarm, or upon orders of the fire authority having jurisdiction, buildings or structures within the scope of these regulations shall be immediately evacuated or occupants shall be relocated in accordance with established plans.*

403.5 Group E occupancies. An approved fire safety and evacuation plan in accordance with Section 404 shall be

prepared and maintained for Group E occupancies and for buildings containing both a Group E occupancy and an atrium. Group E occupancies shall comply with Sections 403.5.1 through ~~403.5.3~~*403.5.4*.

[California Code of Regulations, Title 19, Division 1, §3.13(a)(1)] Fire Drills. (Group E Occupancies)

(a) Group E Occupancies.

(1) General. Every person and public officer managing, controlling, or in charge of any public, private, or parochial school shall cause the fire alarm signal to be sounded upon the discovery of fire. Every person and public officer managing, controlling, or in charge of any public, private, or parochial school, other than a two-year community college, shall cause the fire alarm signal to be sounded not less than once every calendar month at the elementary and intermediate levels, and not less than twice yearly at the secondary level, in the manner prescribed in California Code of Regulations, Title 24, Part 2, Section 907.

A fire drill shall be held at the secondary level not less than twice every school year.

~~***408.3.1***~~***403.5.1*** ***Group E Occupancies.*** *Every person and public officer managing, controlling, or in charge of any public, private, or parochial school, other than a two-year community college, shall cause the fire alarm signal to be sounded not less than once every calendar month at the elementary and intermediate levels, and not less than twice yearly at the secondary level in the manner prescribed in Section 907. A fire drill shall be held at the secondary level not less than twice every school year.*

~~***408.3.1.1***~~***403.5.1.1*** ***Emergency Pre-Fire Planning.*** *Each school principal, district superintendent or day nursery manager shall, in cooperation with the enforcing agency, prepare procedures to be followed in case of fire or other emergency. They should include the following:*

1 Posting of the telephone number of the fire department in the office and/or at the main switchboard.
2 Assignment of a responsible person to call the fire department upon notification of any fire or activation of the alarm system for any reason other than fire drills.
3 Posting in a conspicuous place in each classroom or assembly area a plan showing paths of travel to evacuate the room in case of emergency and including an alternate route.
4. Posting in each classroom instructions to be followed by the teacher. These should include:
4.1 Maintaining of order during evacuation.
4.2. Removal of roll call book and calling of roll when designated evacuation area is reached.

~~**403.5.1**~~***403.5.2*** **First emergency evacuation drill.** The first emergency evacuation drill of each school year shall be conducted within 10 days of the beginning of classes.

~~**403.5.2**~~***403.5.3*** **Time of day.** Emergency evacuation drills shall be conducted at different hours of the day or evening, during the changing of classes, when the school is at assembly, during the recess or gymnastic periods, or during other times to avoid distinction between drills and actual fires.

~~**403.5.3**~~***403.5.4*** **Assembly points.** Outdoor assembly areas shall be designated and shall be located a safe distance from the building being evacuated so as to avoid interference with fire department operations. The assembly areas shall be arranged to keep each class separate to provide accountability of all individuals.

403.10.2.1 College and university buildings. An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group R-2 college and university buildings. Group R-2 college and university buildings shall comply with Sections 403.10.2.1.1 ~~and 403.10.2.1.2~~ *through 403.10.2.1.3*.

~~***408.3.2***~~***403.10.2.1.1*** ***College and University Pre-Fire Planning.*** *The Chancellor, President, or his designated representative, shall, in cooperation with the enforcing agency, propose procedures to be followed in case of fire or other emergency* ~~*in accordance with the provisions of Section 408.3.1.1*~~*.They should include the following:*

1 Posting of the telephone number of the fire department in the office and/or at the main switchboard.
2 Assignment of a responsible person to call the fire department upon notification of any fire or activation of the alarm system for any reason other than fire drills.
3 Posting in a conspicuous place in each classroom or assembly area a plan showing paths of travel to evacuate the room in case of emergency and including an alternate route.
4. Posting in each classroom instructions to be followed by the teacher. These should include:
4.1 Maintaining of order during evacuation.
4.2. Removal of roll call book and calling of roll when designated evacuation area is reached.

~~**403.10.2.1.1**~~***403.10.2.1.2*** **First emergency evacuation drill.** The first emergency evacuation drill of each school year shall be conducted within 10 days of the beginning of classes.

~~**403.10.2.1.2**~~***403.10.2.1.3*** **Time of day.** Emergency evacuation drills shall be conducted at different hours of the day or evening, during the changing of classes, when school is at assembly, during recess or gymnastic periods or during other times to avoid distinction between drills and actual fires. One required drill shall be held during hours after sunset or before sunrise.

403.8.3.2 Employee staffing. Group I-3 occupancies shall be provided with 24-hour staffing. Staff shall be within three floors or 300 feet (91 440 mm) horizontal distance of the access door of each resident housing area. In Use Conditions 3, 4 and 5, as defined in Chapter 2, the arrangement shall be such that the staff involved can start release of locks necessary for emergency evacuation or rescue and initiate other necessary emergency actions within 2 minutes of an alarm.

Exception: Staff shall not be required to be within three floors or 300 feet (9144 mm) in areas in which all locks are unlocked remotely and automatically in accordance with Section 408.4 of the ~~*International*~~*California Building Code*.

~~***408.12***~~***403.13*** ***Organized Camps.***

~~***408.12.1***~~***403.13.1*** *Every organized camp shall institute fire training programs for all employees in the use of all fire extinguishing equipment and methods of evacuation, and shall establish procedures which shall, as far as possible, be followed in the event of fire or any other emergency. If located in a forest area a plan shall be prepared for the evacuation of the camp in case of an approaching forest fire or other emergency.*

~~***408.12.2***~~***403.13.2*** *Within 24 hours after arrival, every group of persons attending an organized camp shall be made familiar with the method by which the fire alarm may be activated and with the procedures to be followed upon notification of fire.*

~~***408.12.3***~~***403.13.3*** *At least 1 fire drill shall be held within 24 hours of the commencement of each camping session. Additional drills shall be conducted at least once each week thereafter. When sessions exceed a 7 day period, at least 1 drill shall be held during night-time sleeping hours.*

[Editorial Note: Relocated California Amendment from 404.2.]
[California Code of Regulations, Title 19, Division 1, §3.13(c)(1)] Fire Drills. (Organized Camps)
(c) Organized Camps.
(1) Every organized camp shall institute fire training programs for all employees in the use of all fire extinguishing equipment and methods of evacuation, and shall establish procedures which shall, as far as possible, be followed in the event of fire or any other emergency. If located in a forest area a plan shall be prepared for the evacuation of the camp in case of an approaching forest fire or other emergency.

404.1 General. Where required by Section 403, fire safety, evacuation and lockdown plans shall comply with Sections 404.2 through 404.4.1.

[California Code of Regulations, Title 19, Division 1, §3.10] Evacuation of Buildings.
Upon notification of fire, conduct of any fire drill, upon activation of the fire alarm, or upon orders of the fire authority having jurisdiction, buildings or structures within the scope of California Code of Regulations, Title 19, Division 1 regulations shall be immediately evacuated or occupants shall be relocated in accordance with established plans.

[Editorial Note: Section changed. California amendment is being relocated to 403.13.]
404.2 ~~**Where Required…**~~

~~***[California Code of Regulations, Title 19, Division 1, §3.13(c)(1)] Fire Drills. (Organized Camps)***~~
~~*(c) Organized Camps.*~~
~~*(1) Every organized camp shall institute fire training programs for all employees in the use of all fire extinguishing equipment and methods of evacuation, and shall establish procedures which shall, as far as possible, be followed in the event of fire or any other emergency. If located in a forest area a plan shall be prepared for the evacuation of the camp in case of an approaching forest fire or other emergency.*~~

404.2.2 Fire safety plans...

[California Code of Regulations, Title 19, Division 1, §3.13(a)(2)] Fire Drills. (Group E Occupancies)
(a) Group E Occupancies.
(2) Emergency Pre-Fire Planning. Each school principal, district superintendent or day nursery manager shall, in cooperation with the enforcing agency, prepare procedures to be followed in case of fire or other emergency. They should include the following:
(A) Posting of the telephone number of the fire department in the office and/or at the main switchboard.
(B) Assignment of a responsible person to call the fire department upon notification of any fire or activation of the alarm system for any reason other than fire drills.
(C) Posting in a conspicuous place in each classroom or assembly area a plan showing paths of travel to evacuate the room in case of emergency and including an alternate route.
(D) Posting in each classroom instructions to be followed by the teacher. These should include:
1. Maintaining of order during evacuation.
2. Removal of roll call book and calling of roll when designated evacuation area is reached.

[California Code of Regulations, Title 19, Division 1, §3.13(b)]Fire Drills. (College and University)
(b) College and University Pre-Fire Planning. The Chancellor, President, or his designated representative, shall, in cooperation with the enforcing agency, propose procedures to be followed in case of fire or other emergency in accordance with the provisions of California Code of Regulations, Title 19, Division 1, Section 3.13 (a)(2).

~~404.6~~404.5 College and university pre-fire planning. *The Chancellor, President, or his designated representative, shall, in cooperation with the enforcing agency, propose procedures to be followed in case of fire or other emergency in accordance with the provisions of ~~408.3.1.1~~403.10.2.1.1.*

404.5.1 Distribution…

[California Code of Regulations, Title 19, Division 1, §3.09 Emergency Planning and Information.]

(a) All office buildings 2 or more stories in height (except high-rise buildings as defined by Health and Safety Code Section 13210).
(1) Owner(s) or operator(s) shall employ either one of the following methods of providing emergency procedures and information to the building occupants:
(A) Emergency procedures information published in the form of a leaflet, brochure, or pamphlet shall be available to all persons entering the building. Emergency procedures information shall be located immediately inside all entrances to the building, as determined by the authority having jurisdiction. Locations shall be clearly marked; or,
(B) A floor plan providing emergency procedures information shall be posted at every stairway landing, at every elevator landing, and immediately inside all public entrances to the building. The information shall be posted so that it describes the represented floor level and can be easily seen immediately upon entering the floor level or the building. Emergency procedures information shall be printed with a minimum of 3/16-inch high non-decorative lettering providing a sharp contrast to the background.
(2) Emergency procedures information shall provide all ambulatory, nonambulatory, and the physically disabled, instructions to be followed in the event of an emergency. Emergency procedures information shall include, but not be limited to the following:
(A) Location of exits and fire alarm initiating stations, if required;
(B) what the fire alarm, if required, sounds and looks like (audible and visual warning devices);
(C) fire department emergency telephone number 911; and,
(D) the prohibition of elevator use during emergencies, if any.

(b) Hotels, Motels and Lodging houses.
(1) Every guestroom available for rental in a hotel, motel, or lodging house shall have clearly visible emergency procedures information printed on a floor plan representative of the floor level and posted on the interior of each entrance door or immediately adjacent to such door. The owner/operator of a hotel, motel, or lodging house may, in lieu of posting emergency procedures information in each guestroom, provide such information through the use of leaflets, brochures, pamphlets, videotapes, or any other method as approved by the authority having jurisdiction. Oral communication in itself does not fulfill the intent of this section. However, oral communication can be incorporated as a part of the transfer of emergency procedures information. When emergency procedures information signage is posted on the interior of the guestroom entrance door, the bottom of the information shall not

be located more than 4-feet above the floor level. Visually impaired persons shall receive instructions of a type they will understand, for example: taping of instructions, instructions in braille, or other appropriate methods.

(2) Each method of providing information shall include, but not be limited to that described in subsection (a)(2)(A-D).

(3) Hotels, motels, and lodging houses shall maintain at the registration desk a list noting the guestrooms assigned to guests with disabilities when such guests have indicated that they have special emergency evacuation requirements. The innkeeper shall, at the innkeeper's option, do one of the following:

(1) provide a place on the registration form for physically disabled guests who have such requirements to so identify themselves;

(2) provide a notice on the room key jacket advising guests with disabilities who have special emergency evacuation requirements to so notify the front desk; or

(3) utilize such other means for allowing such guests with disabilities to so identify themselves as may be approved by the authority having jurisdiction.

(c) Hotels, motels, lodging houses, high-rise office buildings, and Group I, Division 1 and 2 occupancies as defined in the State Building Code (except honor farms and conservation camps).

(1) Emergency procedures information printed on a floor plan shall be posted at every stairway landing, at every elevator landing, and immediately inside all public entrances to the building. The information shall be representative of the floor level and be posted so
that the bottom edge of such information is not located more than 4-feet above the floor, where it can be easily identified. Emergency procedures information shall be printed with a minimum of 3/16-inch non-decorative lettering providing a sharp contrast to the background.

(2) Emergency procedures information shall include, but not be limited to that described in subsection (a)(2)(A-D).

(d) Owner(s) and operator(s) of hotels, motels, lodging houses, high-rise office buildings, and Group I, Division 1 and 2 occupancies as defined in the State Building Code (except honor farms and conservation camps) shall appoint a Fire Safety Director, who shall:

(1) Report to owner(s) or operator(s);

(2) coordinate fire safety activities of the facility with the authority having jurisdiction;

(3) conduct, or cause to be conducted, all training as described in subsection (e), for all building employees and maintain records of dates, subjects, and attendance of each training session; and,

(4) develop and maintain a written facility emergency plan acceptable to the authority having jurisdiction. Upon request, the facility emergency plan shall be made physically available at the respective facility to the authority having jurisdiction. Facility emergency plans shall include, but not be limited to the following:

(A) Fire department emergency telephone number 911;

(B) other emergency response telephone numbers;

(C) evacuation or relocation plan for the building occupants;

(D) duties of the Fire Safety Director and other designated emergency personnel;

(E) building employee responsibilities in case of emergency, including individual assignment and reporting responsibilities; and,

(F) procedures to identify and assist the non-ambulatory and physically disabled.

(5) assure that the requirements of subsection (d)(4)(F), procedures to identify and assist the non-ambulatory and physically disabled are accomplished as follows:

(A) Hotels, motels, and lodging houses shall comply with subsection (b)(3);

(B) owner(s) or operator(s) of high-rise office buildings shall maintain a list of all permanent building tenants who have disabilities. Building owner(s) or operator(s) shall be notified in writing by those who have disabilities. Information provided in the list shall include any special emergency evacuation needs and permanent work location of such physically disabled persons. The list shall be located in the building manager's office;

(C)(3) Group I, Division 1 and 2 occupancies as defined in the State Building Code (except honor farms and conservation camps) shall comply with normal hospital policies of assisting patients and guests during an emergency evacuation.

(e) Hotels, motels, lodging houses, and high-rise office buildings shall conduct annually, emergency procedures training for individuals listed in subsection (d)(3). Group I, Division 1 and 2 occupancies as defined in the State Building Code (except honor farms and conservation camps) shall conduct quarterly fire emergency training for individuals listed in subsection (d)(3).

(1) Fire Safety Directors and their designated emergency personnel shall receive training in the identification and use of facility fire safety equipment, communication procedures, people movement procedures, fire prevention practices, and their duties outlined in their respective emergency plan. The training curriculum shall be approved by,

and made available to the authority having jurisdiction.

(2) Individuals designated in subsection (d)(3) shall receive training covering the identification and use of facility fire safety equipment, fire prevention practices, and appropriate procedures to follow in the event of a fire.

(3) Actual evacuation or relocation of building occupants pursuant to procedures contained in the emergency plan shall be conducted at least annually by those individuals designated in subsection (d)(3). Appropriate records, including dates, floors or building involved, and persons conducting evacuation or relocation procedures shall be maintained and made immediately available to the authority having jurisdiction upon their request. The authority having jurisdiction shall be notified not less than 48 hours in advance of such planned evacuation or relocation.

Exception: In hotels, motels, lodging houses, and Group I, Division 1 and 2 occupancies as defined in the State Building Code, guests and patients are not required to participate in evacuation or relocation of the building. In hotels, motels, lodging houses, Group I, Division 1 and 2 occupancies as defined in the State Building Code, and high-rise office buildings, on-duty personnel who have security or maintenance related responsibilities, and designated management personnel approved by the fire authority having jurisdiction shall not be required to participate in any drill but, they shall provide an alternate method approved by the authority having jurisdiction to measure their knowledge of their respective duties pursuant to the emergency plan.

(f) Emergency procedures signage posted prior to the effective date of these regulations may be continued in use until one year after such effective date of these regulations.

***~~404.7~~404.6* Office buildings.** *All office buildings 2 or more stories in height, except high-rise buildings as defined by Health and Safety Code Section 13210, shall comply with this section.*

~~404.7.1~~404.6.1 *Owner(s) or operator(s) shall employ either one of the following methods of providing emergency procedures and information to the building occupants:*

1. Emergency procedures information published in the form of a leaflet, brochure, or pamphlet shall be available to all persons entering the building. Emergency procedures information shall be located immediately inside all entrances to the building, as determined by the authority having jurisdiction. Locations shall be clearly marked.
2. A floor plan providing emergency procedures information shall be posted at every stairway landing, at every elevator landing, and immediately inside all public entrances to the building. The information shall be posted so that it describes the represented floor level and can be easily seen immediately upon entering the floor level or the building. Emergency procedures information shall be printed with a minimum of 3/16-inch high non-decorative lettering providing a sharp contrast to the background.

~~404.7.1.2~~404.6.1.2 *Emergency procedures information shall provide all ambulatory, nonambulatory, and the physically disabled, instructions to be followed in the event of an emergency. Emergency procedures information shall include, but not be limited to the following:*

1. Location of exits.
2. Location of fire alarm initiating stations, if required.
3. What the fire alarm, if required, sounds and looks like (audible and visual warning devices.
4. Fire department emergency telephone number 911.
5.The prohibition of elevator use during emergencies, if any.

***~~404.7.2~~404.6.2* Hotels, motels and lodging houses.** *Every guestroom available for rental in a hotel, motel, or lodging house shall have clearly visible emergency procedures information printed on a floor plan representative of the floor level and posted on the interior of each entrance door or immediately adjacent to such door. The owner/operator of a hotel, motel, or lodging house may, in lieu of posting emergency procedures information in each guestroom, provide such information through the use of leaflets, brochures, pamphlets, videotapes, or any other method as approved by the authority having jurisdiction. Oral communication in itself does not fulfill the intent of this section. However, oral communication can be incorporated as a part of the transfer of emergency procedures information. When emergency procedures information signage is posted on the interior of the guestroom entrance door, the bottom of the information shall not be located more than 4-feet above the floor level. Visually impaired persons shall receive instructions of a type they will understand, for example: taping of instructions, instructions in Braille, or other appropriate methods.*

~~404.7.2.1~~404.6.2.1 *Each method of providing information shall include, but not be limited to that described in Section*

~~404.7.1.2~~404.6.1.2.

~~404.7.2.2~~404.6.2.2 *Hotels, motels, and lodging houses shall maintain at the registration desk a list noting the guestrooms assigned to guests with disabilities when such guests have indicated that they have special emergency evacuation requirements. The innkeeper shall, at the innkeeper's option, do one of the following:*

1.Provide a place on the registration form for physically disabled guests who have such requirements to so identify themselves.
2. Provide a notice on the room key jacket advising guests with disabilities who have special emergency evacuation requirements to so notify the front desk.
3. Utilize such other means for allowing such guests with disabilities to so identify themselves as may be approved by the authority having jurisdiction.

***~~404.7.3~~404.6.3* Stairways.** *Hotels, motels, lodging houses, high-rise office buildings, and Group I, Division 1 and 2 occupancies as defined in the State Building Code (except honor farms and conservation camps) shall comply with this section.*

~~404.7.3.1~~404.6.3.1 *Emergency procedures information printed on a floor plan shall be posted at every stairway landing, at every elevator landing, and immediately inside all public entrances to the building. The information shall be representative of the floor level and be posted so that the bottom edge of such information is not located more than 4-feet above the floor, where it can be easily identified. Emergency procedures information shall be printed with a minimum of 3/16-inch non-decorative lettering providing a sharp contrast to the background.*

~~404.7.3.1.2~~404.6.3.1.2 *Emergency procedures information shall include, but not be limited to that described in Section ~~404.7.1.2~~404.6.1.2.*

***~~404.7.4~~404.6.4* Emergency Director.** *Owner(s) and operator(s) of hotels, motels, lodging houses, high-rise office buildings, and Group I, Division 1 and 2 occupancies as defined in the State Building Code (except honor farms and conservation camps) shall appoint a Fire Safety Director, who shall:*

1. Report to owner(s) or operator(s).
2. Coordinate fire safety activities of the facility with the authority having jurisdiction.
3. Conduct, or cause to be conducted, all training as described in Section ~~404.7.5~~404.6.5 through ~~404.7.5.1.3~~404.6.5.1.3 for all building employees and maintain records of dates, subjects, and attendance of each training session.
4. Develop and maintain a written facility emergency plan acceptable to the authority having jurisdiction. Upon request, the facility emergency plan shall be made physically available at the respective facility to the authority having jurisdiction. Facility emergency plans shall include, but not be limited to the following:
4.1. Fire department emergency telephone number 911.
4.2. Other emergency response telephone numbers.
4.3. Evacuation or relocation plan for the building occupants.
4.4. Duties of the Fire Safety Director and other designated emergency personnel.
4.5. Building employee responsibilities in case of emergency, including individual assignment and reporting responsibilities.
4.6. Procedures to identify and assist the non-ambulatory and physically disabled.

5. Assure that the requirements of Section ~~404.7.4~~404.6.4, item 4, subsection 4.6, procedures to identify and assist the non-ambulatory and physically disabled are accomplished as follows:
5.1. Hotels, motels, and lodging houses shall comply with subsection (b)(3);
5.2. Owner(s) or operator(s) of high-rise office buildings shall maintain a list of all permanent building tenants who have disabilities. Building owner(s) or operator(s) shall be notified in writing by those who have disabilities. Information provided in the list shall include any special emergency evacuation needs and permanent work location of such physically disabled persons. The list shall be located in the building manager's office;
5.3 Group I, Division 1 and 2 occupancies as defined in the State Building Code (except honor farms and conservation camps) shall comply with normal hospital policies of assisting patients and guests during an emergency evacuation.

***~~404.7.5~~404.6.5* Training.** *Hotels, motels, lodging houses, and high-rise office buildings shall conduct annually, emergency procedures training for all building employees. Group I, Division 1 and 2 occupancies as defined in the*

State Building Code (except honor farms and conservation camps) shall conduct quarterly fire emergency training for all building employees.

~~404.7.5.1~~404.6.5.1 *Fire Safety Directors and their designated emergency personnel shall receive training in the identification and use of facility fire safety equipment, communication procedures, people movement procedures, fire prevention practices, and their duties outlined in their respective emergency plan. The training curriculum shall be approved by, and made available to the authority having jurisdiction.*

~~404.7.5.1.2~~404.6.5.1.2. *All building employees shall receive training covering the identification and use of facility fire safety equipment, fire prevention practices, and appropriate procedures to follow in the event of a fire.*

~~404.7.5.1.3~~404.6.5.1.3. *Actual evacuation or relocation of building occupants pursuant to procedures contained in the emergency plan shall be conducted at least annually for all building employees. Appropriate records, including dates, floors or building involved, and persons conducting evacuation or relocation procedures shall be maintained and made immediately available to the authority having jurisdiction upon their request. The authority having jurisdiction shall be notified not less than 48 hours in advance of such planned evacuation or relocation.*

Exception: *In hotels, motels, lodging houses, and Group I, Division 1 and 2 occupancies as defined in the State Building Code, guests and patients are not required to participate in evacuation or relocation of the building. In hotels, motels, lodging houses, Group I, Division 1 and 2 occupancies as defined in the State Building Code, and high-rise office buildings, on-duty personnel who have security or maintenance related responsibilities, and designated management personnel approved by the fire authority having jurisdiction shall not be required to participate in any drill but, they shall provide an alternate method approved by the authority having jurisdiction to measure their knowledge of their respective duties pursuant to the emergency plan.*

~~404.7.6~~404.6.6 *Emergency procedures signage posted prior to the effective date of these regulations may be continued in use until one year after such effective date of these regulations.*

[Editorial Note: These California Amendments were moved to Sections 403.5 due to model code relocations.]
~~408.3 Group E occupancies and Group R-2 college and university buildings.~~ ~~Group E occupancies shall comply with the requirements of Section 408.3.1 through 408.3.1.1, 408.3.4 and Sections 401 through 406 *403*. Group R-2 college and university buildings shall comply with the requirements of Section 408.3.1 *408.3.2* and 408.3.3 and Sections 401 through 406 *403.*~~

~~[California Code of Regulations, Title 19, Division 1, §3.13(a)(1)] Fire Drills. (Group E Occupancies)~~
~~*(a) Group E Occupancies.*~~
~~*(1) General. Every person and public officer managing, controlling, or in charge of any public, private, or parochial school shall cause the fire alarm signal to be sounded upon the discovery of fire. Every person and public officer managing, controlling, or in charge of any public, private, or parochial school, other than a two-year community college, shall cause the fire alarm signal to be sounded not less than once every calendar month at the elementary and intermediate levels, and not less than twice yearly at the secondary level, in the manner prescribed in California Code of Regulations, Title 24, Part 2, Section 907.*~~
~~*A fire drill shall be held at the secondary level not less than twice every school year.*~~

405.2 Frequency. Required emergency evacuation drills shall be held at the intervals specified in Table 405.2 or more frequently where necessary to familiarize all occupants with the drill procedure.

[California Code of Regulations, Title 19, Division 1, §3.13(a)(1)] Fire Drills. (Group E Occupancies)
(a) Group E Occupancies.
(1) General. Every person and public officer managing, controlling, or in charge of any public, private, or parochial school shall cause the fire alarm signal to be sounded upon the discovery of fire. Every person and public officer managing, controlling, or in charge of any public, private, or parochial school, other than a two-year community college, shall cause the fire alarm signal to be sounded not less than once every calendar month at the elementary and intermediate levels, and not less than twice yearly at the secondary level, in the manner prescribed in California Code of Regulations, Title 24, Part 2, Section 907.
A fire drill shall be held at the secondary level not less than twice every school year.

Table 405.2
FIRE AND EVACUATION DRILL

FREQUENCY AND PARTICIPATION

GROUP OR OCCUPANCY	FREQUENCY	PARTICIPATION
Group A	Quarterly	Employees
Group B[b]	Annually	All occupants
Group B[b, c] (Ambulatory care facilities)	Annually	Employees
Group B[b] (Clinic, outpatient)	Annually	Employees
Group E	~~Monthly~~[a]*See Section ~~408.3~~ 403.5*	All Occupants
Group F	Annually	Employees
Group I-1	Semiannually on each shift	All occupants
Group I-2	Quarterly on each shift[a]	Employees
Group I-3	Quarterly on each shift[a]	Employees
Group I-4	Monthly on each shift[a]	All occupants
Group R-1	Quarterly on each shift	Employees
Group R-2[d]	~~Four annually~~*See Section ~~408.3~~ 403.10.2*	All occupants
Group R-4	Semiannually on each shift[a]	All occupants

a. In severe climates, the fire code official shall have the authority to modify the emergency evacuation drill frequency ~~in accordance with Section *408.3.4*~~.
b. Emergency evacuation drills are required in Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
c. Emergency evacuation drills are required in ambulatory care facilities in accordance with Section 403.3.
d. Emergency evacuation drills in Group R-2 college and university buildings shall be in accordance with Section 403.10.2.1. Other Group R- 2 occupancies shall be in accordance with Section 403.10.2.2.

[California Code of Regulations, Title 19, Division 1, §3.13(c)(2) and (3)] Fire Drills. (Organized Camps)
(c) Organized Camps.
(2) Within 24 hours after arrival, every group of persons attending an organized camp shall be made familiar with the method by which the fire alarm may be activated and with the procedures to be followed upon notification of fire.
(3) At least 1 fire drill shall be held within 24 hours of the commencement of each camping session. Additional drills shall be conducted at least once each week thereafter. When sessions exceed a 7 day period, at least 1 drill shall be held during night-time sleeping hours.

CHAPTER 5
FIRE SERVICE FEATURES

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. The fire apparatus access road shall comply with the requirements of this section and shall extend to 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~~s~~:
1.~~*1.*~~ The fire code official is authorized to increase the dimension of 150 feet (45 720 mm) where:
.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.*~~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.*~~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.
~~*2. Where approved by the fire code official, fire apparatus access roads may be exempted and/ or modified for solar photovoltaic power generation facilities.*~~

503.2 Specifications…

[California Code of Regulations, Title 19, Division 1, §3.05(a)] Fire Department Access and Egress. (Roads)
(a) Roads. Required access roads from every building to a public street shall be all-weather hard-surfaced (suitable for use by fire apparatus) right-of-way not less than 20 feet in width. Such right-of-way shall be unobstructed and maintained only as access to the public street.

Exception: *The enforcing agency may waive or modify this requirement if in his opinion such all –weather hard – surfaced condition is not necessary in the interest of public safety and welfare.*

503.5.2 Fences and Gates. *School grounds may be fenced and gates therein may be equipped with locks, provided that safe dispersal areas based on 3 square feet (0.28 m2) per occupant are located between the school and the fence. Such required safe dispersal areas shall not be located less than 50 feet (15240 mm) from school buildings.*

Every public and private school shall conform with Section 32020 of the Education Code which states:

The governing board of every public school district, and the governing authority of every private school, which maintains any building used fro the instruction or housing of school pupils on land entirely enclosed (except for building walls) by fences of walls, shall, through cooperation with the local law enforcement and fire-protection agencies having jurisdiction of the area, make provision for the erection of gates in such fences or walls. The gates shall be of sufficient size to permit the entrance of the ambulances, police equipment and fire-fighting apparatus used by the law enforcement and fire-protection agencies. There shall be no less than one such access gate and there shall be as many such gates as needed to assure access to all major buildings and ground areas. If such gates are to be equipped with locks, the locking devices shall be designed to permit ready entrance by the use of the chain or bolt-cutting devices with which the local law enforcement and fire-protection agencies may be equipped.

504.1 Required access. Exterior doors and openings required by this code or the ~~*International*~~*California 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 required by the fire code official.

[California Code of Regulations, Title 19, Division 1, §3.05(b)] Fire Department Access and Egress. (Roofs)
(b) Roofs. No person shall install or maintain any security barrier such as barbed wire fencing, razor wire fencing, chain link fencing, or any other fencing material, cable, aerial, antenna, or other obstruction on the roof of any commercial establishment in such a manner as to obstruct or render egress or access hazardous in the event of fire or other emergency.

Exception: *Guy wire, rods and aerial antenna masts may be attached to a roof structure having a slope of less than 30 degrees provided there is full clearance of seven feet or more between the roof and said obstruction. Guy wire or rods required to support aerial or antenna masts may be attached to a roof structure a lateral distance from the mast not in excess of one –sixth the height of the mast.*

504.4 Roof access. *No person shall install or maintain any security barrier such as barbed wire fencing, razor wire fencing, chain link fencing, or any other fencing material, cable, aerial, antenna, or other obstruction on the roof of any commercial establishment in such a manner as to obstruct or render egress or access hazardous in the event of fire or other emergency.*

Exception: *Guy wire, rods and aerial antenna masts may be attached to a roof structure having a slope of less than 30 degrees provided there is full clearance of seven feet or more between the roof and said obstruction. Guy wire or rods required to support aerial or antenna masts may be attached to a roof structure a lateral distance from the mast not in excess of one-sixth the height of the mast.*

507.2.1 Private fire service mains. Private fire service mains and appurtenances shall be installed in accordance with NFPA 24 *as amended in Chapter ~~47~~80*.

507.3 Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined by an approved method *or Appendix B.*

507.5 Fire hydrant systems. Fire hydrant systems shall comply with Sections 507.5.1 through 507.5.6 *and Appendix C or by an approved method*.

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, *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,* the distance requirement shall be *not more than* 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).~~

507.5.3 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~~ *California Code of Regulations, Title 19, Division 1, Chapter 5.* ~~at the following intervals:~~

~~1. Private fire hydrants (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.~~

Records of inspections, testing and maintenance shall be maintained.

508.1 General. Where required by other sections of this code and in all buildings classified as high-rise buildings by the ~~*International*~~*California Building Code and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*, 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*.

508.1.2 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 ~~*International*~~*California Building Code* or horizontal assembly constructed in accordance with Section 711 of the ~~*International*~~*California Building Code*, or both.

508.1.6 Required features. The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system control unit.
2. The fire department communications system.
3. ~~Fire detection and alarm system annunciator~~*Fire alarm system zoning annunciator panel required by Section* ~~907.6.3.3~~907.6.4.3.
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 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 the building manager, building engineer and their respective work phone number, cell phone number, and e-mail 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; 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 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~~*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.
18. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.
19. A master switch for unlocking elevator lobby doors permitted by Section ~~1008.1.9.12~~1010.1.9.10.

Fire Command Centers shall not be used for the housing of any boiler, heating unit, generator, combustible storage, or similar hazardous equipment or storage.

~~508.1.6~~508.1.7 Ventilation. *The Fire Command Center shall be provided with an independent ventilation or air-conditioning system.*

CHAPTER 6
BUILDING SERVICES AND SYSTEMS

603.1 Installation. The installation of nonportable fuel gas appliances and systems shall comply the ~~*International Fuel Gas*~~*California Mechanical Code*. The installation of all other fuel-fired appliances, other than internal combustion engines, oil lamps and portable devices such as blow torches, melting pots and weed burners, shall comply with this section and the ~~*Internationa*~~ *California Mechanical Code.*

603.1.2 Approval. The design, construction and installation of fuel-fired appliances shall be in accordance with the ~~*International Fuel Gas Code*~~ and the ~~*International*~~*California Mechanical Code*.

603.2 Chimneys. Masonry chimneys shall be constructed in accordance with the ~~*International*~~*California Building Code*. Factory-built chimneys shall be installed in accordance with the ~~*International*~~*California Mechanical Code*. Metal chimneys shall be constructed and installed in accordance with NFPA 211.

603.3 Fuel oil storage systems. Fuel oil storage systems shall be installed in accordance with this code. Fuel-oil piping systems shall be installed in accordance with the ~~*International*~~*California Mechanical Code*.

603.3.2.4 Installation. Tanks and piping systems shall be installed and separated from other uses in accordance with Section 915 and Chapter 13 both of the ~~*International*~~*California Mechanical Code*, as applicable.

Exception: Protected above-ground tanks complying with Section 5704.2.9.7 shall not be required to be separated from surrounding areas.

603.4 Portable unvented heaters. Portable unvented fuel-fired heating equipment shall be prohibited in occupancies in Groups A, E, I, R-1, R-2*, R-2.1,* R-3*, R-3.1* and R-4.

Exception~~s~~:

~~1. Listed and approved unvented fuel-fired heaters, including portable outdoor gas-fired heating appliances, in one- and two-family dwellings.~~
~~2.~~ Portable outdoor gas-fired heating appliances shall be allowed in accordance with Section 603.4.2.

603.5 Heating appliances…

[California Code of Regulations, Title 19, Division 1, §3.17(a) and (b)] Guards for Heating Appliances.
Every heating appliance in any occupancy governed by California Code of Regulations, Title 19, Division 1 regulations which does not have protective features incorporated in its design, shall be provided with guards that will provide protection against ignition of clothing and other combustible material.
(a) Appliances employing open flame radiated heat shall have fixed and substantially constructed metallic guards located not less than ten inches (10") from the radiating flame and the guard members shall be spaced not more than two inches (2") apart.
(b) Cabinet type appliances that are not provided with an inner combustion chamber and an air circulating space between the combustion chamber and the outer shell, shall have fixed and substantially constructed metallic guards located not less than three inches (3") from the shell and spaced not more than two inches (2") apart.

603.5.2 Heating appliance installation and maintenance. Heating appliances shall be installed and maintained in accordance with the manufacturer's instructions, the ~~*International*~~*California Building Code*, the ~~*International*~~*California Mechanical Code*~~, the *International Fuel Gas Code*~~ and *the* ~~NFPA 70~~California *Electrical Code*.

603.6.1 Masonry chimneys. Masonry chimneys that, upon inspection, are found to be without a flue liner and that have open mortar joints which will permit smoke or gases to be discharged into the building, or which are cracked as to be dangerous, shall be repaired or relined with a listed chimney liner system installed in accordance with the manufacturer's instructions or a flue lining system installed in accordance with the requirements of the ~~*International*~~*California* Building Code and appropriate for the intended class of chimney service.

603.8 Incinerators. Commercial, industrial and residential-type incinerators and chimneys shall be constructed in accordance with the ~~*International*~~*California Building Code,* the ~~*International Fuel Gas Code*~~ and the ~~*International*~~*California* Mechanical Code. *Unless other approved means are provided for the prompt disposal of rubbish, an approved incinerator shall be provided and maintained for the disposal of combustible waste. Incinerators shall be constructed, located, and maintained in such manner that waste material can be safely burned at any hour of the day, where local ordinances permit. Fuel-fired and garbage burning incinerators shall be constructed and maintained in conformance with NFPA 82-2009 Incinerators, Waste and Linen Handling Systems and Equipment or U.L. 791-2006 Standard for Residential Incinerators, whichever is applicable.*

[California Code of Regulations, Title 19, Division 1, §3.20] Incinerators.
Unless other approved means are provided for the prompt disposal of rubbish, an approved incinerator shall be provided and maintained for the disposal of combustible waste. Incinerators shall be constructed, located, and maintained in such manner that waste material can be safely burned at any hour of the day, where local ordinances permit.
Fuel-fired and garbage burning incinerators shall be constructed and maintained in conformance with NFPA 82-2005 Incinerators, Waste and Linen Handling Systems and Equipment or U.L. 791-2006 Standard for Residential Incinerators, whichever is applicable.

604.1 Installation. Emergency and standby power systems required by this code or the ~~*International*~~*California Building Code* shall be installed in accordance with this code, NFPA 110 and NFPA 111. Existing installations shall be maintained in accordance with the original approval.

604.1.2 Installation. Emergency power systems and standby power systems shall be installed in accordance with the ~~International~~*California* Building Code, ~~NFPA 70~~*the* California *Electrical Code*, NFPA 110 and NFPA 111.

604.1.4 Load duration. Emergency power systems and standby power systems shall be designed to provide the required power for a minimum duration of 2 hours without being refueled or recharged, unless specified otherwise in this code.

[Editorial Note: Amendment relocated from 2013 amendment to CFC Section 604.2.14.1.1.]
604.1.4.1 High-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access.* *Emergency power systems and standby power systems*

shall be designed to provide the required power for a minimum duration of 6 hours without being refueled or recharged. The minimum required fuel supply shall be maintained at all times.

604.1.7 Group I-2 occupancies. In Group I-2 occupancies, where an essential electrical system is located in flood hazard areas established in Section 1612.3 of the ~~International~~*California* Building Code and where new or replacement essential electrical system generators are installed, the system shall be located and installed in accordance with ASCE 24.

604.2.2 Emergency alarm systems. Emergency power shall be provided for emergency alarm systems as required by Section 414 of the ~~International~~*California* Building Code.

604.2.6 Group I-2 occupancies. Essential electrical systems for Group I-2 occupancies shall be in accordance with Section 407.10 of the ~~International~~*California* Building Code.

604.2.7 Group I-3 occupancies. Power-operated sliding doors or power-operated locks for swinging doors in Group I-3 occupancies shall be operable by a manual release mechanism at the door. Emergency power shall be provided for the doors and locks in accordance with Section 604.

Exceptions:
1. Emergency power is not required in facilities where provisions for remote locking and unlocking of occupied rooms in Occupancy Condition 4 are not required as set forth in the ~~International~~*California* Building Code.
2. Emergency power is not required where remote mechanical operating releases are provided.

604.2.9 High-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*. Standby power and emergency power shall be provided for high-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* as required in Section 403 ~~International~~*California* Building Code, and shall be in accordance with Section 604.

604.2.13 Membrane structures. Standby power shall be provided for auxiliary inflation systems in permanent membrane structures in accordance with Section 2702 of the ~~International~~*California* Building Code. Auxiliary inflation systems shall be provided in temporary air-supported and airinflated membrane structures in accordance with Section 3103.10.4.

~~**604.2.14.1 Standby power.** A standby power system shall be provided. Where the standby system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire barriers constructed in accordance with Section 707 of the *International California Building Code* or horizontal assemblies constructed in accordance with Section 712 of the *International California Building Code*, or both. System supervision with manual start and transfer features shall be provided at the fire command center.~~

~~**604.2.14.1.1 Fuel supply.** An on-premises fuel supply, sufficient for not less than 2-hour *6-hour* full-demand operation of the system, shall be provided. *The minimum required fuel supply shall be maintained at all times. Fire pumps shall be provided with an on-premises fuel supply, sufficient for not less than 8-hour full-demand operation of the rated pump capacity in addition to all other required supply demands in accordance with section 93, NFPA 20 and this section.*~~

~~**Exception:** When approved, the system shall be allowed to be supplied by natural gas pipelines.~~

~~**604.2.14.1.3 Connected facilities.** Power and lighting facilities for the *fire command center* and elevators specified in Sections 403.9 and 403.10 of the *International California Building Code*, as applicable, shall be transferable to the standby source. Standby power shall be provided for at least one elevator to serve all floors and be transferable to any elevator.~~

~~**604.2.14.3 Emergency systems.** *An emergency power system shall be provided for exit* signs, exit illumination as required by Chapter 10, electrically powered fire pumps required to maintain pressure, and elevator car lighting are classified as emergency systems and shall operate within 10 seconds of failure of the normal power supply and shall be capable of being transferred to the standby source.~~

~~**Exception:** Exit sign, exit and means of egress illumination are permitted to be powered by a standby source in buildings of Group F and S occupancies.~~

604.2.16 Underground buildings. Emergency and standby power shall be provided in underground buildings as required in Section 405 of the ~~*International*~~*California* Building Code and shall be in accordance with Section 604.

605.3 Working space and clearance. A working space of not less than 30 inches (762 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height shall be provided in front of electrical service equipment. Where the electrical service equipment is wider than 30 inches (762 mm), the working space shall be not less than the width of the equipment. Storage of materials shall be located within the designated working space.

Exceptions:
1. Where other dimensions are required or allowed by *the* ~~NFPA 70~~*California Electrical Code*.
2. Access openings into attics or under-floor areas which provide a minimum clear opening of 22 inches (559 mm) by 30 inches (762 mm).

605.4 Multiplug adapters. Multiplug adapters, such as cube adapters, unfused plug strips or any other device not complying with *the* ~~NFPA 70~~*California Electrical Code* shall be prohibited.

605.9 Temporary wiring. Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days. Temporary wiring methods shall meet the applicable provisions of *the* ~~NFPA 70~~*California Electrical Code*.

Exception: Temporary wiring for electrical power and lighting installations is allowed during periods of construction, remodeling, repair or demolition of buildings, structures, equipment or similar activities.

605.11 Solar photovoltaic power systems. Solar photovoltaic power systems shall be installed in accordance with Sections 605.11.1 through 605.11.2~~*605.11.3*~~, *the* ~~*International*~~*California Building Code* or ~~*International*~~*California* Residential Code, and ~~NFPA 70~~*Californial Electrical Code.*

605.11.1.2 Solar photovoltaic systems for Group R-3 buildings. Solar photovoltaic systems for Group R-3 buildings shall comply with Sections 605.11.1.2.1 through 605.11.1.2.5.

Exception: These requirements shall not apply to structures designed and constructed in accordance with the ~~*International*~~*California* Residential Code.

606.1 Scope. Refrigeration systems shall be installed in accordance with the ~~*International*~~*California Mechanical Code*.

606.2 Refrigerants. The use and purity of new, recovered, and reclaimed refrigerants shall be in accordance with the ~~*International*~~*California Mechanical Code*.

606.3 Refrigerant classification. Refrigerants shall be classified in accordance with the ~~*International*~~*California Mechanical Code.*

606.4 Change in refrigerant type. A change in the type of refrigerant in a refrigeration system shall be in accordance with the ~~*International*~~*California Mechanical Code*.

606.7 Emergency signs. Refrigeration units or systems having a refrigerant circuit containing more than 220 pounds (100 kg) of Group A1 or 30 pounds (14 kg) of any other group refrigerant shall be provided with approved emergency signs, charts, and labels in accordance with NFPA 704. Hazard signs shall be in accordance with the ~~International~~*California Mechanical Code* for the classification of refrigerants listed therein.

606.8 Refrigerant detector. Machinery rooms shall contain a refrigerant detector with an audible and visual alarm. The detector, or a sampling tube that draws air to the detector, shall be located in an area where refrigerant from a leak will concentrate. The alarm shall be actuated at a value not greater than the corresponding TLV-TWA values shown in the ~~International~~*California Mechanical Code* for the refrigerant classification. Detectors and alarms shall be placed in approved locations. The detector shall transmit a signal to an approved location.

606.9 Remote controls. Where flammable refrigerants are used and compliance with Section 1106 of the ~~International~~*California* Mechanical Code is required, remote control of the mechanical equipment and appliances located in the machinery room as required by Sections 606.9.1 and 606.9.2 shall be provided at an approved location immediately outside the machinery room and adjacent to its principal entrance.

606.16 Electrical equipment. Where refrigerants of Groups A2, A3, B2 and B3, as defined in the ~~*International*~~*California Mechanical Code*, are used, refrigeration machinery rooms shall conform to the Class I, Division 2 hazardous location classification requirements of the ~~NFPA 70~~*California Electrical Code*.

Exception: Ammonia machinery rooms that are provided with ventilation in accordance with ~~Section 1106.3 of~~ *the* ~~International~~*California Mechanical Code*.

607.1 Emergency operation. Existing elevators with a travel distance of 25 feet (7620 mm) or more shall comply with the requirements in Chapter 11. New elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ~~ASME A17.1~~*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.

607.4 Fire service access elevator lobbies. Where fire service access elevators are required by Section 3007 of the ~~*International*~~*California Building Code,* fire service access elevator lobbies shall be maintained free of storage and furniture.

607.5 Occupant evacuation elevator lobbies. Where occupant evacuation elevators are provided in accordance with Section 3008 of the ~~International~~*California* Building Code, occupant evacuation elevator lobbies shall be maintained free of storage and furniture.

607.6 Water protection of hoistway enclosures. Methods to prevent water from infiltrating into a hoistway enclosure required by Section 3007.4 and Section 3008.4 of the ~~International~~*California* Building Code shall be maintained.

***~~607.6~~607.9* Shunt trip.** *Where elevator hoistways or elevator machine rooms containing elevator control equipment are protected with automatic sprinklers, a means installed in accordance with NFPA 72, Section 21.4, Elevator Shutdown, shall be provided to disconnect automatically the main line power supply to the affected elevator prior to the application of water. This means shall not be self-resetting. The activation of sprinklers outside the hoistway or machine room shall not disconnect the main line power supply*

608.4 Room design and construction. Enclosure of stationary battery systems shall comply with the ~~*International*~~*California Building Code*. Battery systems shall be allowed to be in the same room with the equipment they support.

608.6.1 Room ventilation. Ventilation shall be provided in accordance with the ~~*International*~~*California Mechanical Code* and the following:

1. For flooded lead acid, flooded Ni-Cd, and VRLA batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1 percent of the total volume of the room; or
2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot (1 ft3/min/ft2) [0.0051 m3/s · m2] of floor area of the room.

Exception: Lithium-ion and lithium metal polymer batteries shall not require additional ventilation beyond that which would normally be required for human occupancy of the space in accordance with the ~~*International*~~*California Mechanical Code*

608.8 Seismic protection. The battery systems shall be seismically braced in accordance with the ~~*International*~~*California Building Code*.

[M] 609.1 General. Commercial kitchen exhaust hoods shall comply with the requirements of the ~~*International*~~*California Mechanical Code.*

CHAPTER 7
FIRE-RESISTANCE-RATED CONSTRUCTION

701.1 Scope. The provisions of this chapter shall govern maintenance of the materials, systems and assemblies used for structural fire resistance and fire-resistance-rated construction separation of adjacent spaces to safeguard against the spread of fire and smoke within a building and the spread of fire to or from buildings. New buildings shall comply with the ~~*International*~~*California* Building Code.

704.1 Enclosure. Interior vertical shafts, including but not limited to, stairways, elevator hoistways, service and utility shafts, that connect two or more stories of a building shall be enclosed or protected as required in Chapter 11. New floor openings in existing buildings shall comply with the ~~*International*~~*California Building Code*.

SECTION 705
EXTERIOR WALLS

705.1 Exterior Graphics on Exterior Walls of High-Rise Buildings. *Where installed on the exterior walls of high-rise buildings, exterior graphics, both permanent and temporary, greater than 100 square feet in area or greater than 10 feet in either dimension shall comply with the following conditions subject to the review and approval of the fire code official and building official:*

1. The materials used for graphics installed at a height greater than 40 feet above the grade plane shall be noncombustible materials or shall have a flame spread index not greater than 25 when tested in accordance with ASTM E84 or UL 723.
2. The method of attachment and mounting of the graphics to the exterior wall shall be such that the graphics are securely attached.
3. The graphics shall not interfere with the active or passive ventilation required for the building and the required smoke control systems in the building.
4. The graphics shall not impair the functions of any fire or life safety systems in the building.

CHAPTER 8
INTERIOR FINISH, DECORATIVE MATERIALS AND FURNISHINGS

801.1 Scope. The provisions of this chapter shall govern interior finish, interior trim, furniture, furnishings, decorative materials and decorative vegetation in buildings. Existing buildings shall comply with Sections 803 through 808. New buildings shall comply with Sections 804 through 808, and Section 803 of the ~~*International*~~*California* Building Code.

[California Code of Regulations, Title 19, Division 1, §1172] Purpose.
California Code of Regulations, Title 19, Division 1, Chapter 8 have been prepared and adopted for the purpose of establishing minimum standards for the prevention of fire and for the protection of life and property against fire and panic through the use of flame-retardant chemicals, fabrics and materials.

[California Code of Regulations, Title 19, Division 1, §1173] Scope.
California Code of Regulations, Title 19, Division 1, Chapter 8 shall govern the manufacture, sale and application of flame-retardant chemicals used in connection with fabrics or materials required to be treated and maintained in a flame-retardant condition as provided in Sections 13115 or 1311 of the Health and Safety Code. These rules and regulations shall also apply to fabrics or materials inherently nonflammable and, they shall also establish minimum fire-resistive standards for such fabrics or materials.
California Code of Regulations, Title 19, Division 1, Chapter 8 shall also establish minimum standards and specific procedures for the approval of flame-retardant chemicals, flame retardant materials and flame retardant applicator concerns.

[California Code of Regulations, Title 19, Division 1, §1174] Basis.
California Code of Regulations, Title 19, Division 1, Chapter 8 are based upon the presumption of fact that fabrics and similar materials commonly known to be flammable increase, or may cause the increase of, the hazard or menace of fire; that proper and adequate flame-retardant treatment through the use of certain chemicals is possible whereby the danger to life and property from fire and panic can be materially reduced; and, that there do exist certain fabrics and materials which by nature are nonflammable.

802.1 Definitions. The following terms are defined in Chapter 2:

[California Code of Regulations, Title 19, Division 1, §1191] Approved.

"Approved" means approved by the State Fire Marshal.

[California Code of Regulations, Title 19, Division 1, §1196] Flame Retardant Chemical.
"Flame-Retardant Chemical" as used herein means any chemical, chemical compound or chemical mixture which when properly applied to a fabric or material will render such fabric or material incapable of supporting combustion to the extent that it will successfully withstand the tests and meet the specifications promulgated by the State Fire Marshal.

[California Code of Regulations, Title 19, Division 1, §1201] Nonflammable Material.
"Nonflammable Material" as used herein means a fabric or material which is inherently flame-resistant to the extent that it will meet the requirements of the fire resistance test herein prescribed, but shall not include materials which must be chemically treated or processed after manufacture to make them flame-resistant.

[California Code of Regulations, Title 19, Division 1, §1202] Place of Public Assemblage.
"Place of Public Assemblage" as used herein means any occupancy mentioned in Sections 13115 or 13119 of the Health and Safety Code.

803.1 General. The provisions of this section shall limit the allowable fire performance and smoke development of interior wall and ceiling finishes and interior wall and ceiling trim in existing buildings based on location and occupancy classification. Interior wall and ceiling finishes shall be classified in accordance with Section 803 of the ~~International~~*California Building Code*. Such materials shall be grouped in accordance with ASTM E 84, as indicated in Section 803.1.1, or in accordance with NFPA 286, as indicated in Section 803.1.2.

Exceptions:
1. Materials having a thickness less than 0.036 inch (0.9 mm) applied directly to the surface of walls and ceilings.
2. Exposed portions of structural members complying with the requirements of buildings of Type IV construction in accordance with the ~~International~~*California Building Code* shall not be subject to interior finish requirements.

803.5 Textiles. Where used as interior wall or ceiling finish materials, textiles, including materials having woven or nonwoven, napped, tufted, looped or similar surface, shall comply with the requirements of this section.

[California Code of Regulations, Title 19, Division 1, §3.21(a) and (b)] Interior Finish of Decorative Material.
(a) Unframed Rigid Combustible Decorative Material. Rigid combustible decorative material and assemblies of materials not more than ¼ inch in thickness used for folding doors, room dividers, decorative screens and similar applications, which do not create concealed spaces and which are installed with exposed edges, shall be flame resistant in accordance with the following:
(1) Test specimen shall be 12 inches wide and 24 inches long. Four specimens shall be tested, two in each direction of the material.
(2) The specimen shall be suspended vertically with its lower edge 2 inches above the top of a 3/8 inch diameter Bunsen Burner. The test shall be performed in a draft-free area.
(3) The flames from the burner shall be 4 inches long and shall be adjusted with sufficient air supply to eliminate any yellow flame tips but without any distinct inner blue cone.
(4) The specimen shall be exposed to the flame at each corner and at not less than one other point along the lower edge. Each exposure shall be of sufficient duration to determine if the material will ignite and continue to burn, but shall be not less than 20 seconds.
(5) The criteria for acceptance shall be as follows:
(A) There shall be not more than intermittent flaming appreciably beyond the area exposed to the test flame.
(B) No flame shall reach the top of the specimen.
(C) On removing the test flame there shall be not more than one second of after flaming except there may be nonprogressive flaming of short duration in areas of accumulated char which were directly exposed to the test flame.
(b) Framed Rigid Combustible Decorative Material. Rigid combustible decorative material and assemblies of materials not more than ¼ inch in thickness used for folding doors, room dividers, decorative screens and similar applications, and which are installed with all edges protected, shall conform to the following:
(1) All exposed edges shall be protected with frames of metal or other noncombustible material, or solid wood of minimum ¼ inch dimension.
(2) The total square foot area of the material shall not exceed ten percent of that of the floor area of the room in which the material is installed.
(3) When tested as follows, no flames shall reach the top edge of the specimen.
The test shall be conducted in a draft free area, on a specimen of the material 12 inches by 12 inches suspended

at a 45 degree angle from the horizontal with the upper and lower edges in a horizontal plane. The test flame shall be 3 inches long from a Bunsen Burner of approximately ½ inch inside diameter with the air supply completely shut off. The burner shall be so positioned so that its top is 1 inch vertically below a point on the lower surface of the test specimen, 1 inch up from its lower horizontal edge, and mid-way between the inclined edges. The exposure to the test flame and the duration of test shall be for a period of 2 minutes.

803.8.1 Combustibility characteristics. Foam plastic materials shall be allowed on the basis of fire tests that substantiate their combustibility characteristics for the use intended under actual fire conditions, as indicated in Section 2603.9 of the ~~International~~*California Building Code*. This section shall apply both to exposed foam plastics and to foam plastics used in conjunction with a textile or vinyl facing or cover.

803.8.2 Thermal barrier. Foam plastic material shall be allowed if it is separated from the interior of the building by a thermal barrier in accordance with Section 2603.4 of the ~~International~~*California Building Code*.

~~803.10~~803.11 Unframed Rigid Combustible Decorative Material*. Rigid combustible decorative material and assemblies of materials not more than ¼ inch in thickness used for folding doors, room dividers, decorative screens and similar applications, which do not create concealed spaces and which are installed with exposed edges, shall be flame resistant in accordance with SFM Standard 12-7-5 contained in Title 24, Part 12 California Referenced Standards Code.*

~~803.10.1~~803.11.1 Framed Rigid Combustible Decorative Material. *Rigid combustible decorative material and assemblies of materials not more than ¼ inch in thickness used for folding doors, room dividers, decorative screens and similar applications, and which are installed with all edges protected, shall conform to SFM Standard 12-7-5 contained in Title 24, Part 12 California Referenced Standards Code.*

804.1 Interior trim. Material, other than foam plastic used as interior trim in new and existing builings shall have a minimum *Class B flame spread and 450 smoke-developed index in Group I-3 and for all other occupancies* Class C flame spread and smoke-developed indices when tested in accordance with ASTM E 84 or UL 723, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the specific wall or ceiling areas to which it is attached.

804.3.3.2 Minimum critical radiant flux. In all occupancies, new interior floor finish and floor covering materials in enclosures for stairways and ramps, exit passageways, corridors and rooms or spaces not separated from corridors by full-height partitions extending from the floor to the underside of the ceiling shall withstand a minimum critical radiant flux. The minimum critical radiant flux shall be not less than Class I in Groups I-1, I-2 and I-3 and not less than Class II in Groups A, B, E, H, *I-2.1,* I-4, M, R-1, R-2 and S.

Exception: Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, Class II materials shall be permitted in any area where Class I materials are required and materials complying with DOC FF-1 "pill test" (CPSC 16 CFR Part 1630) or with ASTM D 2859 shall be permitted in any area where Class II materials are required.

806.2 Artificial vegetation. Artificial decorative vegetation shall meet the flame propagation performance criteria of ~~Test Method 1 or Test Method 2, as appropriate, of NFPA 701~~*California Code of Regulations, Title 19, Division 1*. Meeting the flame propagation performance criteria of ~~Test Method 1 or Test Method 2, as appropriate, of NFPA 701~~*California Code of Regulations, Title 19, Division 1* shall be documented and certified by the manufacturer in an approved manner. Alternatively, the artificial decorative vegetation item shall be tested in accordance with NFPA 289, using the 20 kW ignition source, and shall have a maximum heat release rate of 100 kW.

[California Code of Regulations, Title 19, Division 1, §3.08]. Decorative Materials.

In every Group A, E, I, R-1, R-2, R-2.1, R-3.1 and R-4 occupancies all drapes, hangings, curtains, drops, and all other decorative material, including Christmas trees, that would tend to increase the fire and panic hazard shall be made from a nonflammable material, or shall be treated and maintained in a flame-retardant condition by means of a flame-retardant solution or process approved by the State Fire Marshal, as set forth in California Code of Regulations, Title 19, Division 1, Chapter 8. Exits, exit lights, fire alarm sending stations, wet standpipe hose cabinets, and fire extinguisher locations shall not be concealed, in whole or in part, by any decorative material.
EXCEPTIONS:
(a) Cubical curtains and individual patient room window curtains and drapes in Group I, R-2.1, R-3.1 and R-4 occupancies.

(b) Window curtains and drapes within dwelling units of Group R-1 and R-2 occupancies.
(c) Christmas trees within dwelling units of Group R-1 and R-2 occupancies.

[Editorial Note: Remove existing 2013 CFC amendment to section 807.1 The section has been extensively revised and reorganized. The amendment has been relocated to section 807.5.3.]
~~**807.1 General requirements.** In occupancies in Groups A, E, I and R-1 and dormitories in Group R-2, curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 806.2 or be noncombustible.~~
~~**Exceptions:**~~
~~1. Curtains, draperies, hangings and other decorative materials suspended from walls of sleeping units and dwelling units in dormitories in Group R-2 protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1 and such materials are limited to not more than 50 percent of the aggregate area of walls.~~
~~2. Decorative materials, including, but not limited to, photographs and paintings in dormitories in Group R-2 where such materials are of limited quantities such that a hazard of fire development or spread is not present.~~

~~In Groups I-1, and I-2 *and I-2.1*, combustible decorative materials shall meet the flame propagation criteria of NFPA 701 unless the decorative materials, including, but not limited to, photographs and paintings, are of such limited quantities that a hazard of fire development or spread is not present. In Group I-3, combustible decorative materials are prohibited.~~
~~Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered interior finish if they cover 10 percent or more of the wall or of the ceiling area, and shall not be considered decorative materials or furnishings.~~
~~In Group B and M occupancies, fabric partitions suspended from the ceiling and not supported by the floor shall meet the flame propagation performance criteria in accordance with Section 807.2 and NFPA 701 or shall be noncombustible.~~

807.3 Combustible decorative materials. In other than Group I-3, curtains, draperies, fabric hangings and other similar combustible decorative materials suspended from walls or ceilings shall comply with Section 807.4 and shall not exceed 10 percent of the specific wall or ceiling area to which they are attached.

Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered interior finish, shall comply with Section 803 and shall not be considered decorative materials or furnishings.

Exceptions:
1. In auditoriums in Group A, the permissible amount of curtains, draperies, fabric hangings and other similar combustible decorative material suspended from walls or ceilings shall not exceed 75 percent of the aggregate wall area where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, and where the material is installed in accordance with Section 803.11 of the ~~*International*~~*California* Building Code.

2. In Group R-2 dormitories, within sleeping units and dwelling units, the permissible amount of curtains, draperies, fabric hangings and other similar decorative materials suspended from walls or ceilings shall not exceed 50 percent of the aggregate wall areas where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.

[California Code of Regulations, Title 19, Division 1, §3.08]. Decorative Materials.
In every Group A, E, I, R-1, R-2, R-2.1, R-3.1 and R-4 occupancies all drapes, hangings, curtains, drops, and all other decorative material, including Christmas trees, that would tend to increase the fire and panic hazard shall be made from a nonflammable material, or shall be treated and maintained in a flame-retardant condition by means of a flame-retardant solution or process approved by the State Fire Marshal, as set forth in California Code of Regulations, Title 19, Division 1, Chapter 8. Exits, exit lights, fire alarm sending stations, wet standpipe hose cabinets, and fire extinguisher locations shall not be concealed, in whole or in part, by any decorative material.
EXCEPTIONS:
(a) Cubical curtains and individual patient room window curtains and drapes in Group I, R-2.1, R-3.1 and R-4 occupancies.
(b) Window curtains and drapes within dwelling units of Group R-1 and R-2 occupancies.
(c) Christmas trees within dwelling units of Group R-1 and R-2 occupancies.

[California Code of Regulations, Title 19, Division 1, §1273.1] Fabrics for Interior Use.

Fabrics as described in California Code of Regulations, Title 19, Division 1, 1272(c) intended for interior use shall be tested in their original condition only and shall meet the requirements for fire resistance outlined in California Code of Regulations, Title 19, Division 1, Section 1273.3.

[California Code of Regulations, Title 19, Division 1, §1273.2] Fabrics for Exterior Use.

Fabrics as described in California Code of Regulations, Title 19, Division 1, 1272(c) intended for exterior use shall meet the requirements for fire resistance outlined in California Code of Regulations, Title 19, Division 1, 1273.3, and, in addition, they shall meet the requirements for fire resistance outlined in California Code of Regulations, Title 19, Division 1, 1237, both in their original state and after accelerated weathering.

807.4 Acceptance criteria and reports...

[California Code of Regulations, Title 19, Division 1, §1321.1] Fabric and Material Certification.

All concerns in whose name an approved flame-resistant fabric or material is registered shall issue approved certificates of flame resistance covering all such products sold for use in occupancies governed by the statutes. Copies shall be furnished to the buyer as well as the State Fire Marshal and the local fire authority of the customer's city. These certificates shall be delivered within 10 days after the product is shipped and shall be filled out completely and signed by an authorized representative of the concern.

In addition to the required description on the reverse side of the certificate as to yardage or quantity, color and kind, notation should be made of the manufacturer's production or lot control number, the purchase order or invoice number, and, where possible, the ultimate location and use.

[California Code of Regulations, Title 19, Division 1, §1324] Job Labeling.

To every article that is treated and to every roll or package of registered approved fabric or material a small label or tag shall be securely affixed, bearing the following information:

(a) The Seal of Registration of the State Fire Marshal of California.
(b) Name and registration number of the concern responsible for the job or production.
(c) Name of the registered chemical used or the registered fabric or material.
(d) Date the chemical was applied, or the fabric or material was produced.
(e)The statement, "This article must be re-treated after washing or drycleaning by systems with soap and water added" (if treated with a "Type II" chemical).

This information may be stamped, printed or stenciled on the article if so desired.
Concerns which treat or manufacture yardage goods may print or stencil their name, or the name of their fabric if registered, on the salvage (at least once every three yards) instead of affixing the label or tag as above.

[California Code of Regulations, Title 19, Division 1, §1325] Labeling Required.

No drape, hanging, curtain, drop or similar decorative material or exterior fabric which has been treated by a registered flame-retardant application concern, either as yardage or after fabrication, or which is made from a registered approved fabric shall be installed after the effective date of these rules and regulations [California Code of Regulations, Title 19, Division 1, Chapter 8] in any place or under any condition governed by Sections 13115 and 13119 of the Health and Safety Code unless such drape, hanging, curtain, drop, or similar decorative material or exterior fabric shall be labeled as required by California Code of Regulations, Title 19, Division 1, Section 1324.

[California Code of Regulations, Title 19, Division 1, §1326] Retreatment.

In cases where instructions are issued by the State Fire Marshal requiring retreatment or replacement of fabrics or materials previously treated with a flame-retardant chemical or registered as an approved fabric or material, the retreatment or replacement shall be made within ten (10) days after date of the order so requiring. A new certificate of flame resistance covering each such retreatment shall be delivered as for an original job as is provided for by California Code of Regulations, Title 19, Division 1, Section 1321. A new sample of the retreated fabric or material shall be attached to the certificate of flame resistance submitted to the State Fire Marshal.

[California Code of Regulations, Title 19, Division 1, §1327] Installation.

The standard fire resistance tests presume installation of approved registered fabrics in a normal vertical position. Some decorative materials installed otherwise, such as in narrow strips or suspended overhead in a horizontal position, may exhibit different burning characteristics. Since it is not feasible to devise tests for all such installations differing from normal, they must be judged on an individual basis. Where indicated, the State Fire Marshal may perform such additional tests as he deems necessary to insure adequate fire resistance of materials as installed.

807.5 Occupancy-based requirements. In occupancies specified, combustible decorative materials not complying with Section 807.3 shall comply with Sections 807.5.1 through ~~807.5.6~~*807.5.7.1*.

807.5.1.2 Motion picture screens. The screens upon which motion pictures are projected in new and existing buildings of Group A shall either meet the flame propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 or shall comply with the requirements for a Class B interior finish in accordance with Section 803 of the ~~International~~*California* Building Code.

~~**807.4.2.4**~~**807.5.1.5** ***Motion Picture and Television Production Studio Sound Stages, Approved Production Facilities and Production Locations with live audiences.***

~~**807.4.2.4.1**~~**807.5.1.5.1** ***Foam plastics, decorations, textile and film materials.*** *Foam plastics, textile and film materials and other decorative materials and materials containing foam plastics shall be in accordance with the following:*

1. Exhibit booth construction shall have a maximum heat-release rate of 100 kilowatts when tested in accordance with U.L. 1975.
2. Decorative objects, including but not limited to mannequins, murals and signs, shall have a maximum heat-release rate of 150 kilowatts when tested in accordance with U.L. 1975.

Exception: *When the aggregate area of murals, signs or similar decorative objects occupies less than 10 percent of the floor or wall area, this requirement may be waived by the chief.*

3. Theater, motion picture and television stage settings with or without horizontal projections and simulated caves or caverns shall have a maximum heat-release rate of 100 kilowatts when tested in accordance with U.L. 1975.

807.5.3 Groups I-1, ~~and~~ I-2*, and I-2.1*. In Group I-1, ~~and~~ I-2*, and I-2.1* occupancies, combustible decorative materials shall comply with Sections 807.5.3.1 through 807.5.3.4.

807.5.3.1 Group I-1 and I-2 Condition 1 within units. In Group I-1 and Group I-2 Condition 1 occupancies, equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, within sleeping units and dwelling units, combustible decorative materials placed on walls shall be limited to not more than 50 percent of the wall area to which they are attached.

807.5.3.2 In Group I-1 and I-2 Condition 1 for areas other than within units. In Group I-1 and Group I-2 Condition 1 occupancies, equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, combustible decorative materials placed on walls in areas other than within dwelling and sleeping units shall be limited to not more than 30 percent of the wall area to which they are attached.

807.5.3.3 In Group I-2 Condition 2. In Group I-2 Condition 2 occupancies, equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, combustible decorative materials placed on walls shall be limited to not more than 30 percent of the wall area to which they are attached.

807.5.3.4 Other areas in Groups I-1 and I-2. In Group I-1 and I-2 occupancies, in areas not equipped throughout with an approved automatic sprinkler system, combustible decorative materials shall be of such limited quantities that a hazard of fire development or spread is not present.

~~807.4.5~~807.5.7 Group F-1 motion picture and television production studio sound stages, approved production facilities and production locations without live audiences.

~~807.4.5.1~~807.5.7.1 Foam plastics, decorations, textile and film materials. *Foam plastics, textile and film materials and other decorative materials and materials containing foam plastics shall be in accordance with the following:*

1. Exhibit booth construction shall have a maximum heat-release rate of 100 kilowatts when tested in accordance with U.L. 1975.
2. Decorative objects, including but not limited to mannequins, murals and signs, shall have a maximum heat-release rate of 150 kilowatts when tested in accordance with U.L. 1975.

Exception: *When the aggregate area of murals, signs or similar decorative objects occupies less than 10 percent of the floor or wall area, this requirement may be waived by the chief.*

3. Theater, motion picture and television stage settings with or without horizontal projections and simulated caves or caverns shall have a maximum heat-release rate of 100 kilowatts when tested in accordance with U.L. 1975.

808.1 Wastebaskets and linen containers in Group I-1, I-2 and I-3 occupancies. Wastebaskets, linen containers and other waste containers, including their lids, located in Group I-1, I-2 and I-3 occupancies shall be constructed of noncombustible materials or of materials that meet a peak rate of heat release not exceeding 300 kW/m2 when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m2 in the horizontal orientation. Metal wastebaskets and other metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be *listed* in accordance with UL 1315 and shall be provided with a noncombustible lid. Portable containers exceeding 32 gallons (121 L) shall be stored in an area classified as a waste and linen collection room and constructed in accordance with Table 509 of the ~~International~~*California* Building Code.

[California Code of Regulations, Title 19, Division 1, §3.19(b) and (c) Housekeeping.
Every building or portion of a building governed by California Code of Regulations, Title 19, Division 1 regulations shall be maintained in a neat orderly manner, free from any condition that would create a fire or life hazard or a condition which would add to or contribute to the rapid spread of fire. Provisions shall be made for the proper storage and disposal of waste materials and rubbish consistent with the following:
(b) All combustible waste material and rubbish shall be stored in approved containers or shall be stored in a manner approved by the enforcing agency as being consistent with standard fire prevention practices until such waste material and rubbish is removed from the premises or otherwise disposed of in a proper manner.
(1) Containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15m^3) shall comply with the provisions of California Code of Regulations, Title 24, Part 9, Section 304.3.
(2) Wastebaskets and linen containers in Group I-2 and I-3 occupancies shall comply with the provisions of California Code of Regulations Title 24, Part 9, Section 808.
(c) Approved self-closing metal containers or listed disposal containers by an approved testing or listing agency shall be provided and maintained in all rooms or locations where oily rags, oily waste, paint rags, or similar materials subject to spontaneous ignition are used, or are stored temporarily. Such containers shall be emptied daily.

808.2 Waste containers with a capacity of 20 gallons or more in Group R-2 college and university dormitories. Waste containers, including their lids, located in Group R-2 college and university dormitories, and with a capacity of 20 gallons (75.7 L) or more, shall be constructed of noncombustible materials or of materials that meet a peak rate of heat release not exceeding 300 kW/m2 when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m2 in the horizontal orientation. Metal wastebaskets and other metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be listed in accordance with UL 1315 and shall be provided with a noncombustible lid. Portable containers exceeding 32 gallons (121 L) shall be stored in an area classified as a waste and linen collection room constructed in accordance with Table 509 of the ~~International~~*California* Building Code.

CHAPTER 9
FIRE PROTECTION SYSTEMS

901.4.1 Required fire protection systems. Fire protection systems required by this code or the ~~International~~*California* Building Code shall be installed, repaired, operated, tested and maintained in accordance with this code. A fire protection system for which a design option, exception or reduction to the provisions of this code or the International Building Code has been granted shall be considered to be a required system.

901.4.2 Nonrequired fire protection systems. A fire protection system or portion thereof not required by this code or the ~~International~~*California Building Code* shall be allowed to be furnished for partial or complete protection provided such installed system meets the applicable requirements of this code and the ~~*International*~~*California Building Code*.

901.4.3 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 ~~International~~*California* Building Code or horizontal assemblies constructed in accordance with Section 711 of the ~~International~~*California* Building Code, or both, having a fire-resistance rating of not less than that determined in accordance with Section 707.3.10 of the ~~International~~*California* Building Code.

901.6 Inspection, testing and maintenance. Fire detection, alarm 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 systems and equipment shall be inspected, tested and maintained or removed.

All fire alarm systems, fire detection systems, automatic sprinkler or extinguishing systems, communication systems, and all other equipment, material or systems required by these regulations shall be maintained in an operable condition at all times in accordance with this code and California Code of Regulations, Title 19, Division 1. Upon disruption or diminishment of the fire protective qualities of such equipment, material or systems, immediate action shall be instituted to effect a reestablishment of such equipment material or systems to their original normal and operational condition.

[California Code of Regulations, Title 19, Division 1, §1.14] Maintenance.
Every fire alarm system or device, sprinkler system, fire extinguisher, fire hose, fire resistive assembly or any other fire safety assembly, device, material or equipment installed and retained in service in any building or structure subject to California Code of Regulations, Title 19, Division 1 regulations shall be maintained in an operable condition at all times in accordance with California Code of Regulations, Title 19, Division 1 regulations and with their intended use.

[California Code of Regulations, Title 19, Division 1, §3.24] Maintenance of Equipment.
All fire alarm systems, fire detection systems, automatic sprinkler or extinguishing systems, communication systems, and all other equipment, material or systems required by California Code of Regulations, Title 19, Division 1 shall be maintained in an operable condition at all times. Upon disruption or diminishment of the fire protective qualities of such equipment, material or systems, immediate action shall be instituted to effect a reestablishment of such equipment material or systems to their original normal and operational condition.

[California Code of Regulations, Title 19, Division 1, §904(a)] Required Inspection, Testing, and Maintenance Frequencies.
(a) All automatic fire extinguishing systems, including systems installed as an alternate to other building requirements, shall be inspected, tested, and maintained in accordance with the following frequencies. Local authorities may require more frequent inspection, testing and maintenance and additional procedures.

[California Code of Regulations, Title 19, Division 1, §904(a)(1)] Required Inspection, Testing, and Maintenance Frequencies.
(1) Water-based fire protection systems shall be inspected, tested and maintained in accordance with the frequencies required by NFPA 25 (2011 edition) including and Annexes A, B, C, D, E, F, and G as amended by the State of California. (Published as NFPA 25, 2013 California Edition).

[California Code of Regulations, Title 19, Division 1, §904(b)] Required Inspection, Testing, and Maintenance Frequencies.
(b) When proof of the installation date of standpipe systems or automatic fire sprinkler systems cannot be furnished, such systems shall receive initial testing and maintenance by July 1, 1985.

[California Code of Regulations, Title 19, Division 1, §904.2(a)] Testing and Maintenance Requirements.
(a) All testing and maintenance on automatic fire extinguishing systems in accordance with Health & Safety Code Section 13195 shall be performed by those licensed in accordance with Health and Safety Code Section 13196.5.
EXCEPTIONS:
(1) The State Fire Marshal may waive in writing licensing of fire departments which conduct fire sprinkler and standpipe system testing and maintenance.
(2) Service on fire alarm systems and industrial systems as specified in 13196.5(b) and (c) Health and Safety Code may be conducted without a license.
(3) Testing and maintenance on automatic fire extinguishing systems exempted in writing by the State Fire Marshal, when the building owner or occupant has the staff and equipment to conduct testing and maintenance.

[California Code of Regulations, Title 19, Division 1, §904.2(b)] Testing and Maintenance Requirements.
(b) Any testing and maintenance of automatic fire extinguishing systems shall be performed in accordance with these requirements.
EXCEPTIONS:

(1) The State Fire Marshal may waive in writing the requirement that testing and maintenance be performed in accordance with these requirements when a licensee can demonstrate that a system cannot functionally be tested and maintained in accordance with the California Code of Regulations, Title 19, Division 1, Chapter 5

(2) If at any time a licensee encounters a specialized or modified system which cannot be tested and maintained in accordance with California Code of Regulations, Title 19, Division 1, Chapter 5 the licensee shall contact the State Fire Marshal and test and maintain the system as directed.

(A) The intent of this section is to cover automatic fire extinguishing systems as originally designed, installed and approved by the Authority Having Jurisdiction. It is not, however, intended to require that such systems be upgraded to current adopted standards.

[California Code of Regulations, Title 19, Division 1, §904.2(h)] Testing and Maintenance Requirements.

(h) At the time of testing and maintenance, building management shall be consulted to avoid unnecessary disturbance of normal building operation.

[California Code of Regulations, Title 19, Division 1, §904.2(i)] Testing and Maintenance Requirements.

(i) The licensee shall contact the local fire authority having jurisdiction prior to testing and maintenance of a system when required by the local fire authority having jurisdiction to do so.

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 *and California Code of Regulations, Title 19, Division 1, Chapters 3 and 5.*

[California Code of Regulations, Title 19, Division 1, §904.1(a)] Inspection Requirements.

(a) A license shall not be required to perform inspections. Inspections may be conducted by any person designated by the building owner or occupant who has developed competence through training and experience.

[California Code of Regulations, Title 19, Division 1, §904.2(g)] Testing and Maintenance Requirements.

(g) Prior to activating any fire alarm component of an automatic fire extinguishing system, the licensee shall insure that the licensee is capable of restoring the fire alarm system.

TABLE 901.6.1
FIRE PROTECTION SYSTEM MAINTENANCE STANDARDS

SYSTEM	STANDARD
Portable fire extinguishers	~~NFPA 10~~*California Code of Regulations, Title 19, Division 1, Chapter 3*
Carbon dioxide fire-extinguishing system	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~~*California Code of Regulations, Title 19, Division 1, Chapter 5*
Fire alarm systems	NFPA 72
Smoke and heat vents	NFPA 204
Water-mist systems	NFPA 750
Clean-agent extinguishing systems	NFPA 2001

901.6.2 Records...

[California Code of Regulations, Title 19, Division 1, §904.1(b)] Inspection Requirements.

(b) Records of all inspections shall be retained on the premises by the building or system owner for a period of five years after the next required inspection.

[California Code of Regulations, Title 19, Division 1, §904.2(c)] Testing and Maintenance Requirements.

(c) Records of all testing and maintenance shall be retained on the premises by the building or system owner for a period of five years after the next required test or maintenance.

[California Code of Regulations, Title 19, Division 1, §904.2(j)] Testing and Maintenance Requirements.

(j) It is the responsibility of the contractor, company or licensee to provide a written report of the test and

maintenance results to the building owner and the local fire authority having jurisdiction at the completion of the testing and maintenance.

901.7 Systems out of service...

[California Code of Regulations, Title 19, Division 1, §904.1(c)] Inspection Requirements.
(c) The owner or occupant shall promptly correct or repair deficiencies, damaged parts, or impairments found while performing the inspection, test, and maintenance requirements of this standard. Recalled products shall be replaced or remedied. Such replacement or remedial product shall be installed in accordance with the listing requirements, the manufacturer's instructions and the appropriate NFPA installation standards. A recalled product is a product subject to a statute or administrative regulation specifically requiring the manufacturer, importer, distributor, wholesaler, or retailer of a product, or any combination of such entities, to recall the product, or a product voluntarily recalled by a combination of such entities.

[California Code of Regulations, Title 19, Division 1, §904.2(d)] Testing and Maintenance Requirements.
(d) The building or system owner shall insure immediate correction of any deficiencies noted during the service. A tag or label shall be affixed to a system only after all deficiencies have been corrected. The owner or occupant shall promptly correct or repair deficiencies, damaged parts, or impairments found while performing the inspection, test, and maintenance requirements of this standard. Recalled products shall be replaced or remedied. Such replacement or remedial product shall be installed in accordance with the listing requirements, the manufacturer's instructions and the appropriate NFPA installation standards. A recalled product is a product subject to a statute or administrative regulation specifically requiring the manufacturer, importer, distributor, wholesaler, or retailer of a product, or any combination of such entities, to recall the product, or a product voluntarily recalled by a combination of such entities.

[California Code of Regulations, Title 19, Division 1, §904.2(e)] Testing and Maintenance Requirements.
(e) At the time of testing and maintenance, or at any time parts are replaced, an itemized invoice showing work performed and parts replaced shall be provided by the licensee to the system owner. If testing and maintenance is performed more than thirty (30) days prior to the next required testing and maintenance date, the invoice shall bear a statement indicating the system was tested and maintained early.

[California Code of Regulations, Title 19, Division 1, §904.2(f)] Testing and Maintenance Requirements.
(f) The licensee shall offer to return all replaced parts to the system owner or owners representative, except those parts that are required to be returned to the manufacturer under conditions of warranty.

902.1 Definitions. The following terms are defined in Chapter 2:

[California Code of Regulations, Title 19, Division 1, §902.4(b)] "E" Definitions
(b) Engineered Fixed Extinguishing System. A system which is custom designed for a particular hazard, using components which are approved or listed only for their broad performance characteristics. Components may be arranged into a variety of configurations. These systems shall include but not be limited to:
(1) Dry chemical systems
(2) Carbon dioxide systems
(3) Halogenated agent systems
(4) Steam systems
(5) High expansion foam systems
(6) Foam extinguishing systems
(7) Liquid agent systems
(8) Clean agent systems

FIRE APPLIANCE [SFM] *is apparatus or equipment provided or installed for use in the event of an emergency.*

[California Code of Regulations, Title 19, Division 1, §902.9(a)] "I" Definitions.
(a) Inspection. A visual examination of a system or portion thereof to verify that it appears to be in operating condition and is free of physical damage.

[California Code of Regulations, Title 19, Division 1, §902.12(a)] "M" Definitions.
(a) Maintenance. Work performed to keep equipment operable or to make repairs.

[California Code of Regulations, Title 19, Division 1, §902.15(a)] "P" Definitions.

(a) Pre-Engineered Fixed Extinguishing System. A system where the number of components and their configurations are included in the description of the systems approval and listing. These systems shall include but not be limited to:
(1) Dry chemical systems
(2) Carbon dioxide systems
(3) Halogenated agent systems
(4) Liquid agent systems
(5) Clean agent systems

[California Code of Regulations, Title 19, Division 1, §902.18(a)] "S" Definitions.

(a) Service. The performance of testing and maintenance on an automatic fire extinguishing system.

[California Code of Regulations, Title 19, Division 1, §902.19(a)] "T" Definitions.

(a) Testing. A procedure used to determine the status of a system as intended by conducting periodic physical checks.

903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in Sections 903.2.1 through 903.2.12.

~~**Exception:**~~
~~Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided 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 1-hour *fire barriers* constructed in accordance with Section 707 of the *International Building Code* or not less than 2-hour horizontal assemblies constructed in accordance with Section 711 of the *International Building Code*, or both.~~

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided for fire areas containing Group A-2 occupancies and intervening floors of the building where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464.5 m2).
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.
4. The structure exceeds 5,000 square feet (465 m2), contains more than one fire area containing a Group A-2 occupancy, and is separated into two or more buildings by fire walls of less than four hour fire resistance rating without openings.

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided for fire areas containing Group A-3 occupancies and intervening floors of the building where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m2).
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 structure exceeds 12,000 square feet (1155 m2), contains more than one fire area containing exhibition and display rooms, and is separated into two or more buildings by fire walls of less than four hour fire resistance rating without openings.

903.2.3 Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 12,000 square feet (1115 m^2) in area.
2. Throughout every portion of educational buildings below the lowest *level of exit discharge* serving that portion of the building.

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.

3. In rooms or areas with special hazards such as laboratories, vocational shops and other such areas where hazardous materials in quantities not exceeding the maximum allowable quantity are used or stored.

4. Throughout any Group E structure greater than 12,000 square feet (1115 m^2) in area, which contains more than one fire area, and which is separated into two or more buildings by fire walls of less than four hour fire resistance rating without openings.
5. For public school state funded construction projects see Section 903.2.19.

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 m2) that generate finely divided combustible waste or use finely divided combustible materials*. [SFM] A fire wall of less than four-hour fire-resistance rating without openings, or any fire wall with openings, shall not be used to establish separate fire areas.*

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 ~~*International*~~*California 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.

903.2.5.4 Group H occupancies located above the 10th story. *The fire sprinkler system shall be designed and zoned to provide separate indication upon water-flow for each side of the 2-hour fire-smoke barrier above the 10th story.*

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.~~
1. Those areas exempted by Section 407.6 of the California Building Code.
2. Pursuant to Health and Safety Code Section 13113 (d), Group I-2 occupancies, or any alterations thereto, located in Type IA construction in existence on March 4, 1972.

903.2.6.1 Group I-2. *In an existing, unsprinklered Group I-2, nurses' station open to fire-resistive exit access corridors shall be protected by an automatic sprinkler system located directly above the nurses' station. It shall be permitted to connect the automatic sprinkler system to the domestic water service.*

903.2.6.2 Group I-3. *Every building, or portion thereof, where inmates or persons are in custody or restrained shall be protected by an automatic sprinkler system conforming to NFPA 13. The main sprinkler control valve or valves and all other control valves in the system shall be locked in the open position and electrically supervised so that at least an audible and visual alarm will sound at a constantly attended location when valves are closed. The sprinkler branch piping serving cells may be embedded in the concrete construction.*

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 (1115 m2).
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 m2).
4. A Group M occupancy is used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m2).
5. [SFM] The structure exceeds 24,000 square feet (465 m2), contains more than one fire area containing a Group M occupancies, and is separated into two or more buildings by fire walls of less than four hour fire resistance rating without openings.

[Editorial Note: Remove amendment to 2013 CFC section 903.2.8.1.]
~~**903.2.8.1 Group R-3 or R-4 congregate residences.** An automatic sprinkler system installed in accordance with Section 903.3.1.3 shall be permitted in Group R-3 or R-4 congregate residences with 16 or fewer residents.~~

~~**903.2.8.2**~~ **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 5 or fewer individuals in a single-family dwelling.~~

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 of the ~~*International*~~*California Building Code*, as shown:

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 m2).
2. Buildings not more than one story above grade plane, with a fire area containing a repair garage exceeding 12,000 square feet (1115 m2).
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 m2).

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 ~~International~~*California* Building Code *where either of the following conditions exists:*

1. Where the *fire area* of the enclosed parking garage exceeds 12,000 square feet (1115 m2).
2. Where the enclosed parking garage is located beneath other groups.

~~**Exception:** Enclosed parking garages located beneath Group R-3 occupancies.~~

903.2.11.4 Ducts conveying hazardous exhausts. Where required by the ~~International~~*California* Mechanical Code, automatic sprinklers shall be provided in ducts conveying hazardous exhaust, flammable or combustible materials.

Exception: Ducts where the largest cross-sectional diameter of the duct is less than 10 inches (254 mm).

TABLE 903.2.11.6
ADDITIONAL REQUIRED SUPPRESSION SYSTEMS

SECTION	SUBJECT
914.2.1	Covered and open mall buildings
914.3.1	High rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*
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
914.8.3, 914.8.6	Aircraft hangars
914.9	Flammable finishes
914.10	Drying rooms
914.11.1	Ambulatory care facilities
1028.6.2.3	Smoke-protected assembly seating
1103.5.1	Pyroxylin plastic storage in existing buildings

1103.5.2	Existing Group I-2 occupancies
1103.5.3	Existing Group I-2 Condition 2 occupancies
2108.2	Dry cleaning plants
2108.3	Dry cleaning machines
2309.3.2.6.2	Hydrogen motor fuel-dispensing area canopies
2404.2	Spray finishing in Group A, E, I or R
2404.4	Spray booths and spray rooms
2405.2	Dip-tank rooms in Group A, I or R
2405.4.1	Dip tanks
2405.9.4	Hardening and tempering tanks
2703.10	HPM facilities
2703.10.1.1	HPM work station exhaust
2703.10.2	HPM gas cabinets and exhausted enclosures
2703.10.3	HPM exit access corridor
2703.10.4	HPM exhaust ducts
2703.10.4.1	HPM noncombustible ducts
2703.10.4.2	HPM combustible ducts
2807.3	Lumber production conveyor enclosures
2808.7	Recycling facility conveyor enclosures
3006.1	Class A and B ovens
3006.2	Class C and D ovens
Table 3206.2	Storage fire protection
3206.4	Storage
5003.8.4.1	Gas rooms
5003.8.5.3	Exhausted enclosures
5004.5	Indoor storage of hazardous materials
5005.1.8	Indoor dispensing of hazardous materials
5104.4.1	Aerosol warehouses
5106.3.2	Aerosol display and merchandising areas
5204.5	Storage of more than 1,000 cubic feet of loose combustible fibers
5306.2.1	Exterior medical gas storage room
5306.2.2	Interior medical gas storage room
5306.2.3	Medical gas storage cabinet
5606.5.2.1	Storage of smokeless propellant
5606.5.2.3	Storage of small arms primers
5704.3.7.5.1	Flammable and combustible liquid storage rooms
5704.3.8.4	Flammable and combustible liquid storage warehouses

5705.3.7.3	Flammable and combustible liquid Group H-2 or H-3 areas
6004.1.2	Gas cabinets for highly toxic and toxic gas
6004.1.3	Exhausted enclosures for highly toxic and toxic gas
6004.2.2.6	Gas rooms for highly toxic and toxic gas
6004.3.3	Outdoor storage for highly toxic and toxic gas
6504.1.1	Pyroxylin plastic storage cabinets
6504.1.3	Pyroxylin plastic storage vaults
6504.2	Pyroxylin plastic storage and manufacturing
California Building Code Section ~~430~~440	*Horse Racing Stables*
California Building Code Section ~~431~~441	*Pet Kennels*
California Building Code Section ~~439~~449	*Public Libraries*

For SI: 1 cubic foot = 0.023 m3.

903.2.13 Reserved.

903.2.14 Motion picture and television production studio sound stages, approved production facilities and production locations.

903.2.14.1 Existing Sound Stages and Approved Production Facilities. *All existing sound stages and approved production facilities equipped with an automatic fire sprinkler system shall be maintained in accordance with the provisions in this Chapter.*

903.2.14.2 New sound stages. *All new sound stages shall be equipped with an approved automatic fire sprinkler system. The system shall be installed in accordance with the provisions of the California Fire Code Chapter 9 and shall meet the minimum design requirements of an Extra Hazard, Group 2 system.*

903.2.15 Automatic sprinkler system – existing high-rise buildings*. Regardless of any other provisions of these regulations, every existing high-rise building of Type II-B, Type III-B or Type V-B construction shall be provided with an approved automatic sprinkler system conforming to NFPA 13.*

903.2.15.1 Existing R-1 and R-2 high-rise buildings fire-extinguishing systems. *Automatic fire-extinguishing systems installed in any existing high-rise structure in which a Group R-1 or a Group R-2 occupancy is, located shall have an approved flow indicator electrically interconnected to the required fire alarm system.*

903.2.16 Group L occupancies. *An automatic sprinkler system shall be installed throughout buildings housing Group L Occupancies. Sprinkler system design for research laboratories and similar areas of a Group L Occupancy shall not be less than that required for Ordinary Hazard Group 2 with a design area of not less than 3,000 square feet (279 m2).*

In mixed occupancies, portions of floors or buildings not classified as Group L Occupancies shall be provided with sprinkler protection designed of not less than that required for Ordinary Hazard Group 1 with a design area of not less than 3,000 square feet (279 m^2).

903.2.16.1 Group L occupancies located above the 10th story. *The automatic sprinkler system shall be designed and zoned to provide separate indication upon water-flow for each side of the 2-hour fire-smoke barrier above the 10th story.*

903.2.17.1 Automatic sprinkler system. *An automatic sprinkler system shall be installed in all stations of fixed guideway transit systems.*

Exceptions:
1. Guideways when the closest sprinkler heads to the guideway are within 3 feet (914 mm) of the edge, over the platform, and spaced 6 feet (1829 mm) on center parallel to the guideway
2. Station agent booths not exceeding 150 square feet (13.9 m2) in area, when provided with an approved smoke detector connected to the building fire alarm system
3. Power substations
4. Machinery rooms, electrical rooms and train control rooms protected by an approved automatic fixed fire-extinguishing system
5. Open stations
6. Station platform areas open to three or more sides

903.2.17.2 Station guideway deluge system. *Underground stations and stations in open cuts with walls 5 feet (1524 mm) above he top of the running rail and with a raised platform shall be provided with an under-vehicle guideway manually activated deluge sprinkler system. In open cut stations, such system shall be provided in guideways which are situated between a raised platform edge and a retaining wall.*

903.2.17.2.1 *Systems shall be provided along the entire length of track at each station platform.*

903.2.17.2.2 *Deluge nozzles with caps shall be located in the approximate center of track with spacing designed to completely wet the undersides of the vehicle at the applied density.*

903.2.17.2.3 *System density shall be a minimum of 0.19 gallon per minute (gpm) per square foot (0.72 L/m per m2) for the design area. When more than one zone is provided, two adjacent zones are required to be considered operating for calculating purposes.*

903.2.17.2.4 *Deluge systems shall be directly connected to a water supply capable of supplying the required flow rate for a minimum 30-minute duration.*

903.2.17.2.5 *Controls or manually operable valves shall be in a location acceptable to the Fire Code Official. All deluge systems shall be monitored by the station fire alarm system.*

903.2.17.2.6 *Each valve shall be monitored by a separate circuit. The alarm panel shall be located in an area normally occupied by station personnel or signals shall be transmitted to the operations control center (OCC).*

903.2.18 Group U private garages and carports accessory to Group R-3 occupancies. *Carports with habitable space above and attached garages, accessory to Group R-3 occupancies, shall be protected by residential fire sprinklers in accordance with this Section. Residential fire sprinklers shall be connected to, and installed in accordance with, an automatic residential fire sprinkler system that complies with Section R313 of the California Residential Code or with NFPA 13D. Fire sprinklers shall be residential sprinklers or quick-response sprinklers, designed to provide a minimum density of 0.05 gpm/ft^2 (2.04 mm/min) over the area of the garage and/or carport, but not to exceed two sprinklers for hydraulic calculation purposes. Garage doors shall not be considered obstructions with respect to sprinkler placement.*

Exception: *An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing carports and/or garages that do not have an automatic residential fire sprinkler system installed in accordance with this Section.*

903.2.19 Public school state funded construction projects for kindergarten through 12th grade — automatic sprinkler system requirements.

903.2.19.1 New public school campus. *An automatic sprinkler system shall be provided in all occupancies. The provisions of this section shall apply to any public school project consisting of one or more buildings on a new school campus and receiving state funds pursuant to Leroy F. Greene School Facilities Act of 1998, California Education Code sections 17070.10 through 17079. For purposes of this section, new campus refers to a school site, where an application for construction of original buildings was made to DSA on or after July 1, 2002.*

Exceptions:
1. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. Also see CCR, Title 24, Part 1, California Administrative Code, Section 4-314 for definition of relocatable building.
2. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

Concession Stand
Press Box
Restroom Facilities
Shade Structure
Snack Bar
Storage Building
Ticket Booth

903.2.19.1.1 *Sprinklers shall be installed in spaces where the ceiling creates a "ceiling-plenum" or space above the ceiling is utilized for environmental air.*

903.2.19.1.2 Fire-resistive substitution for new campus. *A new public school campus shall be entitled to include in the design and construction documents all of the applicable fire-resistive construction substitutions as permitted by this code.*

903.3 Installation requirements. Automatic sprinkler systems shall be designed and installed in accordance with Sections 903.3.1 through ~~903.3.8~~*903.3.9*.

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 *as amended in Chapter 80* except as provided in Sections 903.3.1.1.1 and 903.3.1.1.2.

903.3.1.1.1 Exempt locations. *In other than Group I-2, I-2.1 and I-3 occupancies,* ~~A~~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.
~~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~~*3*. Fire service access elevator machine rooms and machinery spaces.
~~6~~4. Machine rooms, machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008 of the ~~International~~*California* Building Code.
5. Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, and associated electrical power distribution equipment, provided 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 1-hour fire barriers constructed in accordance with Section 707 of the California Building Code or not less than 2-hour horizontal assemblies constructed in accordance with Section 712 of the California Building Code, or both.
6. Solar photovoltaic panel structures with no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.

7. Solar photovoltaic (PV) panels supported by framing that have sufficient uniformly distributed and unobstructed openings throughout the top of the array (horizontal plane) to allow heat and gases to escape, as determined by the enforcing agency.

903.3.1.2 NFPA 13R sprinkler systems. Automatic sprinkler systems in Group 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 13*R as amended in Chapter 80.*

The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 of the ~~International~~*California* Building Code shall be measured from the horizontal assembly creating separate buildings.

903.3.1.3 NFPA 13D sprinkler systems. Automatic sprinkler systems installed in one and two-family dwellings, Group R-3 ~~and R-4 Condition 1~~ and townhouses shall be permitted to be installed throughout in accordance with NFPA 13D, *as amended in Chapter 80*.

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 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 ~~*International*~~*California Building Code.*
2. Throughout all spaces within a smoke compartment containing treatment rooms in ambulatory care facilities.
3. Dwelling units and sleeping units in Group ~~I-1 and~~ R occupancies.
4. Light-hazard occupancies as defined in NFPA 13.

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 International Plumbing Code~~ *Health and Safety Code 13114.7*. 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.

***~~903.3.8~~903.3.9* Floor control valves.** *Floor control valves and waterflow detection assemblies shall be installed at each floor where any of the following occur:*

1. Buildings where the floor level of the highest story is located more than 30 feet above the lowest level of fire department vehicle access.
2. Buildings that are four or more stories in height.
3. Buildings that are two or more stories below the highest level of fire department vehicle access.

Exception: *Group R-3 and R-3.1 occupancies floor control valves and waterflow detection assemblies shall not be required.*

903.4.2 Alarms. ~~An~~ *One exterior* ~~*approved*~~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. *Visible alarm notification appliances shall not be required except when required by section 907.*

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 *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*.

904.1 General…

[California Code of Regulations, Title 19, Division 1, §904(a)(2)] Required Inspection, Testing, and Maintenance Frequencies.
(2) Engineered and pre-engineered fixed extinguishing systems shall be inspected, tested and maintained at least semi-annually, and immediately after a system activation.

[California Code of Regulations, Title 19, Division 1, §904(c)] Required Inspection, Testing, and Maintenance Frequencies.

(c) Engineered and pre-engineered fixed extinguishing systems, regardless of installation date, shall be inspected, tested and maintained within the time periods specified in California Code of Regulations, Title 19, Division 1, Section 904(a)(2) above.

[California Code of Regulations, Title 19, Division 1, §904.7(a) through (c)] Inspection, Testing, and Maintenance Requirements for Engineered and Pre-Engineered Fixed Extinguishing Systems.

Inspection, Testing, and Maintenance shall be performed in accordance with:

(a) California Code of Regulations, Title 19, Division 1, Section 904(a)(2),

(b) the manufacturer's written instructions, which are approved and on file with the Office of the State Fire Marshal; and

(c) the applicable standards adopted in California Code of Regulations, Title 24, Part 9, (California Fire Code)

904.2.2 Commercial hood and duct systems. Each required commercial kitchen exhaust hood and duct system required by Section 609 ~~*609*~~ to have a Type I hood shall be protected with an approved automatic fire-extinguishing system installed in accordance with this code.

904.3.1 Electrical wiring. Electrical wiring shall be in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

904.5 Wet-chemical systems. Wet-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* NFPA 17A and their listing. Records of inspections and testing shall be maintained.

904.6 Dry-chemical systems. Dry-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* NFPA 17 and their listing. Records of inspections and testing shall be maintained.

904.7 Foam systems. Foam-extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5,* 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~~*California Code of Regulations, Title 19, Division 1, Chapter 5*.

904.8 Carbon dioxide systems. Carbon dioxide extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* 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~~ *in accordance California Code of Regulations, Title 19, Division 1, Chapter 5*.

904.9 Halon systems. Halogenated extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* 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~~ *in accordance California Code of Regulations, Title 19, Division 1, Chapter 5*.

904.10 Clean-agent systems. Clean-agent fire-extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* 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~~ *in accordance California Code of Regulations, Title 19, Division 1, Chapter 5*.

904.11.1.3 Water supply protection. Connections to a potable water supply shall be protected against backflow in accordance with the ~~International~~*California* Plumbing Code.

904.12 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, 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.~~
~~3. Foam-water sprinkler system or foam-water spray systems, NFPA 16.~~
~~4. Dry-chemical extinguishing systems, NFPA 17.~~
~~5. Wet-chemical extinguishing systems, NFPA 17A.~~
Commercial cooking equipment that produce grease laden vapors shall be provided with a Type I Hood, in accordance with the California Mechanical Code, and an automatic fire extinguishing system that is listed and labeled for its intended use as follows:

1. Wet chemical extinguishing system, complying with UL 300.
2. Carbon dioxide extinguishing systems,
3. Automatic fire sprinkler systems.

All existing dry chemical and wet chemical extinguishing systems shall comply with UL 300,

Exception *Public schools kitchens, without deep-fat fryers, shall be upgraded to a UL 300 compliant system during state funded modernization projects that are under the jurisdiction of the Division of the State Architect*

All systems shall be installed in accordance with the California Mechanical Code, appropriate adopted standards, their listing and the manufacturers' installation instructions.

Exception: Factory-built commercial cooking recirculating systems that are tested*, listed, labeled and installed* in accordance with UL 710B. and ~~listed, labeled and installed in accordance with Section 304.1 of~~ the ~~International~~*California* Mechanical Code.

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 Section 904.12.5.1 or 904.12.5.2, as applicable~~ *and maintained in accordance with California Code of Regulations, Title 19, Division 1, Chapter 3.*

[California Code of Regulations, Title 19, Division 1, §573(a) through (c)] Fire Extinguisher Size and Placement for Commercial Cooking Operations.
(a) Fire extinguishers with a Class K rating shall be provided for hazards where there is a potential for fires involving combustible cooking media (vegetable or animal oils and fats).
(b) Maximum travel distance shall not exceed 30 feet (9.15) from the hazard to the extinguishers.
(c) Additional fire extinguishers, required for the control of other classes of fires, shall be provided for commercial cooking areas as required by California Code of Regulations Title 19, Division 1, Section 567.

904.12.5.2 Class K portable fire extinguishers for deep fat fryers. Where hazard areas include deep fat fryers, listed Class K portable fire extinguishers shall be provided *in accordance with California Code of Regulations, Title 19, Division 1, Chapter 3 and* as follows:

1. 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.
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.

904.12.6 Operations and maintenance. Automatic fire-extinguishing systems protecting commercial cooking systems shall be maintained in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5 and* Sections 904.12.6.1 through 904.12.6.3.

905.2 Installation standard. Standpipe systems shall be installed in accordance with this section and NFPA 14 *as amended in Chapter 80.* 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~~*905.3.11.1*. Standpipe systems are allowed to be combined with automatic sprinkler systems.

Exception: Standpipe systems are not required in Group R-3 occupancies.

905.3.1 Height. *In other than Group R-3 and R-3.1 occupancies,* ~~C~~class III standpipe systems shall be installed throughout *at each floor where any of the following occur:*

1. ~~b~~*Buildings* ~~*Buildings*~~ where the floor level of the highest story is located more than 30 feet (9144mm) above the lowest level of fire department vehicle access~~,~~. ~~or~~
2. Buildings that are four or more stories in height.
3. Buildings where the floor level of the lowest story is located more than 30 feet (9144mm) below the highest level of fire department vehicle access.
4. Buildings that are two or more stories 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.
2. 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 Section 905.5
4. Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.
5. In determining the lowest level of fire department vehicle access, it shall not be required to consider either of the following:

5.1. Recessed loading docks for four vehicles or less.
5.2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

905.3.9 Smokeproof enclosures. *For smokeproof enclosures see California Building Code, Section 909.20.*

905.3.10 Group I-3. *Housing units within cell complexes where 50 or more inmates are restrained, shall be provided with Class I wet standpipes. In addition, Class I wet standpipes shall be located so that it will not be necessary to extend hose lines through interlocking security doors and any doors in smoke-barrier walls, horizontal fire walls or fire barrier walls. Standpipes located in cell complexes may be placed in secured pipe chases.*

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 and below grade plane. Hose connections shall be located at an intermediate landing between stories, unless otherwise *approved* by the fire code official. *See Section* ~~*909.20.3.2*~~*909.20.2.3 of the California Building Code for additional provisions in smokeproof enclosures.*
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 *as measured along the path of travel,* 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 units vertical in 12 units horizontal (33.3-percent 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 1009.12.
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 960mm)~~ *150 feet (45 720 mm)* ~~from a hose connection~~, the fire code official is authorized to require that additional hose connections be provided in approved locations. *The distances from a hose connection shall be measured along the path of travel,*

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 *listed variable stream fog* nozzle attached to 100 feet (30 480 mm) of hose.

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, *L,* M, R-1, R-2, *R-2.1, R-3.1* R-4 and S occupancies.

Exception: 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. Within 30 feet (9144 mm) of commercial cooking equipment.
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.
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.
7. *Large and small family day-care homes shall be equipped with a portable fire extinguisher having a minimum 2A10BC rating.*
8. Where required by California Code of Regulations, Title 19, Division 1.

[California Code of Regulations, Title 19, Division 1, §3.29(a) through (d)] Portable Fire Extinguishing Equipment.

(a) General. Portable fire extinguishers conforming to the requirements of California Code of Regulations Title 19, Division 1, Chapter 3, shall be installed and maintained in accordance with guides established therein.

(b) Special Coverage. Additional Class A, B, and C units of adequate extinguishing potential shall be provided for any other hazard as determined by the enforcing agency.

(c) Group A Occupancies.

(1) One additional Class 2–A unit shall be provided in Group A Occupancies as follows:

(A) On each side of the stage or platform.

EXCEPTION: Platforms 1000 square feet or less in area need have only one such extinguishing unit.

(B) On each side of every fly gallery.

(C) In basements beneath the stage or platform.

(D) In every hallway or passageway leading to a dressing room.

(E) In every property room, carpenter shop, or similar workroom.

(2) Not less than one 10–B: C unit (not less than 4–B:C for existing extinguishers in existing occupancies) shall be provided:

(A) For each motor and fan room.

(B) Adjacent to each switchboard on the stage or platform.

(C) For each motion picture machine in projection rooms.

EXCEPTION: One 20–B:C unit (not less than 8–B:C for existing extinguishers in existing occupancies) in each projection room may be accepted as providing substantially equal protection.

(3) The enforcing agency may allow modifications or deviations relative to the number and location of portable fire extinguishers as required by this section provided such authority finds that the basic intent of this section and the ease of accessibility to extinguishers is otherwise achieved.

(d) Group R-2.1, R-3.1 and R-4 Occupancies. In Group R-2.1, R-3.1 and R-4 Occupancies a continuously attached garden hose, equipped with a water flow control nozzle, may be provided in lieu of one or more required fire extinguishers when acceptable to the enforcing agency. The location and length of such hose shall be as designated or approved by the enforcing agency.

NOTE: It is recommended that wherever possible portable fire extinguishers be located adjacent to manual fire alarm sending stations.

[California Code of Regulations, Title 19, Division 1, §565(a)] Selection of Fire Extinguishers.

(a)The selection of extinguishers for a given situation shall be determined by the authority having jurisdiction in accordance with adopted codes or ordinances. The character of the fires anticipated, the construction and occupancy of the individual property, the vehicle or hazard to be protected, ambient-temperature conditions, and other factors shall be considered. The number, size, placement, and limitations of use of extinguishers required shall be determined by using California Code of Regulations, Title 19, Division 1, Sections 567 through 573.

906.2 General requirements. Portable fire extinguishers shall be selected, installed and maintained in accordance with this section and ~~NFPA 10~~*California Code of Regulations, Title 19, Division 1, Chapter 3*.

Exceptions:

1. The distance of tracel 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~~*California Code of Regulations, Title 19, Division 1, Chapter 3*.
3. In Group I-3, portable fire extinguishers shall be permitted to be located at staff locations.

[California Code of Regulations, Title 19, Division 1, §565.1(a) through (c)] Classification of Hazards.

(a) Light (Low) Hazard. Locations where the total amounts of Class A combustible materials, including furnishings, decorations and contents, is of minor quantity. These shall include buildings or rooms occupied as offices, classrooms, churches, assembly halls, etc. This classification anticipates that the majority of the contents are either noncombustible or so arranged that a fire is not likely to spread rapidly. Small amounts of Class B flammables used for duplicating machines, art departments, etc., are included provided that they are kept in closed containers and safely stored.

(b) Ordinary (Moderate) Hazard. Locations where the total amounts of Class A combustibles and Class B flammables are present in greater amounts than expected under Light (Low) Hazard occupancies. These occupancies could consist of offices, classrooms, mercantile shops and allied storage, light manufacturing, research operations, auto showrooms, parking garages, workshop or support service areas of Light (Low) Hazard occupancies, and warehouses containing Class I or Class II commodities.

(c) Extra (High) Hazard. Locations where the total amount of Class A combustibles and Class B flammables are present, in storage, production use, and/or finished product over and above those expected and classed as Ordinary (Moderate) Hazards. These occupancies could consist of woodworking, vehicle repair, aircraft and boat servicing, individual product display showrooms, product convention center displays, storage and manufacturing processes such as painting, dipping, coating, including flammable liquid handling. Also, included in warehousing of, or in-process storage of other Class I and Class II commodities.

[California Code of Regulations, Title 19, Division 1, §565.2(a) through (e)] Selection by Hazard.

(a) Extinguishers shall be selected for the specific class or classes of hazards to be protected in accordance with the following subdivisions (b)(c)(d) and (e).
(b) Extinguishers for protecting Class A hazards shall be selected from the following: Water-type, halogenated agent types, multipurpose dry chemical and wet chemical type.
(c) Extinguishers for protection of Class B hazards shall be selected from the following: carbon dioxide, dry chemical types, halogenated agent types, and water-type and water chemical extinguishers rated for Class B hazards.
(d) Extinguishers for protection of Class C hazards shall be selected from the following: carbon dioxide, dry chemical types, halogenated agent types, and water mist types rated for Class C. Carbon dioxide extinguishers equipped with metal horns are not considered safe for use on fires in energized electrical equipment and, therefore, are not classified for use on Class C hazards.
(e) Extinguishers and extinguishing agents for the protection of Class D hazards shall be of types approved for use on the specific combustible metal hazard.

[California Code of Regulations, Title 19, Division 1, §566(a) through (f)] Application for Specific Hazards.
(a) Class B Fire Extinguishers for Pressurized Flammable Liquids and Pressurized Gas Fires. Fires of this nature are considered to be a special hazard. Class B fire extinguishers containing agents other than dry chemical are relatively ineffective on this type of hazard due to stream and agent characteristics. Selection of extinguishers for this type of hazard shall be made on the basis of recommendations by manufactures of this specialized equipment. The system used to rate extinguishers on Class B fires (flammable liquids in depth) is not applicable to these types of hazards. It has been determined that special nozzle design and rates of agent application are required to cope with such hazards. Caution: It is undesirable to attempt to extinguish this type of fire unless there is reasonable assurance that the source of fuel can be promptly shut off.
(b) Fire extinguishers provided for the protection of cooking appliances that use combustible cooking media (vegetable or animal oils and fats) shall be listed and labeled Class K fires.
(c) Three-dimensional Class B Fires. A three dimensional Class B fire involves Class B materials in motion such as pouring, running or dripping flammable liquids and generally includes vertical as well as one or more horizontal surfaces. Fires of this nature are considered to be a special hazard. Selection of extinguishers for this type of hazard shall be made on the basis of recommendations by manufacturers of this specialized equipment. The system used to rate extinguishers on Class B fires (flammable liquids in depth) is not directly applicable to this type of hazard.
(d) Water Soluble Flammable Liquid Fires (Polar Solvents). Extinguishers used for the protection of water soluble flammable liquids, such as alcohols, acetones, esters, ketones, etc., shall be selected in accordance with Section 565.2. AFFF type and FFFP type fire extinguishers shall not be used for the protection of water soluble flammable liquids, such as alcohols, acetone, esters, ketones, etc., unless specifically referenced on the extinguisher nameplate.
(e) Electronic Equipment Fires. Extinguishers for the protection of delicate electronic equipment shall be selected from the following: carbon dioxide type or a halogenated agent type, or a distilled water mist type with a minimum Class A:C Rating.
(f) In patient care areas and sleeping rooms of health care facilities, fire extinguishers, including the agents and expelling means, should be selected and utilized which would not be detrimental to patients and are appropriate for the type of fire expected, such as distilled water mist type fire extinguishers with a minimum "2-A:C" Rating.

[California Code of Regulations, Title 19, Division 1, §567.8] Installation Temperatures.
Water-type (water, AFFF, FFFP) extinguishers shall not be installed in areas where temperatures are outside the range of 40°F to 120°F (4°C to 49°C). Other types shall not be installed in areas where temperatures are outside the range of –40°F to 120°F (-40°C to 49°C). Fire extinguishers shall not be exposed to temperatures outside of the range shown on the fire extinguisher label.
EXCEPTION NO. 1: Where fire extinguishers are installed in locations subject to temperatures outside these ranges, they shall be of a type approved and listed for the temperature to which they are exposed, or they shall be placed in an enclosure capable of maintaining the stipulated temperature range.
EXCEPTION NO 2: Fire extinguishers containing plain water only can be protected to temperatures as low as -40°F (-40°C) by the addition of an antifreeze stipulated on the extinguisher nameplate. Calcium chloride solutions shall not be used in stainless steel fire extinguishers.
EXCEPTION NO. 3: Some fire extinguishes are approved or listed for use at temperatures as low as -65°F (-54°C).

[California Code of Regulations, Title 19, Division 1, §574.1] Frequency of Inspection.
Fire extinguishers shall be manually inspected when initially placed in service. Thereafter extinguishers shall be manually inspected at least monthly by the building owner, occupant, or his/her authorized agent or electronically monitored. Fire extinguishers shall be inspected at more frequent intervals when circumstances require as

determined by the Authority Having Jurisdiction.

[California Code of Regulations, Title 19, Division 1, §574.2] Inspection Procedures.
(a) In addition to California Code of Regulations, Title 19, Division 1, Section 574.1 fire extinguishers shall be manually inspected in accordance with this section if they are located where any of the following conditions exist:
(1) High frequency of fires in the past.
(2) Extra (high) hazard areas.
(3) Location that make fire extinguishers susceptible to mechanical or physical damage.
(4) Exposure to abnormal temperatures or corrosive atmospheres.
(b) Manual inspection of extinguishers shall include a check of at least the following items:
(1) Located in designated place.
(2) No obstruction to access or visibility.
(3) Operating instructions on nameplate legible and facing outward.
(4) Safety seals and tamper indicators not broken or missing.
(5) Examine for obvious physical damage, corrosion, leakage or clogged nozzle.
(6) Pressure gauge reading or indicator in the operable range or position.
(7) Fullness determined by weighing or hefting.
(8) For wheeled units, the condition of tires, wheels, carriage, hose, and nozzle shall also be checked.
(9) For non-rechargeable extinguishers using push-to-test pressure indicators, test the indicator.
(c) Electronic monitoring shall include monitoring of the following items:
(1) Located in the designated place.
(2) No obstruction to access or visibility.
(3) Pressure gauge reading or indicator in the operable range or position.

[California Code of Regulations, Title 19, Division 1, §567.1] Operating Conditions.
Portable extinguishers shall be maintained in a fully charged and operable condition, and kept in their designated places at all times when they are not being used.

[California Code of Regulations, Title 19, Division 1, §574.3] Corrective Action.
When an inspection of any extinguisher reveals a deficiency in any of the conditions listed in Title 19, Division 1, Sections 574.2(b)(c), immediate corrective action shall be taken.

[California Code of Regulations, Title 19, Division 1, §574.4] Nonrechargeable Extinguishers.
When an inspection of any nonrechargeable fire extinguisher reveals a deficiency in any of the conditions listed in (3), (4), (5), (6), (7) or (9) of Title 19, Division 1, Section 574.2(b), it shall be discharged and removed from service.
EXCEPTION: Nonrechargeable extinguishers containing a halon agent shall be removed from service, not discharged, and returned to the manufacturer or local fire extinguisher distributor having the capability of recovering the halon agent.

[California Code of Regulations, Title 19, Division 1, §575.10] Out of Service.
Fire extinguishers removed from service for maintenance or recharge shall be replaced by fire extinguishers suitable for the type of hazard protected and shall be of at least equal rating.

[California Code of Regulations, Title 19, Division 1, §591.5] Replacement Extinguishers.
Portable fire extinguishers shall not be removed from the premises for hydrostatic testing or any other purpose, without first replacing the extinguisher with a unit rated for the hazard being protected. The customer's original unit shall be returned within 60 calendar days.

[California Code of Regulations, Title 19, Division 1, §596.7(a) and (b)] Removal of Tag.
(a) No person shall remove any tag, collar or label required by Title 19, Division 1, Chapter 3, Article 9 from a portable fire extinguisher except when service is performed.
(b) No person shall deface, modify, or alter any tag collar or label required by California Code of Regulations, Title 19, Division 1 Chapter 3, Article 9 to be attached to any portable fire extinguisher.

[California Code of Regulations, Title 19, Division 1, §574.5(a) through (c)] Inspection Record Keeping.
(a) The fire extinguisher owner shall maintain records of all fire extinguishers inspected, including those extinguishers that were found to require corrective actions. Records shall be maintained until next required maintenance.
(b) At least monthly, the date the manual inspection was performed and the initials of the person performing the inspection shall be recorded on a tag or label attached to the fire extinguisher, or an inspection checklist maintained

on file, or an electronic system (e.g. bar coding) that provides a permanent record.
(c) Fire extinguishers being inspected via electronic monitoring, whereby the extinguisher causes a signal at a control unit when a deficiency in any of the conditions listed in California Code of Regulations, Title 19, Division 1, Section 574.2(c) occurs shall provide record keeping in the form of an electronic event log at the control panel.

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~~ *in accordance with California Code of Regulations, Title 19, Division 1, Chapter 3.*

906.3 Size and distribution…

[California Code of Regulations, Title 19, Division 1, §567(a) through (k)] Distribution of Fire Extinguishers.
(a) The minimum number of fire extinguishers needed to protect a property shall be determined as outlined in this section. Additional extinguishers may be installed to provide more suitable protection.
(b) Fire extinguishers shall be provided for the protection of both the building structure and the occupancy hazards contained therein.
(c) Required building protection shall be provided by fire extinguishers suitable for Class A fires.
(d) Occupancy hazard protection shall be provided by fire extinguishers suitable for such Class A, B, C, D, or K fire potentials as may be present.
(d) Extinguishers provided for building protection may be considered also for the protection of occupancies having a Class A fire potential.
(f) Buildings having an occupancy hazard subject to Class B and/or Class C fires shall have a standard complement of Class A fire extinguishers for building protection, plus additional Class B and/or Class C extinguishers. Where fire extinguishers have more than one letter classification (such as 2-A:20-B:C), they may be considered to satisfy the requirements of each letter class. When using multi-purpose extinguishers for the protection of Class B hazards, the maximum travel distances described in California Code of Regulations, Title 19, Division 1, Section 568, Table 2 must be observed.
(g) Rooms or areas shall be classified generally as light (low) hazard, ordinary (moderate) hazard, or extra (high) hazard. Limited areas of greater or lesser hazard shall be protected as required.
(h) On each floor level, the area protected and the travel distances shall be based on fire extinguishers installed in accordance with California Code of Regulations, Title 19, Division 1, Section 568, Tables 2 and 3.
(i) Fire extinguishers shall not be obstructed or obscured from view.
EXCEPTION: In large rooms, and in certain locations where visual obstruction cannot be completely avoided, means shall be proved to indicate the fire extinguisher's location.
(j) Fire extinguishers shall be conspicuously located along normal paths of travel where they will be readily accessible and immediately available in the event of a fire.
(k) Where wheeled extinguishers are installed, aisles and doorways through which such extinguishers are to be moved shall have a clear and unobstructed width not less than one foot (1 ft) wider than the overall width of the extinguisher.

[California Code of Regulations, Title 19, Division 1, §568(a) through (e)] Fire Extinguisher Size and Placement for Class A Hazards.
(a) Minimum sizes of fire extinguishers for the listed grades of hazards shall be provided on the basis of Title 19, Division 1, Section 568, Table 2, except as modified by Title 19, Division 1, Section 568(d). Extinguishers shall be located so that the maximum travel distances shall not exceed those specified in California Code of Regulations,Title 19, Division 1, Section 568, Table 2, except as modified by California Code of Regulations, Title 19, Division 1, Section 568(d).
(b) Certain smaller fire extinguishers which are charged with a multipurpose dry chemical or halogenated agent are rated on Class B and Class C fires, but having insufficient effectiveness to earn the minimum 1-A rating even though they have value in extinguishing smaller Class A fires. They shall not be used to meet the requirements of California Code of Regulations, Title 19, Division 1, Section 568, Table 2.

Title 19, Division 1, Section 568, Table 2

	Light (Low) Hazard Occupancy	***Ordinary (Moderate) Hazard Occupancy***	***Extra (High) Hazard Occupancy***

Minimum rated single extinguisher	*2-A*	*2-A*	*4-A**
Maximum floor area per unit of A	*3,000 sq ft*	*1,500 sq ft*	*1,000 sq ft*
Maximum floor area for extinguisher	*11,250 sq ft*	*11,250 sq ft*	*11,250 sq ft*
Maximum travel distance to extinguisher	*75 ft*	*75 ft*	*75 ft*

**Two 2 ½ gal (9.46 L) water type extinguishers can be used to fulfill the requirement of one 4-A rated extinguisher.*
Note: 1 ft =0.305 m
1 sq ft =0.0929m²

(c) Extinguishers as specified in California Code of Regulations, Title 19, Division 1, Section 568, Table 2 may be replaced by uniformly spaced 1 ½ inch (3.810 cm) hose stations for use by the occupants of the building. When hose stations are so provided they shall conform to Part 9, Title 24, California Code of Regulations, Chapter 9. The location of hose stations and the placement of fire extinguishers shall be in such a manner that the hose stations do not replace more than every other extinguisher.
(d) Where the floor area of a building is less than that specified in California Code of Regulations, Title 19, Division 1, Section 568, Table 2, at least one extinguisher of the minimum size recommended shall be provided.
(e) The protection requirements may be fulfilled with extinguishers of a higher rating provided the travel distance from anywhere in the building to such larger extinguishers shall not exceed 75 ft. (22.7m), as shown in California Code of Regulations, Title 19, Division 1, Section 568, Table 2 above.

[California Code of Regulations, Title 19, Division 1, §569(a) through (c)] Fire Extinguisher Size and Placement for Class B Fires Other than for Fires in Flammable Liquids of Appreciable Depth.
(a) Minimum sizes of fire extinguishers for the listed grades of hazard shall be provided on the basis of California Code of Regulations, Title 19, Division 1, Section 569, Table 3. Extinguishers shall be located so that the maximum travel distances from anywhere in the building shall not exceed those specified in the table used.
EXCEPTION: Extinguishers of lesser rating, desired for small specific hazards within the general hazard area, may be used, but shall not be considered as fulfilling any part of the requirements of California Code of Regulations, Title 19, Division 1, Section 569, Table3.

Title 19, Division 1, Section 569, Table 3

Type of Hazard	*Basic Minimum Extinguisher Rating*	*Maximum travel Distance to Extinguishers (in feet)*	*(in meters)*
Light (low)	*5B* *10B*	*30* *50*	*9.15* *15.25*
Ordinary (moderate)	*10B* *20B*	*30* *50*	*9.15* *15.25*
Extra (high)	*40B* *80B*	*30* *50*	*9.15* *15.25*

Note 1: The specified rating does not imply that fires of the magnitudes indicated by these ratings will occur, but rather to give the operators more time and agent to handle difficult spill fires that may occur.
Note 2: For fires involving water soluble flammable liquids see California Code of Regulations, Title 19, Division 1, Section 566(d).
Note 3: For specific hazard applications see California Code of Regulations, Title 19, Division 1, Section 566.

(b) Two or more extinguishers of lower rating shall not be used to fulfill the protection requirements of California Code of Regulations, Title 19, Division 1, Section 569, Table 3.
(c) The protection requirements may be fulfilled with extinguishers of high ratings provided the travel distance to such larger extinguishers shall not exceed 50 ft. (15.25 m) as shown in California Code of Regulations, Title 19, Division 1, Section 569, Table 3.

[California Code of Regulations, Title 19, Division 1, §570(a) through (e)]. Fire Extinguisher Size and Placement for Class B Fires in Flammable Liquids of Appreciable Depth.
(a) Portable fire extinguishers shall not be installed as the sole protection for flammable liquid hazards of appreciable depth [greater than ¼ in. (0.64 cm)] where the surface area exceeds 10 sq. ft. (0.93 m²).
EXCEPTION: Where personnel who are trained in extinguishing fires in the protected hazards are available on the premises, the maximum surface area shall not exceed 20 sq. ft. (1.86 m²).
(b) For flammable liquid hazards of appreciable depth, a Class B fire extinguisher shall be provided on the basis of a t least two numerical units of Class B extinguishing potential per sq ft (0.0929 m²) of flammable liquid surface of the largest hazard area. Fire fires involving cooking grease or water-soluble flammable liquids, see California Code of Regulations, Title 19, Division 1, Section 566 (b) and 566 (d).
EXCEPTION: AFFF or FFFP type extinguishers may be provided on the basis of a 1B rating of protection per sq ft of hazard.
(c) Two or more extinguishers of lower ratings shall not be used in lieu of the extinguisher required for the largest hazard area.
EXCEPTION: Up to three AFFF or FFFP extinguishers may be used to fulfill the requirements provided the sum of the Class B ratings meets or exceeds the value required for the largest hazard area.
(d) Travel distances for portable extinguishers shall not exceed 50 feet (15.25 m) as shown in California Code of Regulations, Title 19, Division 1, Section 569, Table 3.
(e) Scattered or widely separated hazards shall be individually protected. An extinguisher in the proximity of a hazard shall be carefully located to be accessible in the presence of a fire without undue danger to the operator.

[California Code of Regulations, Title 19, Division 1, §571(a)] Fire Extinguisher Size and Placement for Class C Hazards.
(a) Fire extinguishers with Class C ratings shall be required where energized electrical equipment can be encountered which would require a nonconducting extinguishing medium. This requirement includes situations where fire either directly involves or surrounds electrical equipment. Since the fire itself is a Class A or Class B hazard, the fire extinguishers shall be sized and located on the basis of the anticipated Class A or B hazard.
Note: Electrical equipment should be de-energized as soon as possible to prevent reigniting.

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
Maximum distance of travel to extinguisher	75 feet	75 feet	75 feet

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m2, 1 gallon = 3.785 L.
a. Two 21/2-gallon water-type extinguishers shall be deemed the equivalent of one 4-A rated extinguisher.
b. ~~Annex E.3.3 of NFPA10 provides more details~~ *California Code of Regulations, Title 19, Division 1, Chapter 3* 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.

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*~~*California Code of Regulations, Title 19, Division 1, Chapter 3*.

TABLE 906.3(2)
FLAMMABLE OR COMBUSTIBLE LIQUIDS WITH DEPTHS OF LESS THAN OR EQUAL TO 0.25-INCH[a]

TYPE OF HAZARD	BASIC MINIMUM EXTINGUISHER RATING	MAXIMUM TRAVEL DISTANCE 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~~*California Code of Regulations, Title 19, Division 1, Chapter 3*.

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*~~*California Code of Regulations, Title 19, Division 1, Chapter 3*.

906.4 Cooking grease fires...

[California Code of Regulations, Title 19, Division 1, §573(a) through (c)] Fire Extinguisher Size and Placement for Commercial Cooking Operations.
(a) Fire extinguishers with a Class K rating shall be provided for hazards where there is a potential for fires involving combustible cooking media (vegetable or animal oils and fats).
(b)Maximum travel distance shall not exceed 30 feet (9.15) from the hazard to the extinguishers.
(c)Additional fire extinguishers, required for the control of other classes of fires, shall be provided for commercial cooking areas as required by California Code of Regulations, Title 19, Division 1, Section 567.

906.5 Conspicuous location…

[California Code of Regulations, Title 19, Division 1, §567.5] Physical Damage Protection.
Extinguishers installed under conditions where they are subject to physical damage, (e.g., from impact, vibration, the environment) shall be adequately protected.

906.7 Hangers and brackets…

[California Code of Regulations, Title 19, Division 1, §567.3] Installation.
Portable fire extinguishers other than wheeled types shall be securely installed on the hanger or in the bracket supplied or placed in cabinets or wall recesses. The hanger or bracket shall be securely and properly anchored to the mounting surface in accordance with the manufacturer's instructions. Wheeled-type fire extinguishers shall be located in a designated location.

[California Code of Regulations, Title 19, Division 1, §567.4] Brackets.
Extinguishers installed under conditions where they are subject to dislodgement shall be installed in brackets specifically designed to cope with this problem.

[California Code of Regulations, Title 19, Division 1, §567.6] Mounting.
Fire extinguishers having a gross weight not exceeding 40 lbs (18.14kg) shall be installed so that the top of the fire

extinguisher is not more than 5 ft. (1.53m) above the floor. Fire extinguishers having a gross weight greater than 40 lbs. (18.14kg) (except wheeled types) shall be so installed that the top of the fire extinguisher is not more than 3-1/2 ft. (1.07 m) above the floor. In no case shall the clearance between the bottom of the extinguisher and the floor be less than 4 in. (10.2 cm).

906.8 Cabinets…

[California Code of Regulations, Title 19, Division 1, §567.2] Cabinets.
Cabinets housing extinguishers shall not be locked.
EXCEPTION: Where extinguishers are subject to malicious use, locked cabinets may be used provided they include a means of emergency access and are approved by the authority having jurisdiction.

[California Code of Regulations, Title 19, Division 1, §567.7] Sealed Cabinets.
Where extinguishes are installed in closed cabinets, which are exposed to elevated temperatures, the cabinets shall be provided with screened openings and drains.

907.1.2 Fire alarm shop drawings. Shop drawings for fire alarm systems shall be 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:

1. A floor plan that indicates the use of all rooms.
2. Locations of alarm-initiating devices.
3. Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.
4. Design minimum audibility level for occupant notification.
5. Location of fire alarm control unit, transponders and notification power supplies.
6. Annunciators.
7. Power connection.
8. Battery calculations.
9. Conductor type and sizes.
10. Voltage drop calculations.
11. Manufacturers' data sheets indicating model numbers and listing information for equipment, devices and materials.
12. Details of ceiling height and construction.
13. The interface of fire safety control functions.
14. Classification of the supervising station.

~~14~~15. All plans and shop drawings shall use the symbols identified in NFPA 170, Standard for Fire Safety and Emergency Symbols.

Exception: *Other symbols are allowed where approved by the enforcing agency*

907.1.3 Equipment. Systems and components shall be *California State Fire Marshal* listed and approved *in accordance with California Code of Regulations, Title 19, Division 1* for the purpose for which they are installed.

907.1.4 Fire-walls and Fire barrier walls. *For the purpose of Section 907 fire walls and fire barrier walls shall not define separate buildings.*

907.1.5 Fire alarm use *A fire alarm system shall not be used for any purpose other than fire warning or mass notification and where permitted by NFPA 72.*

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 907.6, 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 fire alarm boxes due to sprinklers, *or automatic fire alarm systems* a single fire alarm box shall be installed *at a location approved by the enforcing agency*.

Exceptions:
1. The manual fire alarm box is not required for fire alarm ~~systems~~ *control units* dedicated to elevator recall control, ~~and~~ supervisory service *and fire sprinkler monitoring*.
2. The manual fire alarm box is not required for Group R-2 occupancies unless required by the fire code official to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. Where provided, the manual fire alarm box shall not be located in an area that is accessible to the public.
3. The manual fire alarm box is not required to be installed when approved by the fire code official.

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. Group A occupancies not separated from one another in accordance with Section 707.3.10 of the ~~International~~*California* 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 *with an occupant load of less than 1000* shall be provided with a fire alarm system as required for the Group E occupancy.

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.

Every Group A building used for educational purposes shall be provided with a manual or automatic fire alarm system. This provision shall apply to, but shall not necessarily be limited to, every community college and university.

Exception: *Privately owned trade or vocational schools or any firm or company which provides educational facilities and instructions for its employees.*

907.2.1.1 System initiation in Group A occupancies with an occupant load of 1,000 or more. Activation of the fire alarm in Group A occupancies with an occupant load of 1,000 or more shall initiate a signal using an emergency voice/alarm communications system in accordance with 907.5.2.2. *Group A occupancies with an occupant load of 10,000 or more, see Section 907.2.1.3.*

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.

907.2.1.3 Public address system. *Pursuant to Health and Safety Code Section 13108.9, for all buildings or structures constructed on or after July 1, 1991, which are intended for public assemblies of 10,000 or more persons a public address system with an emergency backup power system shall be required.*

907.2.2 Group B. A manual fire alarm system 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.
4. Group B occupancies containing educational facilities, see Section 907.2.2.2.

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.

907.2.2.2 Group B Educational facilities. *Every Group B building used for educational purposesshall be provided with a manual or automatic fire alarm system. This provision shall apply to, but shall not necessarily be limited to, every community college and university.*

Exception: *Privately owned trade or vocational schools or any firm or company which provides educational facilities and instructions for its employees.*

907.2.3 Group E. A manual *and automatic* 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 *with an occupant load of 50 or more*

persons or containing more than one classroom or one or more rooms used for Group E or I-4 day care purposes in accordance with this section. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:
~~1. A manual fire alarm system is not required in Group E occupancies with an occupant load of 50 or less.~~
~~2.~~*1.* 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~~*2*. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
~~3.1~~*2.1*. Interior corridors are protected by smoke detectors.
~~3.2~~*2.2*. Auditoriums, cafeterias, gymnasiums and similar areas are protected by heat detectors or other approved detection devices.
~~3.3~~*2.3*. Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.
~~4~~*3*. Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:
~~4.1~~*3.1*. The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.
~~4.2~~*3.2*. The emergency voice/alarm communication system will activate on sprinkler water flow.
~~4.3~~*3.3*. Manual activation is provided from a normally occupied location.
~~4.4~~*3.4. The capability to activate the evacuation signal from a central point is provided*.
~~3~~*4. For public school state funded construction projects see Section 907.2.29.*

907.2.3.1 System connection. *Where more than one fire alarm control unit is used at the school campus, they shall be interconnected and shall operate all notification appliances.*

Exception: *Interconnection of fire alarm control units is not required when all the following are provided:*

1. Buildings that are separated a minimum of 20 feet (6096 mm) and in accordance with the California Building Code; and
2. There is a method of two way communication between each classroom and the school administrative office approved by the fire enforcing agency; and
3. A method of manual activation of each fire alarm system is provided.

907.2.3.2 Assemblies located within a Group E occupancy. *Assembly occupancies with an occupant load of less than 1,000 and located within a Group E occupancy campus or building shall be provided with a fire alarm system as required for the Group E occupancy.*

907.2.3.3 Notification. *The fire alarm system notification shall comply with the requirements of Section 907.5.*

907.2.3.4 Annunciation. *Annunciation of the fire alarm system shall comply with the requirements of Section ~~907.6.3.1~~907.6.4.1.*

907.2.3.5 Monitoring. *School fire alarm systems shall be monitored in accordance with Section 907.6.5.3.*

907.2.3.6 Automatic fire alarm system. *Automatic detection shall be provided in accordance with this section.*

907.2.3.6.1 Smoke detectors. *Smoke detectors shall be installed at the ceiling of every room and in "ceiling-plenums" utilized for environmental air. Where the ceiling is attached directly to the underside of the roof structure, smoke detectors shall be installed on the ceiling only.*

Exception: *Where the environment or ambient conditions exceed smoke detector installation guidelines; heat detectors or fire sprinklers shall be used.*

907.2.3.6.2 Heat detectors. *Heat detectors shall be installed in combustible spaces where sprinklers or smoke detectors are not installed.*

907.2.3.7 Private schools. *An automatic fire alarm system shall be provided in new buildings of private schools.*

Exception: *Automatic detection devices are not required where an approved automatic sprinkler system is installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate on sprinkler water flow and manual activation is provided from a normally occupied location.*

907.2.3.8 Day-care, Group E.

907.2.3.8.1 *An automatic fire alarm system shall be provided in all buildings used as or containing a Group E day-care.*

Exception: *Automatic detection devices are not required where an approved automatic sprinkler system is installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate on sprinkler water flow and manual activation is provided from a normally occupied location.*

907.2.3.8.2 *Smoke detectors shall be installed in every room used for sleeping or napping.*

907.2.5.1 Group H occupancies located above the 10th story. *Manual fire alarm boxes shall be required on each side of the 2-hour fire-smoke barrier and at each exit above the 10th story.*

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 such stations are visible and continuously accessible and that the distances of travel required in Section 907.4.2.1 are not exceeded.~~
1. *Large family day care.*
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 staff evacuation responsibilities are included in the fire safety and evacuation plan required by Section 404.

907.2.6.1 Group I-1. *Reserved.* ~~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 and *Group I-2.1.* ~~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 International 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 International 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.~~
~~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.~~

A manual and automatic fire alarm system shall be installed in Group I-2 and I-2.1 occupancies. Where automatic fire suppression systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exception: *Where an entire facility is used for the housing of persons, none of whom are physically or mentally handicapped or non-ambulatory, and are between the ages of 18 and 64, the buildings or structures comprising such facility shall be exempt from the provisions of this subsection relating to the installation of an automatic fire alarm system.*

907.2.6.2.1 ***Notification.*** *The fire alarm notification system shall be in accordance with Section 907.5.2.5.*

907.2.6.2.2 Automatic fire detection. *Smoke detectors shall be provided in accordance with this section.*

1. In patient and client sleeping rooms. Actuation of such detectors shall cause a visual display on the corridor side of the room in which the detector is located and shall cause an audible and visual alarm at the respective nurses' station. A nurse call system listed for this function is an acceptable means of providing the audible and visual alarm at the respective nurses' station and corridor room display. Operation of the smoke detector shall not include any alarm verification feature.

Exception: *In patient and client rooms equipped with existing automatic door closers having integral smoke detector, the integral detector is allowed to substitute for the room smoke detector, provided it meets all the required alerting functions.*

2. Group I-2 nurses' stations. A minimum of one (1) smoke detector shall be installed at the nurses' station and centrally located.
3. In waiting areas and corridors onto which they open, in the same smoke compartment, in accordance with Section 407.2.1 of the California Building Code.

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.

Exception: *An automatic smoke detection system is not required within temporary holding cells.*

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 to ~~residents~~*inmates*.

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 necessary to prevent damage or tampering.~~ ~~*arrangements*~~ *may be used to prevent damage or tampering or for other purposes provided the function of detecting any fire is fulfilled and the location of the detectors is such that the speed of detection will be equivalent to that provided by the spacing and location required in accordance with NFPA 72 as referenced in Chapter 80. This may include the location of detectors in return air ducts from cells, behind grilles or in other locations. Spot type, combination duct and open area smoke detectors may be used when located not more than 14 inches (356mm) from the return air grill. For initiation and annunciation purposes, these detectors may be combined in groups of four. The fire code official having jurisdiction, however, must approve the proposed equivalent performance of the design.*
~~2. Sleeping units in Use Conditions 2 and 3 as described in Section 308 of the International 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.~~
2. For detention housing and/or mental health housing area(s), including correctional medical and mental health uses, automatic smoke detection system in sleeping units shall not be required when all of the following conditions are met:

2.1. All rooms, including the inmate cells are provided with an automatic sprinkler system in accordance with Section 903.3.1.1.
2.2. Building is continuously staffed by a correctional officer at all times.
~~*2.3. The exception to Section 903.2.6.2 shall not apply.*~~

3. Smoke detectors are not required to be installed in inmate cells with 2 or fewer occupants in detention facilities which do not have a correctional medical and mental health use.
4. Smoke detectors are not required to be installed in inmate day rooms of detention facilities where 24 hour direct visual supervision is provided by a correctional officer(s) and a manual fire alarm box is located in the control room.

907.2.6.3.4 System annunciation *A staff alerting fire alarm shall sound at all staff control stations on the floor of activation and an audible and visual signal shall be indicated on an annunciator at the facility control center upon activation of any automatic extinguishing system, automatic detection system, or any smoke detector or manual actuating or initiating device. In addition, where there are staff-control stations on the floor, an audible, visual and manual alarm shall be located in each staff control station.*

Fire and trouble signals of fire alarm systems and sprinkler water-flow and supervisory signals of extinguishing systems shall be annunciated in an area designated as the facility control center which shall be constantly attended by staff personnel. All such signals shall produce both an audible signal and visual display at the facility control center indicating the building, floor zone or other designated area from which the signal originated in accordance with Section ~~907.6.3~~907.6.4.

All local detention facilities within the scope of Section 6031.4 of the Penal Code shall have an automatic smoke detection system. A manual fire alarm-initiating device shall be installed in all guard control stations and shall be capable of alerting personnel in a central control point to the presence of fire or smoke within the facility.

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.

Exceptions:
1. A manual fire alarm system is not required in covered or open mall buildings complying with Section 402 of the ~~International~~*California* 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.

907.2.9 Group R-2 *and R-2.1*. Fire alarm systems and smoke alarms shall be installed in Group R-2 *and R-2.1* occupancies as required in Sections 907.2.9.1 and ~~*907.2.9.3*~~*907.2.9.4*.

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.
4. Congregate residences with more than 16 occupants.

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 waterflow.
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.

907.2.9.4 Licensed Group R-2.1 occupancies*. Licensed Group R-2.1 occupancies housing more than six non-ambulatory, elderly clients shall be provided with an approved manual and automatic fire alarm system.*

Exceptions: *Buildings housing non-ambulatory clients on the first story only and which are protected throughout by the following:*
1. An approved and supervised automatic sprinkler system, as specified in Sections 903.3.1.1 or 903.3.1.2, which upon activation will initiate the fire alarm system to notify all occupants.
2. A manual fire alarm system.
3. Smoke alarms required by Section 907.2.11.

907.2.9.4.1 Smoke alarms. *Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.11.*

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 and NFPA 72.

Exception: *For Group R occupancies. A fire alarm system with smoke detectors located in accordance with this section may be installed in lieu of smoke alarms. Upon actuation of the detector, only those notification appliances in the dwelling unit or guest room where the detector is actuated shall activate.*

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.

See Section 907.2.11.4 for specific location requirements.

907.2.11.2 Groups R-2, *R-2.1,* R-3, *R-3.1*~~,~~ *and* R-4 ~~and I-1~~. Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, *R-2.1,* R-3, *R-3.1*~~,~~ *and* 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.
2. In each room used for sleeping purposes.

[Editorial Note: Remove 2013 CFC amendment to exception. The exception has been deleted in model code.]
~~**Exception:** Single- or multiple-station smoke alarms in Group I-1 *R-2.1*shall not be required where smoke detectors are provided in the sleeping rooms as part of an automatic smoke detection system.~~

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.
4. In a Group R-3.1 occupancies, in addition to the above, smoke alarms shall be provided throughout the habitable areas of the dwelling unit except kitchens.

See Section 907.2.11.4 for specific location requirements.

907.2.11.2.1 Group I-4 Occupancies. *Large family day-care homes shall be equipped with State Fire Marshal approved and listed single station residential type smoke alarms. .*

907.2.11.2.2 Group R-3.1 *In all facilities housing a bedridden client, smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall be electrically interconnected so as to cause all smoke alarms to sound a distinctive alarm signal upon actuation of any single smoke alarm. Such alarm signal shall be audible throughout the facility at a*

minimal level of 15 db above ambient noise level. These devices need not be interconnected to any other fire alarm device, have a control panel, or be electrically supervised or provided with emergency power.

907.2.11.2.3 Smoke alarms. *Smoke alarms shall be tested and maintained in accordance with the manufacturer's instructions. Smoke alarms that no longer function shall be replaced.*

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 *and in newly classified Group R-3.1 Occupancies,* 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. 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.

~~907.2.11.5~~907.2.11.8 Specific location requirements.
Extract from NFPA 72 Section 29.8.3.4 Specific Location Requirements.*
This extract has been provided by NFPA as amended by the Office of the State Fire Marshal and adopted by reference as follows:

29.8.3.4 Specific Location Requirements. The installation of smoke alarms and smoke detectors shall comply with the following requirements:

(1) Smoke alarms and smoke detectors shall not be located where ambient conditions, including humidity and temperature, are outside the limits specified by the manufacturer's published instructions.
(2) Smoke alarms and smoke detectors shall not be located within unfinished attics or garages or in other spaces where temperatures can fall below 40ºF (4ºC) or exceed 100ºF (38ºC).
(3) Where the mounting surface could become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, smoke alarms and smoke detectors shall be mounted on an inside wall.
(4) Smoke alarms or smoke detectors shall be installed a minimum of 20 feet horizontal distance from a permanently installed cooking appliance.
Exception:
Ionization smoke alarms with an alarm-silencing switch or Photoelectric smoke alarms shall be permitted to be installed 10 feet (3 m) or greater from a permanently installed cooking appliance.
Photoelectric smoke alarms shall be permitted to be installed greater than 6 feet (1.8 m) from a permanently installed cooking appliance where the kitchen or cooking area and adjacent spaces have no clear interior partitions and the 10 ft distances would prohibit the placement of a smoke alarm or smoke detector required by other sections of the code.
Smoke alarms listed for use in close proximity to a permanently installed cooking appliance.

(5) Installation near bathrooms. Smoke alarms shall be installed not less than a 3 foot (0.91 m) horizontal distance 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 other sections of the code.
(6) Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from the supply registers of a forced air heating or cooling system and shall be installed outside of the direct airflow from those registers.
(7) Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from the tip of the blade of a ceiling-suspended (paddle) fan.
(8) Where stairs lead to other occupied levels, a smoke alarm or smoke detector shall be located so that smoke rising in the stairway cannot be prevented from reaching the smoke alarm or smoke detector by an intervening door or obstruction.

(9) For stairways leading up from a basement, smoke alarms or smoke detectors shall be located on the basement ceiling near the entry to the stairs.
(10) For tray-shaped ceilings (coffered ceilings), smoke alarms and smoke detectors shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 in. (300 mm) vertically down from the highest point.
(11) Smoke alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.7.3.2.4.
(12) Heat alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.6.3.

For additional requirements or clarification see NFPA 72.

907.2.13 High-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*. ~~*High-rise*~~ High-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* 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 and Section 412 of the ~~*International*~~*California* Building Code.
2. Open parking garages in accordance with Section 406.5 of the ~~International~~*California* Building Code.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the ~~International~~*California* Building Code.
4. Low-hazard special occupancies in accordance with Section 503.1.1 of the ~~International~~*California* Building Code*.*
~~5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415 of the *International California Building Code*.~~
~~6~~5. In Group ~~I-1 and~~ I-2, *I-2.1 and R-2.1* 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 *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* shall be in accordance with Sections 907.2.13.1.1 and 907.2.13.1.2.

907.2.13.1.2 Duct smoke detection. *Smoke detectors listed for use in air duct systems shall be provided in accordance with this section and the California Mechanical Code. The activation of any detector required by this section shall initiate a visible and audible supervisory signal at a constantly attended location.* Duct smoke detectors complying with Section 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 m3/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 m3/s) and serving not more than 10 air-inlet openings.

907.2.18 Underground buildings with smoke control systems. Where a smoke control system is installed in an underground building in accordance with the ~~International~~*California* Building Code*,* automatic smoke detectors shall be provided in accordance with Section 907.2.18.1.

907.2.21 Residential aircraft hangars. Not fewer than one single-station listed smoke alarm shall be installed within a residential aircraft hangar as defined in Chapter 2 of the ~~*International*~~*California 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.

907.2.24 Motion Picture and Television Production Studio Sound Stages and Approved Production Facilities

907.2.24.1 Sound Stages -Solid-ceiling Sets and Platforms. *Where required by Chapter 48, all interior solid-ceiling sets over 600 square feet (55.7 m^2) in area, and platforms (when provided) over 600 square feet (55.7 m^2) in area*

and which exceed 3 feet (914 mm) in height shall be protected by an approved heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. The fire alarm system shall be connected to an approved supervising station in accordance with Section 907.6.5 or a local alarm which will give an audible signal at a constantly attended location.

907.2.24.2 Production locations—solid-ceiling sets and platforms. *Where required by Chapter 48 of the California Fire Code in buildings with existing fire protection systems and where production intends to construct solid-ceiling sets over 600 square feet (55.7 m2) in area, and platforms over 600 square feet (55.7 m2) in area and which exceed 3 feet (914 mm) in height shall be protected by an approved heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. The fire alarm system shall be connected to an approved supervising station in accordance with Section ~~907.6.5~~907.6.6 or a local alarm which will give an audible signal at a constantly attended location.*

907.2.24.3 Fire alarm control units. *Fire alarm control units shall be California State Fire Marshal listed and shall be utilized in accordance with their listing. Control units are permitted to be temporarily supported by sets, platforms or pedestals.*

907.2.24.4 Heat Detectors.

907.2.24.4.1 *Heat detection required by this section shall be defined as a portable system as it is intended to be reinstalled when platforms or sets are changed.*

907.2.24.4.2 *Heat detectors shall be secured to standard outlet boxes and are allowed to be temporarily supported by sets, platforms or pedestals.*

907.2.24.4.3 *Heat detectors shall be provided for solid-ceiling sets and platforms where required by Section 4805.3 and 4811.14.*

907.2.25 Group C Occupancies (Organized Camps).

907.2.25.1 General. *Every building and structure used or intended for sleeping purposes shall be provided with an automatic smoke-detection system.*

Exception:
1. Buildings and structures in existence and in operation prior to January 1, 1985.
2. Tents, tent structures and buildings and structures that do not exceed 25 ft (7620mm) in any lateral dimensions and where such building or structure is not more than one story.

907.2.25.2 Camp Fire Alarm. *Every organized camp shall provide and maintain audible appliances, or devices suitable for sounding a fire alarm. Such audible appliances or devices may be of any type acceptable to the enforcing agency provided they are distinctive in tone from all other signaling devices or systems and shall be audible throughout the camp premises. When an automatic fire alarm system is provided, as required by Section ~~440.6.6~~450.6.6 of the California Building Code, all audible appliances required by this section shall be of the same type as that used in the automatic system.*

[California Code of Regulations, Title 19, Division 1, §3.12] Fire Alarm.
Every organized camp shall provide and maintain an audible appliance or audible appliances suitable for sounding a fire alarm. Such audible appliance or audible appliances may be of any type acceptable to the enforcing agency provided they are distinctive in tone from all other signaling devices or systems and shall be audible throughout the camp premises.
When an automatic fire alarm system is provided, all audible appliances and fire alarm signals as required by this section shall be of the same type as that used in the automatic system.

907.2.26.1 General. *Every fixed guideway transit station shall be provided with an approved emergency voice/alarm communication system in accordance with NFPA 72. The emergency voice/alarm communication system, designed and installed so that damage to any one speaker will not render any paging zone of the system inoperative.*

Exception: *Open stations*

907.2.26.2 System components. *Each station fire alarm system shall consist of:*

1. Fire alarm control unit at a location as permitted by the enforcing agency.
2. An alarm annunciator(s). The annunciator(s) shall be located at a point acceptable to the enforcing agency. The annunciator(s) shall indicate the type of device and general location of alarm. All alarm, supervisory and trouble signals shall be transmitted to the local annunciator(s) and the operations control center.
3. Manual fire alarm boxes shall be provided throughout passenger platforms and stations.

Exception: *Two-way emergency communication reporting devices (emergency telephones) are allowed to be used in lieu of manual fire alarm boxes as permitted by the enforcing agency. Such devices shall provide two-way communication between the operations control center and each device. Such devices shall be located as required for manual fire alarm boxes, and shall be distinctly identified by signs, coloring or other means acceptable to the enforcing agency.*

4. Automatic smoke detectors in all ancillary spaces.

Exceptions:
1. Ancillary spaces protected by an approved fixed automatic extinguishing system; or
2. Ancillary spaces protected by quickresponse sprinklers.
5. Automatic control of exiting components.

907.2.26.3 Emergency voice/alarm communication system. *Each station shall be provided with a an emergency voice/alarm communication system capable of transmitting voice , recorded or electronically generated textual messages to all areas of the station. The system(s) shall be configured such that the messages can be initiated from either the Emergency Management Panel (EMP) or the operations control center.*

907.2.26.4 Emergency telephones. *A dedicated two-way emergency communication phone system designed and installed in accordance with NFPA 72 shall be provided in all underground stations to facilitate direct communications for emergency response between remote locations and the EMP.*

907.2.26.4.1 *Remote emergency phones shall be located at ends of station platforms, each hose outlet connection and station valve rooms.*

907.2.26.4.2 *Provisions shall be made in the design of this two-way emergency communication phone system for extensions of the system to the next passenger station or guideway portal.*

907.2.27 Winery Caves. *An approved manual fire alarm system conforming to the provisions of Section 907.2.1 shall be provided in all Type 3 winery caves.*

907.2.28 Group L. *A manual fire alarm system shall be installed throughout buildings containing Group L occupancy. When Group L occupancies are located in mixed use buildings, at least one manual fire alarm shall be located in the Group L occupancy.*

907.2.28.1 Group L occupancies located above the 10 story. *Manual fire alarm boxes shall be required on each side of the 2 hour fire-smoke barrier and at each exit above the 10th story.*

907.2.29 Public school state funded construction projects for kindergarten through 12th grade — automatic fire alarm system requirements.

907.2.29.1 New public school campus. *An automatic fire alarm system shall be provided in all occupancies that activates the occupant notification system 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. The provisions of this section shall apply to any public school project consisting of one or more buildings on a new school campus and receiving state funds pursuant to Leroy F. Greene School Facilities Act of 1998, California Education Code sections 17070.10 through 17079. For purposes of this section, new campus refers to a school site, where an application for construction of original buildings was made to DSA on or after July 1, 2002.*

Exceptions:

1. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. Also see CCR, Title 24, Part 1, California Administrative Code, Section 4-314 for definition of relocatable building.
2. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

Concession Stand
Press Box
Restroom Facilities
Shade Structure
Snack Bar
Storage Building
Ticket Booth

3. 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.

907.2.29.2 New building on an existing public school campus. *An automatic fire alarm system shall be provided in all occupancies. The provisions of this section shall apply to any public school project construction of a new building on an existing campus and receiving state funds pursuant to Leroy F. Green, School Facilities Act of 1998, California Education Code sections 17070.10 through 17079. For purposes of this section, an existing campus refers to a school site, where an application for construction of original buildings was made to DSA prior to July 1, 2002.*

Exceptions:
1. A construction project that has an estimated total cost of less than $200,000.
2. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. See California Administrative Code, Section 4-314 for definition of relocatable building.
3. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

Concession Stand
Press Box
Restroom Facilities
Shade Structure
Snack Bar
Storage Building
Ticket Booth

907.2.29.3 Alterations to existing buildings on an existing public school campus. *An automatic fire alarm system shall be provided for all portions within the scope of an alteration project. The provisions of this section shall apply to any public school project on an existing campus and receiving state funds pursuant to Leroy F. Green, School Facilities Act of 1998, California Education Code sections 17070.10 through 17079. For purposes of this section, an existing campus refers to a school site, where an application for construction of original buildings was made to DSA prior to July 1, 2002.*

Exceptions:
1. A construction project that has an estimated total cost of less than $200,000.
2. A relocatable building that is sited with the intent that it be at the site for less than three years and is sited upon a temporary foundation in a manner that is designed to permit easy removal. See California Administrative Code, Section 4-314 for definition of relocatable building.
3. Detached buildings designed and used for non-instructional purposes that meet the applicable requirements for that occupancy. Buildings would include, but not be limited to:

Storage Building
Ticket Booth
Concession Stand

Snack Bar
Restroom Facilities
Shade Structure
Press Box

907.2.29.4 Day-care, Group E or Group I-4 located on a public school campus*. An automatic fire alarm system shall be provided in all buildings used as or containing a Group E or Group I-4 day-care.*

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~~ *installed*. Detectors shall, upon actuation, perform the intended function and activate the alarm notification appliances or 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 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 ~~International~~*California* 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. Where delayed egress locks or *devices* are installed on means of egress doors in accordance with Section 1010.1.9.7, an automatic smoke ~~or heat~~ detection system shall be installed as required by ~~that~~*this* section *and Section* ~~*1008.1.9.7*~~*1010.1.9.7*.

907.3.2.1 *In other than Group I, R-2.1 and Group R-4, occupancies for single-story buildings smoke detectors shall be installed at ceilings throughout all occupied areas and mechanical/electrical spaces. For multiple-story buildings smoke detectors shall be installed throughout all occupied areas and mechanical/electrical spaces for the story where delayed egress devices are installed. Additional detectors are required on adjacent stories where occupants of those stories utilize the same means of egress.*

Exception: *Refer to 907.3.2.4 for Group A courthouse occupancies.*

907.3.2.2 For Group I and R-2.1 Occupancies. *Smoke detectors shall be installed at ceilings throughout all occupied areas and mechanical/electrical spaces of smoke-compartments where delayed egress devices are installed. Additional detectors are required in adjacent smoke-compartments where occupants of those compartments utilize the same means of egress.*

907.3.2.3 For Group R-4 *Occupancies licensed as residential care facilities for the elderly, and housing clients with Alzheimer's disease or dementia residential facilities, smoke detectors shall be installed at ceilings throughout all occupiable rooms and areas and mechanical/electrical rooms and spaces.*

907.3.2.4 For Group A Courthouse occupancies. *Approved automatic smoke detection system shall be installed at ceilings in all occupied corridors and mechanical/electrical spaces of smoke-compartments where delayed egress devices are installed.*

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~~*California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders* and NFPA 72.

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.

Exceptions: Where ambient conditions prohibit installation of smoke detector, a heat detector~~*heat detector*~~ shall be permitted.

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 travel distance to the nearest box does not exceed 200 feet (60 960 mm).

Exception: *When individual dwelling units are served by a single exit stairway, additional boxes at other than the ground floor may be omitted.*

907.4.2.2 Height. The height of the manual fire alarm boxes shall not less than 42 inches (1067 mm) and not more than 48 inches (~~1372~~*1219* mm) measured vertically, from the floor level to the activating handle or lever of the box. *Manual fire alarm boxes shall also comply with Section 11B309.4 of the California Building Code.*

Exception: [DSA-AC] *In existing buildings there is no requirement to retroactively relocate existing manual fire alarm boxes to a minimum of 42 inches (1067 mm) and a maximum of 48 inches (1219 mm) from the floor level to the activating handle or lever of the box.*

907.4.2.7 Operation. *Manual fire alarm boxes shall be operable with one hand including boxes with protective covers.*

907.5.2.1.3 Audible Alarm Signal. *The audible signal shall be the standard fire alarm evacuation signal, ANSI S3.41 Audible Emergency Evacuation Signal, "three pulse temporal pattern", as described in NFPA 72.*

Exception: *The use of the existing evacuation signaling scheme shall be permitted where approved by the enforcing agency.*

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 *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*, 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*, I-2.1 and R-2.1* occupancies, the alarm shall sound in a constantly attended area and a general occupant notification shall be broadcast over the overhead page.

907.5.2.3.1 Public use areas and common use~~*use*~~ areas. Visible alarm notification appliances shall be provided in public *use* areas and common *use* areas *,including but not limited to:*~~.~~

~~*4*~~*1. Band rooms*
~~*11*~~*2. Classrooms*
~~*2*~~*3. Corridors*
~~*5*~~*4. Gymnasiums*
~~*9*~~*5. Lobbies*
~~*10*~~*6. Meeting rooms*
~~*6*~~*7. Multipurpose rooms*

~~3~~8. Music practice rooms
~~7~~9. Occupational shops
~~8~~10. Occupied rooms where ambient noise impairs hearing of the fire alarm
11. Sanitary facilities including restrooms, bathrooms and shower rooms

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-percent 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 *and R-2.1*. Group ~~I-1 and~~ R-1 *and R-2.1* dwelling units or sleeping units in accordance with Table 907.5.2.3.2 shall be provided with a visible alarm notification appliance, activated by both the in-room smoke alarm and the building fire alarm system.

TABLE 907.5.2.3.2
VISIBLE AND AUDIBLE ALARMS

NUMBER OF SLEEPING UNITS	SLEEPING ACCOMODATIONS WITH VISIBLE ALARMS
6 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

[SFM] Also see Chapter 11B of the California Building Code.

907.5.2.3.3 Group R-2. In Group R-2 occupancies required by Section 907 to have a fire alarm system, all dwelling units and sleeping units shall be provided with the capability to support visible alarm notification appliances in accordance with ~~Chapter 10 of ICC A117.1~~*NFPA 72*. Such capability shall be permitted to include the potential for future interconnection of the building fire alarm system with the unit smoke alarms, replacement of audible appliances with combination audible/visible appliances, or future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances.

~~907.5.2.3.5~~907.5.2.3.4 Group R-2.1, R-3.1 and R-4. *Protective social care facilities which house persons who are hearing impaired, shall be provided with notification appliances for the hearing impaired installed in accordance with NFPA 72 and which shall activated upon initiation of the fire alarm system or the smoke alarms.*

907.5.2.4 Group E Schools. *One audible alarm notification appliance shall be mounted on the exterior of a buildings to alert occupants at each playground area.*

907.5.2.5 Groups I-2 and I-2.1. *Audible appliances shall be used in non-patient areas. Visible appliances are allowed to be used in lieu of audible appliances in patient occupied areas. Audible appliances located in patient areas shall be only chimes or similar sounding appliances for alerting staff.*

In occupancies housing non-ambulatory persons where restraint is practiced, staff and attendants shall be provided and housed or located in such a manner that such supervisory personnel will also be alerted upon activation of the fire alarm system or any detector required by this section.

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~~*907.6.6.3* and NFPA 72.

907.6.1 Wiring. Wiring shall comply with the requirements of *the* ~~NFPA 70~~*California Electrical Code* 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.

907.6.1.1 High-rise Buildings. *Wiring for fire alarm signaling line circuits, initiating circuits, and notification circuits in high-rise buildings shall be in accordance with the following:*

1. Class A in accordance with NFPA 72.

Exception: *Initiating circuits which serve only a single initiating device.*

2. Enclosed in continuous metallic raceways in accordance with the California Electrical Code.

Exception: *Metallic cable (MC) shall be permitted for fire alarm notification circuits where continuous metallic raceways are not required for survivability.*

907.6.4 Zones. *Fire alarm systems shall be divided into zones where required by this section. For the purposes of annunciation and notification, zoning shall be in accordance with the following:*

1. Where the fire-protective signaling system serves more than one building, each building shall be considered as a separate zone.
2. Each floor of a building shall be considered as a separate zone.
3. Each section of floor of a building that is separated by fire walls or by horizontal exits shall be considered as a separate zone.
4. Each ~~floor shall be zoned separately and a~~ zone shall not exceed 22,500 square feet (2090 m2). 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.

5.. For Group I-3 Occupancies each cell complex shall be considered a separate zone.
6. For Group H and L occupancies above the 10th story, each side of the 2 hour fire-smoke barrier shall be considered a separate zone.
7. Annunciation shall be further divided into zones where deemed necessary by the enforcing agency.

~~907.6.3.1~~907.6.4.1 Annunciation. *Alarm, supervisory and trouble signals shall be annunciated in the main control unit by means of an audible signal and a visual display in accordance with NFPA 72. Identification of the type of alarm and supervisory initiating devices, such as manual, automatic, sprinkler waterflow, sprinkler valve supervisory, fire-pump supervisory, etc., shall be separately indicated.*

Exception: *Group R-3 Occupancies.*

~~907.6.4.1~~*907.6.4.1.1* ~~Zoning indicator~~ *Annunciator* Panel. A ~~zoning indicator~~ *annunciator* panel *complying with ~~907.6.3.1~~907.6.4.1* and the associated controls shall be provided in an approved~~*approved*~~ *remote* location~~*location*~~ *where deemed necessary by the Enforcing Agency*. 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 ~~with a floor used for human occupancy that is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle building access~~ *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*, 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.
4. Other approved types of automatic fire detection-devices or suppression systems.

~~**907.6.3.3**~~**907.6.4.3** ***High-Rise Buildings Zoning Annunciator Panel.*** *In high-rise buildings, a zoning annunciator panel shall be provided in the Fire Command Center. This panel shall not be combined with the Firefighter Smoke Control Panel unless approved. Panel shall be in matrix format or an approved equivalent configuration. All indicators shall be based upon positive confirmation. The panel shall include the following features at a minimum:*

1. Fire alarm initiating devices with individual annunciation per floor for manual fire alarm boxes, area smoke detectors, elevator lobby smoke detectors, duct smoke detectors, heat detectors, auxiliary alarms, and sprinkler waterflow. (Red LED)
2. Sprinkler and standpipe system control valves per floor - supervisory. (Yellow LED)
3. Common fire alarm system trouble. (Yellow LED)
4. Annunciation Panel Power On. (Green LED)
5. Lamp test. (Push Button)

~~**907.6.3.4**~~**907.6.4.4** ***Notification Zoning.*** *Upon activation of initiating devices where occupant notification is required for evacuation, all notification zones shall operate simultaneously throughout the building.*

Exceptions:
1. High-rise buildings as permitted in Section 907.2.13.
2. Hospitals and convalescent facilities with staff alerting notification appliances or emergency voice/alarm communication, zoning shall be in accordance with the approved fire plan.
3. Detention facilities
4. Upon approval by the fire code official in buildings which are sprinklered throughout, specific notification zoning shall be permitted where the notification zones are separated by a minimum of a 2 hour fire barrier and 2 hour fire-resistive floor assembly. The system shall have the capability to activate all other notification zones by automatic and manual means.
5. Upon approval by the fire code official in buildings which are sprinklered throughout, specific notification zoning shall be permitted where the activated initiating device or fire extinguishing system is separated from any non-active notification zones by a minimum of 300 ft horizontal distance. The system shall have the capability to activate all other notification zones by automatic and manual means.
6. Where a Group H or L occupancy is located above the 10th story, each side of the 2 hr fire-smoke barrier shall be considered a separate zone.

907.6.6 Monitoring. Fire alarm systems required by this chapter or by the ~~International~~*California* Building Code shall be monitored by an approved supervising station in accordance with NFPA 72 *and this section.*

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 *shall be monitored in accordance with Section 907.2.6.3.*
3. Automatic sprinkler systems in one- and two-family dwellings.

~~***907.6.5.3***~~***907.6.6.3*** ***Group E schools.*** *Fire alarm systems shall transmit the alarm, supervisory and trouble signals to an approved supervising station in accordance with NFPA 72. The supervising station shall be listed as either UUFX (Central Station) or UUJS (remote & proprietary) by the Underwriters Laboratory Inc. (UL) or other approved listing and testing laboratory or shall comply with the requirements of standard, FM 3011.*

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 ~~International~~*California* 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 provisions found in Section 910. Mechanical smoke control systems shall not be considered exhaust systems under Chapter 5 of the ~~International~~*California* Mechanical Code.

909.2 General design requirements. Buildings, structures, or parts thereof required by the ~~International~~*California* 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 ~~International~~*California* Building Code.

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 ~~*International*~~*California Building Code*.

909.5 Smoke barrier construction. Smoke barriers shall comply with the ~~International~~*California* Building Code. Smoke barriers shall be constructed and sealed to limit leakage areas exclusive of protected openings. The maximum allowable leakage area shall be the aggregate area calculated using the following leakage area ratios:

1. Walls: A/Aw = 0.00100
2. Interior exit stairways and ramps and exit passageways: A/Aw = 0.00035
3. Enclosed exit access stairways and ramps and all other shafts: A/Aw = 0.00150
4. Floors and roofs: A/AF = 0.00050

where:
A = Total leakage area, square feet (m2).
AF = Unit floor or roof area of barrier, square feet (m2).
Aw = Unit wall area of barrier, square feet (m2).
The leakage area ratios shown do not include openings due to doors, operable windows or similar gaps. These shall be included in calculating the total leakage area.

[Editorial Note: Vision Panel amendment was relocated from 909.5.3(3) of the 2013 CFC]
909.5.3.1 ~~Group I-1 Condition 2,~~ Group I-2*, Group R-2.1* and ambulatory care facilities. In ~~Group I-1 Condition 2,~~ Group I-2*, Group I-2.1* 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 of the ~~International~~*California* 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~~. *Vision panels consisting of fire-rated glazing in approved frames shall be provided in each cross-corridor swinging door and at each cross-corridor horizontal-sliding door in a smoke barrier.*

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 ~~International~~*California* Building Code.

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 ~~International~~*California* 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 percent 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 ~~International~~*California* Mechanical Code and that are constructed of approved fire-resistance-rated materials.

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 devices in accordance with the structural design requirements of Chapter 16 of the ~~International~~*California* 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.

[Editorial Note: 2013 CFC amendments removed from section 909.11]
909.11 Standby power. Smoke control systems shall be provided with standby power in accordance with Section 604.

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 ~~International~~*California* Building Code or horizontal assemblies constructed in accordance with Section 711 of the ~~International~~*California* Building Code, or both.

[Editorial Note: Remove existing amendments to Section 909.12. Amendment relocated to section 909.12.1 due to section split.]
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.

~~*The status of dampers shall be determined using limit or proximity switches installed at the damper or incorporated into the damper actuator. Where multiple dampers are grouped together in an assembly requiring one or more actuators, each damper shall be independently controlled by a separate actuator and provided with an individual limit or proximity switch, or the dampers shall be linked together by a reliable and durable mechanical means or otherwise by permanent means into one or more groups, with each group provided with a common limit or proximity switch.*~~

~~*The status of fans shall be determined by sensing the air flow downstream of the fans using pressure differential switches or transmitters, or by other means of positive proof of air flow where approved by the enforcing authority.*~~

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

The status of dampers shall be determined using limit or proximity switches installed at the damper or incorporated into the damper actuator. Where multiple dampers are grouped together in an assembly requiring one or more actuators, each damper shall be independently controlled by a separate actuator and provided with an individual limit or proximity switch, or the dampers shall be linked together by a reliable and durable mechanical means or otherwise by permanent means into one or more groups, with each group provided with a common limit or proximity switch.

The status of fans shall be determined by sensing the air flow downstream of the fans using pressure differential switches or transmitters, or by other means of positive proof of air flow where approved by the enforcing authority.

909.12.1 Wiring. In addition to meeting requirements of the ~~NFPA 70~~California *Electrical Code*, all wiring, regardless of voltage, shall be fully enclosed within continuous raceways.

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 lmited to duct freeze stats, 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 *the* ~~NFPA 70~~California *Electrical Code*.

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 Sectopm 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.

909.18.8 Testing for smoke control. Smoke control systems shall be tested by a special inspector in accordance with Section 1705.18 of the ~~International~~*California* Building Code.

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.

An approved operations manual describing the complete operations of the smoke control system and functioning of the firefighters smoke control panel shall be maintained at the fire command center.

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 differential 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 ~~International~~*California* 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.

[Editorial Note: Repeal 2013 CFC amendments to section 910. Model code language now matches old CA amendments.]
910.1 General. Where required by this code, smoke and heat vents or mechanical smoke removal ~~*removal*~~ systems shall conform to the requirements of this section.

910.2 Where required. Smoke and heat vents *or mechanical smoke* removal system ~~*removal systems*~~ shall be installed as required by ~~as required by~~ Sections 910.2.1 and 910.2.2.

Exceptions~~s~~:
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.
~~*1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.*~~
~~*2. Where areas of buildings are equipped with early suppression fast-response (ESFR) sprinklers, smoke and heat removal shall not be required within these areas.*~~

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 ~~*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. ~~*In occupied portions of a building 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 F-1 aircraft manufacturing buildings and* Group S-1 aircraft repair hangars.

910.2.2 High-piled combustible storage.
Smoke and heat removal required by Table 3206.2, for ~~*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 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. ~~*shall be installed in accordance with Section 910.3 in unsprinklered buildings. In buildings and portions thereof 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.~~*In occupied portions of a building 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.*~~

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 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.

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 Item 1 of this section and the maximum internal pressure allowed by Item 5 of this section.
5. Vents shall be designed to withstand loads in accordance with the ~~International~~*California* 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 ~~International~~*California* 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 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 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.

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 chief.

Exceptions:
1. Fences, where provided with an access gate equipped with a sign complying with the legend requirements of Section 912.4 and a means of emergency operation. The gate and the means of emergency operation shall be approved by the fire chief and maintained operational at all times.
2. When acceptable to the fire enforcing agency, fire department connections for Group I-3 detention facilities may be located inside all security walls or fences on the property.

912.6 Backflow protection. The potable water supply to automatic sprinkler and standpipe systems shall be protected against backflow as required by the ~~*International Plumbing Code*~~*Health and Safety Code 13114.7.*

912.7 Inspection, testing and maintenance. Fire department connections shall be periodically inspected, tested and maintained in accordance with ~~NFPA 25~~*California Code of Regulations, Title 19, Division 1, Chapter 5*.

913.5 Testing and maintenance. Fire pumps shall be inspected, tested and maintained in accordance with the requirements of this section and ~~NFPA 25~~*California Code of Regulations, Title 19, Division 1, Chapter 5*. Records of inspection, testing and maintenance shall be maintained.

913.6 Fire pumps in high-rise buildings. *Engine-driven fire pumps and electric drive fire pumps supplied by generators shall both be provided with an on-premises fuel supply, sufficient for not less than 8-hour full-demand operation at 100% of the rated pump capacity in addition to all other required supply demands in accordance with Sections 9.6 and 11.4.2 of NFPA 20 and this section. (Also see Section 604.2.14.1.~~1~~.)*

914.1 General. This section shall specify where fire protection systems are required based on the detailed requirements of use and occupancy of the ~~International~~*California* Building Code.

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 903.3.1.1, which shall comply with the 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 ~~International~~*California* Building Code and constructed in accordance with Section 406.5 of the ~~International~~*California* Building Code.

914.3 High-rise buildings. High-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* 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 914.3.6. *A sprinkler water-flow alarm-initiating device and a control valve with a supervisory signal-initiating device shall be provided at the lateral connection to the riser on each floor*.

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 ~~International~~*California* Building Code.
~~2. 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 *International Building Code* or not less than 2-hour horizontal assemblies constructed in accordance with Section 711 of the *International Building Code*, or both.~~

914.3.1.1 Number of sprinkler *system* risers and system design. Each sprinkler system ~~zone~~ *serving a floor* in buildings that are more than 420 feet in *height* shall be ~~supplied by~~ *connected to* a minimum of two *sprinkler* risers *or combination standpipe system risers located in separate shafts. Each sprinkler system shall be hydraulically designed so that when one connection is shut-down, the other connection shall be capable of supplying the sprinkler system design demand.* ~~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~~.

914.3.1.2 Water supply to required fire pumps. In buildings *having an occupied floor* that are more than ~~420~~*120* feet (~~128 m~~*36 576 mm*) *above the lowest level of fire department vehicle access* ~~in building height~~, required fire pumps shall be supplied by connections to a minimum of 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~~s~~*:*
~~*1:*~~ Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through at least one of the connections.
~~*2: High-rise buildings not having an occupied floor more than 120 feet above the lowest level of fire department vehicle access where a secondary water supply is provided in accordance with Section 903.3.5.2.*~~

914.3.1.2.1 Fire Pumps: *Redundant fire pump systems shall be required for high-rise buildings having an occupied floor more than 200 feet above the lowest level of fire department vehicle access. Each fire pump system shall be capable of automatically supplying the required demand for the automatic sprinkler and standpipe systems.*

914.3.2 Secondary water supply. An automatic secondary on-site water supply having a *usable* capacity *of* not less than the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings *and Group I-2 occupancies having occupied floors located more than 75 ft above the lowest level of fire department vehicle access* assigned to Seismic Design Category C, D, E or F as determined by the ~~International~~*California* 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 *useable capacity of not less than the hydraulically calculated sprinkler demand plus 100 GPM for the inside hose stream, allowance, for a* duration of not less than 30 minutes or as determined by the occupancy hazard classification in accordance with NFPA 13*, whichever is greater. The Class I standpipe system demand shall not be required to be included in the secondary on-site water supply calculations. In no case shall the secondary on-site water supply be less than 15,000 gallons*.

Exception: Existing buildings.

~~914.3.7~~914.3.8 Smoke control.

~~914.3.7.1~~914.3.8.1 Smoke Control System. *All portions of high-rise buildings shall be provided with a smoke control system in accordance with California Building Code, Section 909.*

~~914.3.7.2~~914.3.8.2 Smokeproof exit enclosures. *Every exit enclosure in high-rise buildings shall comply with California Building Code, Sections 909.20 and ~~1022.10~~1023.11. Every required stairway in Group I-2 occupancies serving floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with Section 909.20 and ~~1022.10~~1023.11 of the California Building Code.*

Exception: *In high-rise buildings, exit enclosures serving three or less adjacent floors where one of the adjacent floors is the level of exit discharge.*

914.5.3 Compartment smoke control system. Where compartmentation is required by Section 405.4 of the ~~International~~*California* 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.

TABLE 914.8.3
HANGAR FIRE SUPPRESSION REQUIREMENTS[a,b,c]

MAXIMUM SINGLE FIRE AREA (square feet)	~~INTERNATIONAL~~*CALIFORNIA* BUILDING CODE TYPE OF CONSTRUCTION

[Remainder of Table not show for clarity]
For SI: 1 square foot = 0.0929 m2, 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 ~~International~~*California* Building Code shall be classified as a Group IV hangar.

914.10 Drying rooms. Drying rooms designed for high-hazard materials and processes, including special occupancies as provided for in Chapter 4 of the ~~*International*~~*California Building Code*, shall be protected by an approved automatic fire-extinguishing system complying with the provisions of Chapter 9.

CHAPTER 10
MEANS OF EGRESS

1001.1 General. Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof. Sections 1003 through 1030 shall apply to new construction. Sections 1031 shall apply to existing buildings.

Exception: Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the ~~International~~*California* Residential Code.

SECTION 1002…

[California Code of Regulations, Title 19, Division 1, §4.1(a)] Definitions.
(a) Burglar bars –Security bars located on the inside or outside of a door or window of a residential dwelling.

[California Code of Regulations, Title 19, Division 1, §4.1 (b)] Definitions.
(b) Residential Dwelling –A house, apartment, motel, hotel, or other type of residential dwelling subject to the State Housing Law (Part. 1.5 (commencing with Section 17910), Division 13) of Health and Safety Code and a manufactured home, mobilehome, and multiunit manufactured housing as defined in Part 2 (commencing with Section 18000) of Division 13 of the Health and Safety Code.

1003.1 Applicability. The general requirements specified in Sections 1003 through 1015 shall apply to all three elements of the means of egress system, in addition to those specific requirements for the exit access, the exit and

the exit discharge detailed elsewhere in this chapter.

Exception: *Exiting requirements for Fixed Guideway Transit Systems shall be as per Section ~~433.3~~443 of the California Building Code.*

1003.2 Ceiling height. The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

Exceptions:
1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1208.2 of the ~~International~~*California* Building Code.
3. Allowable projections in accordance with Section 1003.3.
4. Stair headroom in accordance with Section 1011.3.
5. Door height in accordance with Section 1010.1.1.
6. Ramp headroom in accordance with Section 1012.5.2.
7. The clear height of floor levels in vehicular and pedestrian traffic areas of public and private parking garages in accordance with Section 406.4.1 of the International Building Code.
8. Areas above and below mezzanine floors in accordance with Section 505.2 of the ~~International~~*California* Building Code ~~*of the California Building Code*~~.
9. In Group I-2, I-2.1 and I-3 occupancies, the means of egress shall have a ceiling height of not less than 8 feet (2439mm).

1003.3 Protruding objects. Protruding objects on circulation paths shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

Exception*: In Group I-2 and Group I-2.1 occupancies, protruding objects shall not extend more than 12 inches (305 mm) below the minimum ceiling height required by Section 1003.2.*

1003.3.3.1 Horizontal projections for Group I-2 and I-2.1 *occupancies. Structural elements, fixtures or furnishings shall not project horizontally from either side more than 1-1/2 inches (38 mm) into the required width of an exit access corridor serving any area caring for one or more non-ambulatory or bedridden persons.*

Exceptions*:*
1. Handrails are permitted to protrude 31/2 inches (89 mm) from the wall.
2. Alcohol-based hand-rub dispensers are permitted to protrude 4 inches.
3. Manual fire alarm boxes with a protective cover installed are permitted to protrude 4 inches.

1003.3.4 Clear width. Protruding objects shall not reduce the minimum clear width of accessible routes *as required by Chapter 11A or 11B of the California Building Code*.

1003.5 Elevation change. Where changes in elevation of less than 12 inches (305 mm) exist in the means of egress, sloped surfaces shall be used. Where the slope is greater than one unit vertical in 20 units horizontal (5-percent slope), ramps complying with Section 1012 shall be used. Where the difference in elevation is 6 inches (152 mm) or less, the ramp shall be equipped with either handrails or floor finish materials that contrast with adjacent floor finish materials.

Exceptions:
1. A single step with a maximum riser height of 7 inches (178 mm) is permitted for buildings with occupancies in Groups F, H, R-2, R-3, S and U at exterior doors not required to be accessible by Chapter ~~11~~ 11A or 11B of the ~~International~~*California* Building Code.
2. A stair with a single riser or with two risers and a tread is permitted at locations not required to be accessible by Chapter ~~11~~*11A or 11B* of the ~~International~~*California* Building Code, where the risers and treads comply with Section 1011.5, the minimum depth of the tread is 13 inches (330 mm) and not less than one handrail complying with Section 1014 is provided within 30 inches (762 mm) of the centerline of the normal path of egress travel on the stair.
3. A step is permitted in aisles serving seating that has a difference in elevation less than 12 inches (305 mm) at locations not required to be accessible by Chapter ~~11~~*11A or 11B* of the ~~International~~*California* Building Code, provided that the risers and treads comply with Section 1029.13 and the aisle is provided with a handrail complying with Section 1029.15.

Throughout a story in a Group I-2 *and Group I-2.1* occupanc~~y~~*ies*, any change in elevation in portions of means of egress that serve nonambulatory persons shall be by means of a ramp or sloped walkway.

1004.1 Design occupant load…

[California Code of Regulations, Title 19, Division 1, §3.27] Overcrowding.
The number of occupants of any building, structure, or portion thereof, shall not exceed the permitted or posted capacity.

1004.3 Posting of occupant load. Every room or space that ~~is an assembly occupancy~~*which is used for assembly, classroom, dining, drinking, or similar purposes having an occupant load of 50 or more* shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or the owner's authorized agent.

[California Code of Regulations, Title 19, Division 1, §3.30] Posting of Room Capacity.
Any room having an occupant load of 50 or more persons where fixed seats are not installed, and which is used for assembly, classroom, dining, drinking, or similar purposes, shall have the capacity of the room posted in a conspicuous place near the main exit from the room. Posting shall be by means of a durable sign having a contrasting color from the background to which it is attached. Signs shall be of an approved type and shall be maintained in a legible manner by the owner or his authorized agent and shall indicate the number of occupants permitted for each room use. No person shall deface or remove such signs except as authorized by the enforcing agency.

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal Baggage claim Baggage handling Concourse Waiting areas	 20 gross 300 gross 100 gross 15 gross
Assembly Gaming floors (keno, slots, etc.) Exhibit gallery and museum	 11 gross 30 net
Assembly with fixed seats	See Section 1004.4
Assembly without fixed seats Concentrated (chairs only-not fixed) Standing space Unconcentrated (tables and chairs)	 7 net 5 net 15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms-other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross

Educational Classroom area Shops and other vocational room areas	 20 net 50 net
Exercise rooms	50 gross
Group H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas Inpatient treatment areas Outpatient areas Sleeping areas	 240 gross 100 gross 120 gross
Kitchens, commercial	200 gross
Laboratory *Educational* *Laboratories, non-educational* *Laboratory suite*[b]	 *50 net* *100 net* *200 gross*
Library Reading rooms Stack area	 50 net 100 gross
Locker rooms	50 gross
Mall buildings – covered and open	See Section 402.8.2 of the ~~*International*~~ *California Building Code*
Mercantile Storage, stock, shipping areas	60 gross 300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools Rink and pool Decks	 50 gross 15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m2.
a. Floor area in square feet per occupant.
b. See Section ~~443.2~~453.2 of the California Building Code

1004.4 Fixed seating. For areas having fixed seats and aisles, the occupant load shall be determined by the number of fixed seats installed therein. The occupant load for areas in which fixed seating is not installed, such as waiting spaces, shall be determined in accordance with Section 1004.1.2 and added to the number of fixed seats.

The occupant load of wheelchair spaces and the associated companion seat shall be based on one occupant for each wheelchair space and one occupant for the associated companion seat provided in accordance with ~~Section 1108.2.3~~*Chapter 11B* of the ~~International~~*California* Building Code*.*

For areas having fixed seating without dividing arms, the occupant load shall be not less than the number of seats based on one person for each 18 inches (457 mm) of seating length.

The occupant load of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating booth.

1005.3.2 Other egress components. The capacity, in inches, of means of egress components other than stairways

shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inches (5.1 mm) per occupant.

Exceptions~~s~~:
1.~~1.~~ For other than Group H and I-2 occupancies, the capacity, in inches, of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.15 inches (3.8 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.
2. Facilities with smoke-protected assembly seating shall be permitted to use the capacity factors in Table 1029.6.2 indicated for level or ramped aisles for means of egress components other than stairways where the entire path for means of egress from the seating to the exit discharge is provided with a smoke control system complying with Section 909.
3. Facilities with outdoor smoke-protected assembly seating shall be permitted to the capacity factors in Section 1029.6.3 indicated for level or ramped aisles for means of egress components other than stairways where the entire path for means of egress from the seating to the exit discharge is open to the outdoors.
~~2.~~4. For Group H-1, H-2, H-3 and H-4 occupancies the total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by 0.4 inches (5.08 mm) per occupant.
~~3.~~5. Means of egress complying with Section ~~1028~~1029.

1005.7.1 Doors. Doors, when fully opened, shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half.

Exceptions:
1. *In other than Group I-2 occupancies, s*urface-mounted latch release hardware shall be exempt from inclusion in the 7-inch maximum (178 mm) encroachment where both of the following conditions exists:
1.1. The hardware is mounted to the side of the door facing away from the adjacent wall where the door is in the open position.
1.2. The hardware is mounted not less than 34 inches (865 mm) nor more than 48 inches (1219 mm) above the finished floor.

2. The restrictions on door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 occupancies and dwelling units of Group R-3 occupancies.

1005.7.2 Other projections. Handrail projections shall be in accordance with the provisions of Section 1014.8. Other nonstructural projections such as trim and similar decorative features shall be permitted to project into the required width not more than 11/2 inches (38 mm) on each side.

Exception: Projections are permitted in corridors within Group ~~I-2 Condition 1~~*R-2.1* in accordance with Section 407.4.3.

~~1015.1~~ 1006.2.1 Egress based on occupant load and common path of egress travel distance. Two exits or exit access doorways from any space shall be provided where the design occupant load or the common path of egress travel distance exceeds the values listed in Table 1006.2.1.

Exceptions:
1. In Group R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped through- out with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and the common path of egress travel does not exceed 125 feet (38 100 mm).
2. Care suites in Group I-2 occupancies complying with Section 407.4.
~~4.~~3. In detention and correctional facilities and holding cells, such as are found in courthouse buildings, when the occupant load is more than 20 see Section 408.3.11.

[Editorial Note: CA amendments to section Table 1006.2.1.1 are relocated from 2013 CBC Tables 1014.3 and 1015.1]

TABLE ~~1014.3~~ 1006.2.1
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		WITHOUT SPRINKLER SYSTEM (feet)		WITH SPRINKLER SYSTEM (feet)
		Occupant Load		
		≤30	>30	
A[c], E, M	49	75	*75*	75[a]
B	49	100	*75*	100[a]
F	49	75	*75*	100[a]
H-1, H-2, H-3	3	NP	NP	25[b]
H-4, H-5	10	NP	NP	75[b]
~~I-1,~~ I-2[d], *I-2.1,* I-4	10	NP	NP	75[a]
I-3	10	NP	NP	100[a]
R-1	10	NP	NP	75[a]
R-2	10	NP	NP	125[a]
R-2.1	*10*	*NP*	*NP*	*75*
R-3[e], *R-3.1*[e]	10	NP	NP	125[a]
R-4[e]	10	75	*75*	125[a]
S[f]	29	100	*75*	100[a]
U	49	100	*75*	75[a]
L	*See Section 453.6.1*			

a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
b. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.
c. For a room or space used for assembly purposes having fixed seating, see Section 1029.8.
d. For the travel distance limitations in Group I-2, see Section 407.4.
e. The length of common path of egress travel distance in a Group R-3 occupancy located in a mixed occupancy building or within a Group R-3 or R-4 congregate living facility.
f. The length of common path of egress travel distance in a Group S-2 open parking garage shall be not more than 100 feet.
g. *For holding cells, see Section 408.3.11.*

~~1015.5~~1006.2.2.3 Refrigerated rooms or spaces. Rooms or spaces having a floor area larger than 1,000 square feet (93 m2), containing a refrigerant evaporator and maintained at a temperature below 68°F (20°C), shall have access to not less than two exits or exit access doorways.

Exit access travel distance shall be determined as specified in Section 1017.1, but all portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access doorway where such rooms are not protected by an approved automatic sprinkler system. Egress is allowed through adjoining refrigerated rooms or spaces.

Exception: Where using refrigerants in quantities limited to the amounts based on the volume set forth in the ~~International~~*California* Mechanical Code.

~~1015.6~~1006.2.2.4 Day care means of egress. Day care facilities, rooms or spaces where care is provided for more than 10 children that are 2~~1/2~~ years of age or less, shall have access to not less than two exits or exit access doorways.

~~1015.7~~1006.2.2.6 *Large family day-care home.* *Every story or basement of a large family day-care home shall be provided with two exits which are remotely located from each other. Every required exit shall be of a size to permit the installation of a door not less than 32 inches (813 mm) in clear width and not less than 6 feet 8 inches (2,032 mm) in height. A manually operated horizontal sliding door may be used as one of the two required exits.*

Where basements are used for day-care purposes, one of the two required exits shall provide access directly to the exterior without entering the first story. The second exit from the basement may either pass through the story above or exit directly to the exterior.

Rooms used for day-care purposes shall not be located above the first story.

Exception: *Buildings equipped with an automatic sprinkler system throughout and which have at least one of the required exits providing access directly to the exterior. NFPA 13R may be used in large family day-care homes. The sprinkler omissions of NFPA 13R shall not apply unless approved by the enforcing agency.*

Exit doors, including manually operated horizontal sliding doors, shall be openable from the inside without use of a key or any special knowledge or effort.

Tables ~~1021.1~~1006.3.2(1) and ~~1021.2~~1006.3.2(2) are not applicable to this occupancy classification.

TABLE ~~1021.2(2)~~1006.3.2(2)
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)
First story above ~~above~~ or below grade plane ~~below grade plane~~	A, B[b], E F[b], M, U	49 occupants	75 feet
	H-2, H-3	3 occupants	25 feet
	H-4, H-5, I, R-1, R-2[a,c], R-4	10 occupants	75 feet
	I-2, I-2.1	*7 occupants*	*50 feet*
	S	29 occupants	75 feet
Second story above grade plane ~~above grade plane~~	B, F, M, S[d]	29 occupants	75 feet
Third story above grade plane ~~above grade plane~~ and higher ~~higher~~	NP	NA	NA

For SI: 1 foot = 304.8 mm.
NP – Not Permitted
NA – Not Applicable
a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1030.
b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum exit access travel distance of 100 feet.
c. This table is used for R-2 occupancies consisting of sleeping units. For R-2 occupancies consisting of dwelling units, use Table 1006.3.2(1).
d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

~~1006.1~~1008.2 Illumination required. Illumination required. The means of egress serving a room or space shall be illuminated at all times that the room or space is occupied..

Exceptions:
1. Occupancies in Group U.
2. Aisle accessways in Group A.
3. Dwelling units and sleeping units in Groups R-1, R-2 and R-3.
4. Sleeping units of Group I*, R-2.1 and R-4* occupancies.

~~1007.1~~1009.1 Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one *means of egress* are required by Section 1006.2 or 1006.3 from any accessible space, each accessible portion of the space shall be served by ~~not less than two~~ accessible means of egress *in at least the same number as required by Section ~~1015.1~~1006.2 or ~~1021.1~~1006.3. In addition to the requirements of this chapter, means of egress, which provide access to, or egress from, buildings for persons with disabilities, shall also comply with the requirements of Chapter 11A or 11B as applicable.*

Exceptions:
1. Accessible means of egress are not required to be provided in existing buildings.

2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1009.3, 1009.4 or 1009.5, *and Chapter 11A or 11B, as applicable.*
3. In assembly areas with ramped aisles or stepped aisles, one accessible means of egress is permitted where the common path of egress travel is accessible and meets the requirements in Section 1029.8*, and Chapter 11A or 11B, as applicable.*

~~1007.2~~ 1009.2 Continuity and components. Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104 of the ~~*International*~~*California Building Code*.
2. Interior exit stairways complying with Sections 1009.3 and 1023 *of this code and Chapter 11A or Chapter 11B of the California Building Code.*
3. Exit access stairways complying with Sections 1019.3 and 1019.4 *of this code and Chapter 11A or Chapter 11B of the California Building Code.*
4. Exterior exit stairways complying with Sections 1009.3 and 1027 and serving levels other than the level of exit discharge *of this code and Chapter 11A or Chapter 11B of the California Building Code.*
5. Elevators complying with Section 1009.4 *of this code and Chapter 11A or Chapter 11B of the California Building Code.*.
6. Platform lifts complying with Section 1009.5 *of this code and Chapter 11A or Chapter 11B of the California Building Code.*.
7. Horizontal exits complying with Section 1026.
8. Ramps complying with Section 1012 *of this code and Chapter 11A or Chapter 11B of the California Building Code*.
9. Areas of refuge complying with Section 1009.6.
10. Exterior areas for assisted rescue complying with Section 1009.7 serving exits at the level of exit discharge.

[Editorial Note: Remove amendment from 2013 CFC 1009.3, section relocated and had substantial changes.]
1009.3 ~~Exit access stairways.~~ ~~Floor openings between stories created by exit access stairways shall be enclosed.~~

~~**Exceptions:**~~
~~1. In other than Group I-2, *I-2.1,* and I-3 *and R-2.1* occupancies, exit access stairways that serve, or atmospherically communicate between, only two stories are not required to be enclosed.~~
~~2. Exit access stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.~~
~~3. In buildings with only Group B or M occupancies, exit access stairway openings are not required to be enclosed provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the area of the floor opening between stories does not exceed twice the horizontal projected area of the exit access stairway, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.~~
~~4. In other than Group B, *I-2, I-2.1, I-3* and M occupancies, exit access stairway openings are not required to be enclosed provided that the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the floor opening does not connect more than four stories, the area of the floor opening between stories does not exceed twice the horizontal projected area of the exit access stairway, and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13.~~
~~5. Exit access stairways within an atrium complying with the provisions of Section 404 are not required to be enclosed.~~
~~6. Exit access stairways and ramps in open parking garages that serve only the parking garage are not required to be enclosed.~~
~~7. Stairways serving outdoor facilities where all portions of the means of egress are essentially open to the outside are not required to be enclosed.~~
~~8. Exit access stairways serving stages, platforms and technical production areas in accordance with Sections 410.6.2 and 410.6.3 are not required to be enclosed.~~
~~9. Stairways are permitted to be open between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities.~~
~~10. In Group I-3 occupancies, exit access stairways constructed in accordance with Section 408.5 are not required to be enclosed.~~
~~*11. Fixed guideway transit stations, constructed in accordance with Section 433.*~~

~~1007.4~~1009.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of ~~Section 2.27 of ASME A17.1~~*California Code of*

Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders. Standby power shall be provided in accordance with Chapter 27 and Section 3003. The elevator shall be accessed from an area of refuge complying with Section 1009.6.

Exceptions:
1. Areas of refuge are not required at the elevator in open parking garages.
2. Areas of refuge are not required in buildings and facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Areas of refuge are not required at elevators not required to be located in a shaft in accordance with Section 712.
4. Areas of refuge are not required at elevators serving smoke-protected assembly seating areas complying with Section 1029.6.2.
5. Areas of refuge are not required for elevators accessed from a refuge area in conjunction with a horizontal exit.

~~**1007.5**~~ **1009.5 Platform lifts.** Platform lifts shall be permitted to serve as part of an accessible means of egress, where allowed as part of a required accessible route in ~~Section 1109.8~~ *Chapter 11B* of the ~~*International*~~*California Building Code* ~~except for Item 10~~. Standby power for the platform lift shall be provided in accordance with Section 604.

~~**1007.6.1**~~**1009.6.3 Size.** Each area of refuge shall be sized to accommodate ~~one~~ *two* wheelchair space ~~of~~ *that are not less than* 30 inches by 48 inches (762 mm by 1219 mm). *The total number of such 30-inch by 48-inch (762 mm by 1219 mm) spaces per story shall be not less than one for every 200 persons of calculated occupant load served by the area of refuge.* ~~for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge.~~ Such wheelchair spaces shall not reduce the means of egress minimum width or required capacity. Access to any of the required wheelchair spaces in an area of refuge shall not be obstructed by more than one adjoining wheelchair space.

Exception: *The enforcing agency may reduce the size of each required area of refuge to accommodate one wheelchair space that is not less than 30 inches by 48 inches (762 mm by 1219 mm) on floors where the occupant load is less than 200.*

~~**1007.6.2**~~ **1009.6.4 Separation.** Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 of the ~~International~~*California* Building Code or a horizontal exit complying with Section 1026. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exceptions:
1. Areas of refuge located within an enclosure for interior exit stairways complying with Section 1023.
2. Areas of refuge in outdoor facilities where exit access is essentially open to the outside.

~~**1007.7.4**~~ **1009.7.2 Separation.** Exterior walls separating the exterior area of assisted rescue from the interior of the building shall have a minimum fire-resistance rating of 1 hour, rated for exposure to fire from the inside. The fire-resistance-rated exterior wall construction shall extend horizontally 10 feet (3048 mm) beyond the landing on either side of the landing or equivalent fire-resistance-rated construction is permitted to extend out perpendicular to the exterior wall 4 feet (1220 mm) minimum on the side of the landing. The fire-resistance-rated construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the floor level of the area for assisted rescue or to the roof line, whichever is lower. Openings within such fire-resistance-rated exterior walls shall be protected in accordance with Section 716 of the ~~*International*~~*California Building Code*

~~**1007.8.1**~~**1009.8.1 System requirements** – Two-way communication systems shall provide communication between each required location ~~and the fire command center or~~ *and* a central control point location approved by the fire department. Where the central control point is not a constantly attended location, a two-way communication system shall have a timed automatic telephone dial-out capability to *an approved* monitoring location ~~or 9-1-1~~. The two-way communication system shall include both audible and visible signals.

~~**1007.8.2**~~**1009.8.2 Directions –** Directions for the use of the two-way communication system, instructions for summoning assistance via the two-way communication system and written identification of the location shall be posted adjacent to the two-way communication system. Signage shall comply with ~~the ICC A117.1~~ *Chapter 11A, Section 1143A of the California Building Code* requirements for visual characters..

~~**1007.10**~~ **1009.10 Directional signage.** Directional signage *complying with Chapter 11B, Section 11B-703.5* indicating the location of all other means of egress and which of those are accessible means of egress shall be provided at the following:
1. At exits serving a required accessible space but not providing an approved accessible means of egress.
2. At elevator landings.
3. Within areas of refuge.

~~**1007.12**~~ **1009.12** ***Alarms/emergency warning systems/accessibility.*** *If emergency warning systems are required, they shall activate a means of warning the hearing impaired. Emergency warning systems as part of the fire-alarm system shall be designed and installed in accordance with NFPA 72 as amended in Chapter 80.*

~~**1008.1.1**~~ **1010.1.1 Size of doors.** The required capacity of each door opening shall be sufficient for the occupant load thereof and shall provide a minimum clear width of 32 inches (813 mm). Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. Means of egress doors in a Group I-2 *or a I-2.1* occupancy used for the movement of beds *and litter patients* shall provide a clear width not less than ~~*41½*~~*44* inches (1118 mm). The height of door openings shall be not less than 80 inches (2032 mm).

Exceptions:
1. The minimum and maximum width shall not apply to door openings that are not part of the required means of egress in Group R-2 and R-3 occupancies.
2. Door openings to resident sleeping units in Group I-3 occupancies shall have a clear width of not less than 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m2) in area shall not be limited by the minimum width.
4. Width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited.
5. Door openings within a dwelling unit or sleeping unit shall be not less than 78 inches (1981 mm) in height.
6. Exterior door openings in dwelling units and sleeping units, other than the required exit door, shall be not less than 76 inches (1930 mm) in height.
7. In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a dwelling unit or sleeping unit that is not required to be adaptable or accessible as specified in Chapter 11A or 11B*, of the California Building Code.*
8. Door openings required to be accessible within Type B units shall have a minimum clear width of 31.75 inches (806 mm).
9. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m2) in area shall have a maximum width of 60 inches (1524 mm).
10. In Group R-1 dwelling units or sleeping units not required to be Accessible units, the minimum width shall not apply to doors for showers or saunas.

~~**1008.1.1.1**~~ **1010.1.1.1 Projections into clear width.** There shall not be projections into the required clear width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

Exceptions*:*
1. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.
2. In a Group I-2 or a I-2.1 occupancy, there shall be no projections into the clear width of doors used for the movement of beds and litter patients in the means of egress.

~~**1008.1.4.3**~~ **1010.1.4.3 Special purpose horizontal sliding, accordion or folding doors.** In other than Group H occupancies, special purpose horizontal sliding, accordion, or folding door assemblies permitted to be a component of a means of egress in accordance with Exception 6 to Section 1010.1.2 shall comply with all of the following criteria:

1. The doors shall be power operated and shall be capable of being operated manually in the event of power failure.
2. The doors shall be openable by a simple method from both sides without special knowledge or effort.
3. The force required to operate the door shall not exceed 30 pounds (133 N) to set the door in motion and 15 pounds (67 N) to close or open the door to the minimum required width.
4. The door shall be openable with a force not to exceed 15 pounds (67 N) when a force of 250 pounds (1100 N) is

applied perpendicular to the door adjacent to the operating device.
5. The door assembly shall comply with the applicable fire protection rating and, where rated, shall be self-closing or automatic closing by smoke detection in accordance with Section 716.5.9.3 of the ~~*International*~~*California Building Code,* shall be installed in accordance with NFPA 80 and shall comply with Section 716~~ *International*~~*California Building Code*.
6. The door assembly shall have an integrated standby power supply.
7. The door assembly power supply shall be electrically supervised.
8. The door shall open to the minimum required width within 10 seconds after activation of the operating device.

~~***1008.1.4.4.1***~~***1010.1.4.4.1*** **Special provisions school classrooms.** *School classrooms constructed after January 1, 1990, not equipped with automatic sprinkler systems, which have metal grilles or bars on all their windows and do not have at least two exit doors within 3 feet (914 mm) of each end of the classroom opening to the exterior of the building or to a common hallway used for evacuation purposes, shall have an inside release for the grilles or bars on at least one window farthest from the exit doors. The window or windows with the inside release shall be clearly marked as emergency exits.*

~~***1008.1.7***~~***1010.1.7*** **Thresholds.** Thresholds at doorways shall not exceed ¾ inch (19.1 mm) in height above the finished floor or landing for sliding doors serving dwelling units or ½ inch (12.7 mm) above the finished floor or landing for other doors. Raised thresholds and floor level changes greater than ¼ inch (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50-percent slope).

Exception:

1.In occupancy Group R-2 or R-3, threshold heights for sliding and side hinged exterior doors shall be permitted to be up to 7¾ inches (197 mm) in height if all of the following apply:

1.1. The door is not part of the required means of egress.
1.2. The door is not part of an accessible route as required by Chapter 11*A or 11B* of the ~~International~~*California Building Code*.
1.3. The door is not part of an ~~Accessible unit, Type A unit or Type B unit~~ *adaptable or accessible dwelling unit.*

2. In ~~Type B~~ *adaptable or accessible dwelling* units, where Exception 5 to Section 1010.1.5 permits a 4-inch (102 mm) elevation change at the door, the threshold height on the exterior side of the door shall not exceed 43/4 inches (120 mm) in height above the exterior deck, patio or balcony for sliding doors or 41/2 inches (114 mm) above the exterior deck, patio or balcony for other doors.

~~***1008.1.8***~~***1010.1.8*** **Door arrangement.** Space between two doors in a series shall be 48 inches (1219 mm) minimum plus the width of a door swinging into the space. Doors in a series shall swing either in the same direction or away from the space between the doors.
Exceptions:
1. The minimum distance between horizontal sliding power-operated doors in a series shall be 48 inches (1219 mm).
2. Storm and screen doors serving individual dwelling units in Groups R-2 and R-3 need not be spaced 48 inches (1219 mm) from the other door.
3. Doors within individual dwelling units in Groups R-2 and R-3 ~~within Type A~~ *other than adaptable or accessible dwelling units*.

~~***1008.1.9.1***~~***1010.1.9.1*** **Hardware.** Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11*A or 11B* of the ~~*International*~~*California Building Code* shall not require tight grasping, tight pinching or twisting of the wrist to operate.

These design requirements for door handles, pulls, latches, locks and other operating devices, intended for use on required means of egress doors in other than Group R and M occupancies with an occupant load of 10 or less, shall comply with SFM Standard 12-10-2, Section 12-10-202 contained in the CCR, Title 24, Part 12, California Referenced Standards Code.

~~***1010.1.9.6*** **Controlled egress doors in Groups I-1 and I-2**. Electric locking systems, including electro- mechanical locking systems and electromagnetic locking systems, shall be permitted to be locked in the means of egress in Group I-1 or I-2 occupancies where the clinical needs of persons receiving care require their containment. Controlled egress doors shall be permitted in such occupancies where the building is equipped throughout with an automatic~~

~~sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors are installed and operate in accordance with all of the following:~~
~~1. The door locks shall unlock upon actuation of the automatic sprinkler system or automatic fire detection system.~~
~~2. The door locks shall unlock upon loss of power controlling the lock or lock mechanism.~~
~~3. The door locking system shall be installed to have the capability of being unlocked by a switch located at the fire command center, a nursing station or other approved location. The switch shall directly break power to the lock.~~
~~4. A building occupant shall not be required to pass through more than one door equipped with a controlled egress locking system before entering an exit.~~
~~5. The procedures for unlocking the doors shall be described and approved as part of the emergency planning and preparedness required by Chapter 4.~~
~~6. All clinical staff shall have the keys, codes or other means necessary to operate the locking systems.~~
~~7. Emergency lighting shall be provided at the door.~~
~~8. The door locking system units shall be listed in accordance with UL 294.~~

~~Exceptions:~~
~~1. Items 1 through 4 shall not apply to doors to areas occupied by persons who, because of clinical needs, require restraint or containment as part of the function of a psychiatric treatment area.~~
~~2. Items 1 through 4 shall not apply to doors to areas where a listed egress control system is utilized to reduce the risk of child abduction from nursery and obstetric areas of a Group I-2 hospital.~~
Reserved.

1010.1.9.10 ~~Locking arrangements in correctional facilities.~~ ~~In occupancies in Groups A-2, A-3, A-4, B, E, F, I-2, I-3, M and S within correctional and detention facilities, doors in means of egress serving rooms or spaces occupied by persons whose movements are controlled for security reasons shall be permitted to be locked where equipped with egress control devices that shall unlock manually and by not less than one of the following means:~~
~~1. Activation of an automatic sprinkler system installed in accordance with Section 903.3.1.1.~~
~~2. Activation of an approved manual fire alarm box.~~
~~3. A signal from a constantly attended location.~~
Reserved.

~~1008.1.9.11~~1010.1.9.11 Stairway doors. Interior stairway means of egress doors shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:
1. Stairway discharge doors shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.5.3 of the *~~International~~California Building Code*.
3. In stairways serving not more than four stories, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.
4. Stairway exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single exit stairway where permitted in Section 1006.3.
5. Stairway exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group R-2 occupancies where the only interior access to the dwelling unit is from a single exit stairway where permitted in Section 1021.2.

~~1008.1.9.12~~1010.1.9.12 Access-controlled elevator lobby doors in high-rise office buildings. *For elevator lobbies in high-rise office buildings where the occupants of the floor are not required to travel through the elevator lobby to reach an exit, when approved by the fire chief, the doors separating the elevator lobby from the adjacent occupied tenant space that also serve as the entrance doors to the tenant space shall be permitted to be equipped with an approved entrance and egress access control system provided all of the following requirements are met:*

1. The building is provided throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. A smoke detector is installed on the ceiling on the tenant side of the elevator lobby doors along the center line of the door opening, not less than 1 foot and not more than 5 feet from the door opening, and is connected to the fire

alarm system.
3. A remote master switch capable of unlocking the elevator lobby doors shall be provided in the fire command center for use by the fire department.
4. Locks for the elevator lobby shall be U.L. and California State Fire Marshal listed fail-safe type locking mechanisms. The locking device shall automatically release on activation of any fire alarm device on the floor of alarm (waterflow, smoke detector, manual pull stations, etc.). All locking devices shall unlock, but not unlatch, upon activation.
5. A two-way voice communication system, utilizing dedicated lines, shall be provided from each locked elevator lobby to the 24-hour staffed location on site, annunciated as to location. Operating instructions shall be posted above each two-way communication device.

Exception: *When approved by the fire chief, two-way voice communication system to an off-site facility may be permitted where means to remotely unlock the access controlled doors from the off-site facility are provided.*

6. An approved momentary mushroom-shaped palm button connected to the doors and installed adjacent to each locked elevator lobby door shall be provided to release the door locks when operated by an individual in the elevator lobby. The locks shall be reset manually at the door. Mount palm button so that the center line is 48 inches above the finished floor.

Provide a sign stating:

"IN CASE OF EMERGENCY, PUSH PALM BUTTON,
DOOR WILL UNLOCK AND
SECURITY ALARM WILL SOUND."

The sign lettering shall be ¾-inch high letters by 1/8-inch width stroke on a contrasting background.
7. Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.

~~1008.1.10~~1010.1.10 **Panic and fire exit hardware.** Doors serving a Group H occupancy and doors serving rooms or spaces with an occupant load of 50 or more in a Group A ~~or E~~ occupancy, *assembly area not classified as an assembly occupancy,* E, *I-2 or I-2.1 occupancies* shall not be provided with a latch or lock other than panic hardware or fire exit hardware. *For Group L occupancies see Section ~~443.6.3~~453.6.3 of the California Building Code.*

Exception:
1. A main exit of a Group A occupancy shall be permitted to be locking in accordnce with Section 1010.1.9.3, Item 2.
2. Doors serving a Group A ~~or E~~ occupancy shall be permitted to be electromagnetically locked in accordance with Section 1010.1.9.9.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with exit or exit access doors shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

~~1008.1.11~~1010.1.11 ***Group E lockable doors from the inside.*** *New buildings that are included in public school kindergarten through 12th grade state funded projects and receiving state funding pursuant to Leroy F. Green, School Facilities Act of 1998, California Education Code Sections 17070.10 through 17079, and that are submitted to the Division of the State Architect for plan review after July 1, 2011 in accordance with Education Code 17075.50, shall include locks that allow doors to classrooms and any room with an occupancy of five or more persons to be locked from the inside. The locks shall conform to the specification and requirements found in Section ~~1008.1.9~~1010.1.9.*

Exceptions:
1. Doors that are locked from the outside at all times such as, but not limited to, janitor's closet, electrical room, storage room, boiler room, elevator equipment room, and pupil restroom.
2. Reconstruction projects that utilize original plans in accordance with California Administrative Code, Section 4-314.
3. Existing relocatable buildings that are relocated within same site in accordance with California Administrative Code, Section 4-314.

~~1009.4~~1011.2 Width and capacity. The required capacity of stairways shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm). See Section 1009.3 for accessible means of egress stairways.

Exceptions:
1. Stairways serving an occupant load of less than 50 shall have a width of not less than 36 inches (914 mm).
2. Spiral stairways as provided for in Section 1011.10.
3. Where an incline platform lift or stairway chairlift is installed on stairways serving occupancies in Group R-3, or within dwelling units in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. Where the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

Means of egress stairs in a Group I-2 or I-2.1 occupancy used for the movement of beds and litter patients shall provide a clear width not less than 44 inches (1118 mm).

~~1009.7.2~~1011.5.2 Riser height and tread depth. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the nosings of adjacent treads. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's nosing. Winder treads shall have a minimum tread depth of 11 inches (279 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

Exceptions:
1. Spiral stairways in accordance with Section 1011.10.
2. Stairways connecting stepped aisles to cross aisles or concourses shall be permitted to use the riser/tread dimension in Section 1029.13.2.
3. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 73/4 inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walkline shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing projection not less than ¾ inch (19.1 mm) but not more than 11/4 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
~~6.~~4. See ~~Section *3404.1*~~*Chapter 11 and California Existing Building Code* ~~403.1 of the International Existing Building Code~~ for the replacement of existing stairways. ***[DSA-AC]*** *For applications listed in Section 1.9.1 regulated by the Division of the State Architect-Access Compliance, see Chapter 11B, Section 11B-202.*
~~7.~~5. In Group I-3 facilities, stairways providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m2) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).
~~*8.*~~*6. [SFM] Stairways providing access to lifeguard towers not open to the public, not more than 250 square feet (23 m2) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).*

~~1009.8~~1011.6 Stairway landings. There shall be a floor or landing at the top and bottom of each stairway. The width of landings shall be not less than the width of stairways served. Every landing shall have a minimum width measured perpendicular to the direction of travel equal to the width of the stairway. Where the stairway has a straight run the depth need not exceed 48 inches (1219 mm). Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing. Where wheelchair spaces are required on the stairway landing in accordance with Section 1009.6.3, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces.

Exceptions:
1. Where stairways connect stepped aisles to cross aisles or concourses, stairway landings are not required at the transition between stairways and stepped aisles constructed in accordance with Section 1029.
2. [SFM] In Group R-3 occupancies a floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs.

~~1009.13.1~~1011.12.2 Roof access. Where a stairway is provided to a roof, access to the roof shall be provided through a penthouse complying with Section 1510.2 of the ~~*International*~~*California Building Code*.

Exception: In buildings without an occupied roof, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet (1.5 m^2) in area and having a minimum dimension of 2 feet (610 mm).

~~1009.15~~1011.11 Handrails. Stairways shall have handrails on each side and shall comply with Section 1014. Where glass is used to provide the handrail, the handrail shall comply with Section 2407.

[DSA-AC] *For applications listed in Section 1.9.1 regulated by the Division of the State Architect-Access Compliance, see Chapter 11B, of the California Building Code.*

Exceptions:
1. Stairways within dwelling units and spiral stairways are permitted to have a handrail on one side only.
2. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails.
~~4.~~3. *[SFM]* In Group R-3 occupancies, ~~a change in elevation consisting of a single riser at an entrance or egress door does not require handrails~~ *a continuous run of treads or flight of stairs with less than four risers does not require handrails.*
4. Changes in room elevations of three or fewer risers within dwelling units and sleeping units in Group R-2 and R-3 do not require handrails.

~~1010.7.3~~1012.6.3 Length. The landing length shall be 60 inches (1525 mm) minimum.

Exceptions:
1. In Group R-2 and R-3 individual dwelling and sleeping units that are not required to be Accessible units or adaptable units *in accordance with Chapter 11A or 11B of the California Building Code*, landings are permitted to be 36 inches (914 mm) minimum.
2. Where the ramp is not a part of an accessible route, the length of the landing shall not be required to be more than 48 inches (1220 mm) in the direction of travel.

~~1011.1~~1013.1 Where required. Exits and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. The path of egress travel to exits and within exits shall be marked by readily visible exit signs to clearly indicate the direction of egress travel in cases where the exit or the path of egress travel is not immediately visible to the occupants. Intervening means of egress doors within exits shall be marked by exit signs. Exit sign placement shall be such that no point in an exit access corridor or exit passageway is more than 100 feet (30 480 mm) or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

Exceptions:
1. Exit signs are not required in rooms or areas that require only one exit or exit access.
2. Main exterior exit doors or gates that are obviously and clearly identifiable as exits need not have exit signs where approved by the building official.
3. Exit signs are not required in occupancies in Group U and individual sleeping units or dwelling units in Group R-1, R-2, ~~or~~ R-3 *or R-3.1.*
4. Exit signs are not required *where inmates are housed, or held* in dayrooms, sleeping rooms or dormitories in occupancies in Group I-3.
5. In occupancies in Groups A-4 and A-5, exit signs are not required on the seating side of vomitories or openings into seating areas where exit signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

~~1011.2~~1013.2 Floor-level exit signs in Group R-1. ~~Where exit signs are required in Group R-1 occupancies by Section 1013.1, additional low-level exit signs shall be provided in all areas serving guest rooms in Group R-1 occupancies and shall comply with Section 1013.5.~~

~~The bottom of the sign shall be not less than 10 inches (254 mm) nor more than 12 inches (305 mm) above the floor level. The sign shall be flush mounted to the door or wall. Where mounted on the wall, the edge of the sign shall be within 4 inches (102 mm) of the door frame on the latch side.~~*See Section ~~1011.7~~ 1013.7*

~~1011.4~~1013.4 Raised character and braille exit signs. ~~A sign stating EXIT in visual characters, raised charecters and Braille and complying with ICC A117.1 shall be provided adjacent to each door to an area of refuge, an exterior area for assisted rescue, an exit stairway or ramp, an exit passageway and the exit discharge.~~ *Tactile exit signs shall be required at the following locations:*

1. Each grade-level exterior exit door that is required to comply with Section ~~1011.1~~1013.1, shall be identified by a tactile exit sign with the word, "EXIT."

2. Each exit door that is required to comply with Section ~~1011.1~~1013.1, and that leads directly to a grade-level exterior exit by means of a stairway or ramp shall be identified by a tactile exit sign with the following words as appropriate:

2.1. "EXIT STAIR DOWN"
2.2. "EXIT RAMP DOWN"
2.3. "EXIT STAIR UP"
2.4. "EXIT RAMP UP"

3. Each exit door that is required to comply with Section ~~1011.1~~1013.1, and that leads directly to a grade-level exterior exit by means of an exit enclosure or an exit passageway shall be identified by a tactile exit sign with the words, "EXIT ROUTE."
4. Each exit access door from an interior room or area to a corridor or hallway that is required to comply with Section ~~1011.1~~1013.1, shall be identified by a tactile exit sign with the words "EXIT ROUTE."
5. Each exit door through a horizontal exit that is required to comply with Section ~~1011.1~~1013.1, shall be identified by a sign with the words, "TO EXIT."

Raised character and Braille exit signs shall comply with Chapter 11B.

~~1011.7~~1013.7 Floor-level exit signs. *Where exit signs are required by Chapter 10, additional approved low-level exit signs which are internally or externally illuminated photoluminescent or self-luminous, shall be provided in all interior corridors of Group A, E, I and R-2.1 occupancies and in all areas serving guest rooms of hotels in Group R, Division 1 occupancies.*

Exceptions:
1. Group A occupancies that are protected throughout by an approved supervised fire sprinkler system.
2. Group E Occupancies where direct exits have been provided from each classroom.
3. Group I and R-2.1 occupancies which are provided with smoke barriers constructed in accordance with Section 407.5.
4. Group I-3 occupancies.

The bottom of the sign shall not be less than 6 inches (152 mm) or more than 8 inches (203 mm) above the floor level and shall indicate the path of exit travel. For exit and exit-access doors, the sign shall be on the door or adjacent to the door with the closest edge of the sign or marker within 4 inches (102 mm) of the door frame.

Note: Pursuant to Health and Safety Code Section 13143, this California amendment applies to all newly constructed buildings or structures subject to this section for which a building permit is issued (or construction commenced, where no building permit is issued) on or after January 1, 1989.

~~1011.8~~1013.8 Path marking. *When exit signs are required by Chapter 10, in addition to approved floor-level exit signs, approved path marking shall be installed at floor level or no higher than 8 inches (203 mm) above the floor level in all interior rated exit corridors of unsprinklered Group A, R-1 and R-2 occupancies.*

Such marking shall be continuous except as interrupted by door-ways, corridors or other such architectural features in order to provide a visible delineation along the path of travel.

Note: *Pursuant to Health and Safety Code Section 13143, the California amendments of this section shall apply to all newly constructed buildings or structures subject to this section for which a building permit is issued (or construction commenced, where no building permit is issued) on or after January 1, 1989.*

~~1012.1~~1014.1 Where required. Handrails serving stairways, ramps, stepped aisles and ramped aisles shall be adequate in strength and attachment in accordance with Section 1607.8 of the *~~International~~California* Building Code. Handrails required for stairways by Section 1011.11 shall comply with Sections 1014.2 through 1014.9. Handrails required for ramps by Section 1012.8 shall comply with Sections 1014.2 through 1014.8. Handrails for stepped aisles and ramped aisles required by Section 1029.15 shall comply with Sections 1014.2 through 1014.8.

~~1012.8~~1014.8 Projections. On ramps and on ramped aisles that are part of an accessible route, the clear width between handrails shall be 36 inches (914 mm) minimum. Projections into the required width of aisles, stairways and ramps at each side shall not exceed 4 1/2 inches (114 mm) at or below the handrail height. Projections into the

required width shall not be limited above the minimum headroom height required in Section 1011.3. Projections due to intermediate handrails shall not constitute a reduction in the egress width. Where a pair of intermediate handrails are provided within the stairway width without a walking surface between the pair of intermediate handrails and the distance between the pair of intermediate handrails is greater than 6 inches (152 mm), the available egress width shall be reduced by the distance between the closest edges of each such intermediate pair of handrails that is greater than 6 inches (152 mm).

In Group I-2 occupancy ramps required for exit access shall not be less than 8 ft in width and handrails are permitted to protrude 31/2 inches from the wall on both sides. Ramps used as exits and stairways used for the movement of bed and litter patients, the clear width between handrails shall be 44 inches (1118 mm) minimum.

[Editorial Note: Remove 2013 CBC amendments to Table 1015.1. It has merged with another table and created 1006.2.1.]

~~**TABLE 1015.1**~~
~~**SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**~~

~~**OCCUPANCY**~~	~~**MAXIMUM OCCUPANT LOAD**~~
~~A, B, E, F, M, U~~	~~49~~
~~H-1, H-2, H-3~~	~~3~~
~~H-4, H-5, I-1*I-2.1,* I-3, I-4, R~~	~~10~~
~~S~~	~~29~~
~~*L*~~	~~*See Section 443.6.1 of the California Building Code*~~

~~*a. For holding cells, see 408.3.11 of the California Building Code.*~~

~~**1013.2**~~**1015.2 Where required**. Guards shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, aisles, stairs, ramps and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Guards shall be adequate in strength and attachment in accordance with Section 1607.8 of the ~~*International*~~*California* Building Code.

[Editorial Note: Remove 2013 CBC amendments to 1015.2. CA Amendments relocate to more appropriate section. See 1007.]

1015.2 ~~*Exit access doorways, contributing to the total number of exits or exit access doorways required by Sections 1015.1 and 1015.1.1, shall lead to separate exits.*~~

~~**1013.2.1**~~**1015.2.1 Glazing**. Where glass is used to provide a guard or as a portion of the guard system, the guard shall comply with Section 2407 of the ~~*International*~~*California* Building Code. Where the glazing provided does not meet the strength and attachment requirements of Section 1607.8 of the ~~*International*~~*California* Building Code, complying guards shall be located along glazed sides of open-sided walking surfaces.

[Editorial Note: Remove 2013 CBC amendments to 1015.2.2. CA Amendments relocate to more appropriate section. See 1007.]

1015.2.2. ~~*Additional required exit or exit access doorways shall be arranged a reasonable distance apart so that if one becomes, blocked, the others will be available.*~~

Exception: Guards are not required for the following locations:
1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including stairs leading up to the stage and raised platforms.
3. On raised stage and platform floor areas, such as runways, ramps and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating areas at cross aisles in accordance with Section 1029.16.2.

~~1013.3~~1015.3 Height. Required guards shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On stairways and stepped aisles, from the line connecting the leading edges of the tread nosings.
3. On ramps and ramped aisles, from the ramp surface at the guard.

Exceptions:
~~1. For occupancies in Group R-3 not more than three stories above grade in height and within individual dwelling units in occupancies in Group R-2 not more than three stories above grade in height with separate means of egress, required guards shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces or adjacent fixed seating.~~
~~2.~~*1.* For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
~~3.~~*2.* For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
~~4.~~*3.* The guard height in assembly seating areas shall comply with Section 1029.16.
~~5.~~*4.* Along alternating tread devices and ships ladders, guards where the top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

~~1013.4~~1015.4 Opening limitations. Required guards shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter from the walking surface to the required guard height.

Exceptions:
1. From a height of 36 inches (914 mm) to 42 inches (1067 mm), guards shall not have openings that allow passage of a sphere 43/8 inches (111 mm) in diameter.
2. The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail shall not allow passage of a sphere 6 inches (152 mm) in diameter.
3. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall not have openings that allow passage of a sphere 21 inches (533 mm)in diameter.
4. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices and ships ladders, guards shall not have openings that allow passage of a sphere 21 inches (533 mm) in diameter.
5. In assembly seating areas, guards at the end of aisles in accordance with Section 1029.16.4 shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, guards shall not have openings that allow passage of a sphere 8 inches (203 mm) in diameter.
6. Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, guards on the open sides of stairs shall not have openings that allow passage of a sphere 43/8 (111 mm)inches in diameter.
7. In lifeguard towers not open to the public, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.

~~1014.2~~1016.2 Egress through intervening spaces. Egress through intervening spaces shall comply with this section.

1. Exit access through an enclosed elevator lobby is permitted. Access to not less than one of the required exits shall be provided without travel through the enclosed elevator lobbies required by Section 3006. Where the path of exit access travel passes through an enclosed elevator lobby, the level of protection required for the enclosed elevator lobby is not required to be extended to the exit unless direct access to an exit is required by other sections of this code.

2. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.
Exception: Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy where the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.

3. An exit access shall not pass through a room that can be locked to prevent egress.
4. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.

5. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.
Exceptions:
1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or sleeping unit.

2. Means of egress are not prohibited through stockrooms in Group M occupancies where all of the following are met:
2.1. The stock is of the same hazard classification as that found in the main retail area.
2.2. Not more than 50 percent of the exit access is through the stockroom.
2.3. The stockroom is not subject to locking from the egress side.
2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by full- or partial-height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.

~~5.~~6. Exits shall not pass through any room subject to locking except in Group I-3 occupancies classified as detention facilities.

~~1014.2.2~~1016.2.2 Basement exits in Group I-2 occupancies*. For additional requirements for occupancies in Group I-2 or I-2.1, see Sections 407 of the California Building Code.*

[Editorial Note: Remove 2013 CFC amendments to 1016.2.2. CA Amendments matches new model code language located at 1017.2.2.]
~~1016.2.2 Group F-1 and S-1 increase.~~ *~~The maximum exit access travel distance shall be 400 feet (122 m) in Group F-1 or S-1 occupancies where all of the following are met:~~*

~~1. The portion of the building classified as Group F-1 or S-1 is limited to one story in height,~~
~~2. The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm), and~~
~~3. The building is equipped throughout with an automatic fire sprinkler system in accordance with Section 903.3.1.1.~~

TABLE ~~1016.2~~1017.2
EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200	250[b]
~~I-1~~*R-2.1*	Not Permitted	250[~~b~~c]
B	200	300[c]
F-2, S-2, U	300	400[c]
H-1	Not Permitted	75[d]
H-2	Not Permitted	100[d]
H-3	Not Permitted	150[d]
H-4	Not Permitted	175[d]
H-5	Not Permitted	200[d]
I-2, *I-2.1,* I-3[~~d~~e], I-4	Not Permitted	200[c]
L	*Not Permitted*	*200[c]*

For SI: 1 foot = 304.8 mm.
a. See the following sections for modifications to exit access travel distance requirements:
Section 402.8 of the ~~*International*~~*California* Building Code: For the distance limitation in malls.

Section 404.9 of the ~~*International*~~*California* Building Code: For the distance limitation through an atrium space.
Section 407.4 of the ~~*International*~~*California* Building Code: For the distance limitation in Group I-2 *or I-2.1*.
Section 408.3.10 of the California Building Code: For increased limitation in Group I-3.
Sections 408.6.1 and 408.8.1 of the ~~*International*~~*California* Building Code: For the distance limitations in Group I-3.
Section 411.4 of the ~~*International*~~*California* Building Code: For the distance limitation in special amusement buildings.
Section 412.7 of the ~~*International*~~*California* Building Code: For the distance limitations in aircraft manufacturing facilities.
Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.
Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.
Section 1006.3.2: For buildings with one exit.
~~*Section 1016.3: For increased limitation in Groups F-1 and S-1.*~~
Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.
Section 1029.7: For increased limitation in assembly seating.
Section 3103.4 of the ~~*International*~~*California* Building Code: For temporary structures.
Section 3104.9 of the ~~*International*~~*California* Building Code: For pedestrian walkways.
b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
d. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.1.
~~*d.*~~*e. Not permitted in nonsprinklered Group I-3 Occupancies.*

~~1017.1~~1018.1 General…

[California Code of Regulations, Title 19, Division 1, §3.06(a)] Bonding of Chairs and Spacing of Tables.

(a) Bonding of chairs. In every Group A and Group E occupancy, all loose seats, folding chairs or similar seating facilities that are not fixed to the floor shall be bonded together in groups of not less than three.

Exceptions:
(1) When not more than 200 such seats, chairs or facilities are provided, bonding thereof may be deleted.
(2) The bonding of chairs shall not be required when tables are provided as when the occupancy is used for dining or similar purposes.
(3) Upon approval of the enforcing agency, the bonding of chairs shall not be required when the placement and location of such chairs do not obstruct any required exit or any line of egress toward required exits and do not constitute a fire hazard as defined in California Code of Regulations, Title 19, Division 1, Section 3.14.

[California Code of Regulations, Title 19, Division 1, §3.06(b)] Bonding of Chairs and Spacing of Tables.
(b) Spacing of Tables. In occupancies having rectangular conference or banquet type tables, such tables shall be placed not less than 54 inches apart and not less than 36 inches from walls.

~~1017.2~~1018.3 Aisles in Groups B and M. In Group B and M occupancies, the minimum clear aisle width shall be determined by Section 1005.1 for the occupant load served, but shall be not less than that required for corridors by Section 1020.2.

Exception: Nonpublic aisles serving less than 50 people and not required to be accessible by Chapter 11 of the ~~*International*~~*California Building Code* need not exceed 28 inches (711 mm) in width.

1019.3 Occupancies other than Groups I-2*, I-2.1,* ~~and~~ I-3*, and R-2.1*. In other than Group I-2*, I-2.1,* ~~and~~ I-3*, and R-2.1* occupancies, floor openings containing exit access stairways or ramps that do not comply with one of the conditions listed in this section shall be enclosed with a shaft enclosure constructed in accordance with Section 713 of the ~~International~~*California Building Code*.
1. Exit access stairways and ramps that serve or atmospherically communicate between only two stories. Such interconnected stories shall not be open to other stories.
2. In Group R-1, R-2 or R-3 occupancies, exit access stairways and ramps connecting four stories or less serving and contained within an individual dwelling unit or sleeping unit or live/work unit.
3. Exit access stairways serving and contained within a Group R-3 congregate residence or a Group R-4 facility are not required to be enclosed.

4. Exit access stairways and ramps in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the stairway or ramp and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories.
5. Exit access stairways and ramps within an atrium complying with the provisions of Section 404 of the ~~International~~*California Building Code*.
6. Exit access stairways and ramps in open parking garages that serve only the parking garage.
7. Exit access stairways and ramps serving open-air seating complying with the exit access travel distance requirements of Section 1029.7.
8. Exit access stairways and ramps serving the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities.
9. Fixed guideway transit stations, constructed in accordance with Section 443.

1019.4 Group I-2, *I-2.1,* ~~and~~ I-3*, and R-2.1*occupancies. In Group I-2*, I-2.1,* ~~and~~ I-3*, and R-2.1* occupancies, floor openings between stories containing exit access stairways or ramps are required to be enclosed with a shaft enclosure constructed in accordance with Section 713 of the ~~International~~*California Building Code*.

Exception: In Group I-3 occupancies, exit access stairways or ramps constructed in accordance with Section 408 of the ~~International~~*California Building Code* are not required to be enclosed.

~~1018.1~~1020.1 Construction. Corridors shall be fire-resistance rated in accordance with Table 1020.1. The corridor walls required to be fire-resistance rated shall comply with Section 708 of the ~~*International*~~*California Building Code* for fire partitions.

Exceptions:
A fire-resistance rating is not required for corridors in an occupancy in Group E where each room that is used for instruction has not less than one door opening directly to the exterior and rooms for assembly purposes have not less than one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A fire-resistance rating is not required for corridors contained within a dwelling or sleeping unit in an occupancy in Group ~~I-1 and~~ R.
3. A fire-resistance rating is not required for corridors in open parking garages
4. A fire-resistance rating is not required for corridors in an occupancy in Group B that is a space requiring only a single means of egress complying with Section 1006.2.
5. Corridors adjacent to the exterior walls of buildings shall be permitted to have unprotected openings on unrated exterior walls where unrated walls are permitted by Table 602 of the ~~*International*~~*California Building Code* and unprotected openings are permitted by Table 705.8 of the ~~*International*~~*California Building Code*.
6. A fire-resistance rating is not required for corridors within suites in a Group I-2 or I-2.1 occupancy provided with an automatic sprinkler system throughout and constructed in accordance with Section ~~407.4.3.5~~407.4.4.5 or ~~407.4.3.6~~407.4.4.6 of the California Building Code.

TABLE ~~1018.1~~1020.1 CORRIDOR FIRE-RESISTANCE RATING

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system[c]
H-1, H-2, H-3	All	Not Permitted	1
H-4, H-5 *, L*	Greater than 30	Not Permitted	1
A[d], B, ~~E,~~ F, M, S, U	Greater than 30	1	0
R-*1, R-2, R-3, R-3.1, R-4*	Greater than 10	Not Permitted	~~0.5~~ *1*
I-2[a], *1-2.1*, I-4	~~All~~ *Greater than 6*	Not Permitted	~~0~~ *1*
~~I-1,~~ I-3, *R-2.1*	~~All~~ *Greater than 6*	Not Permitted	1[b]
E	*Greater than 10*	*1*	*1*

a. For requirements for occupancies in Group I-2 *and I-2.1*, see Sections 407.2 and 407.3 of the ~~*International*~~*California Building Code*.
b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Sections *408.1.2 and* 408.8 of the ~~*International*~~*California Building Code*.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.
d. [SFM] See Section ~~1028~~1029.

TABLE ~~1018.2~~1020.2
MINIMUM CORRIDOR WIDTH

OCCUPANCY	MINIMUM WIDTH (inches)
Any facilities not listed below	44
Access to and utilization of mechanical, plumbing or electrical systems or equipment	24
With an occupant load of less than 50	36
Within a dwelling unit	36
In Group E with a corridor having a occupant load of 100 or more	72
In corridors and areas serving stretcher traffic in ambulatory care facilities	72
Group I-2 in areas where required for bed movement	96
Corridors in Group I-2 and I-3 occupancies serving any area caring for one or more nonambulatory persons.	*96 ~~inches~~*

For SI: 1 inch = 25.4 mm.

~~1018.4~~1020.4 Dead ends. Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.

Exceptions:
1. In occupancies in Group I-3 of Condition 2, 3 or 4 the dead end in a corridor shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B, E, F, ~~I-1,~~ M, R-1, R-2, *R-2.1,* R-4, S and U, where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the length of the dead-end corridors shall not exceed 50 feet (15 240 mm).
3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.

~~1018.5~~1020.5 Air movement in corridors. Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts.

Exceptions:
1. Use of a corridor as a source of makeup air for exhaust systems in *small* rooms *of 30 sq feet or less* that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, ~~smoking lounges~~ and janitor closets, shall be permitted, provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor.
2. Where located within a dwelling unit, the use of corridors for conveying return air shall not be prohibited.
3. Where located within tenant spaces of 1,000 square feet (93 m2) or less in area, utilization of corridors for conveying return air is permitted.
4. Incidental air movement from pressurized rooms within health care facilities, provided that the corridor is not the primary source of supply or return to the room.
5. For health care facilities under the jurisdiction of the Office of Statewide Health Planning and Development (OSHPD), see the California Mechanical Code.

~~1018.5.1~~1020.5.1 Corridor ceiling. Use of the space between the corridor ceiling and the floor or roof structure above as a return air plenum is permitted for one or more of the following conditions:

1. The corridor is not required to be of fire-resistance-rated construction;
2. The corridor is separated from the plenum by fire-resistance-rated construction;
3. The air-handling system serving the corridor is shut down upon activation of the air-handling unit smoke detectors required by the ~~*International*~~*California Mechanical Code*.
4. The air-handling system serving the corridor is shut down upon detection of sprinkler water flow where the building is equipped throughout with an automatic sprinkler system; or
5. The space between the corridor ceiling and the floor or roof structure above the corridor is used as a component of an approved engineered smoke control system.

~~**1018.6**~~**1020.6 Corridor continuity.** Fire-resistance-rated corridors shall be continuous from the point of entry to an *exit*, and shall not be interrupted by intervening rooms. Where the path of egress travel within a fire-resistance-rated corridor to the exit includes travel along unenclosed exit access stairways or ramps, the fire resistance-rating shall be continuous for the length of the stairway or ramp and for the length of the connecting corridor on the adjacent floor leading to the exit.

Exceptions~~s~~:
1.~~*1.*~~ Foyers, lobbies or reception rooms constructed as required for *corridors* shall not be construed as intervening rooms.
2. Enclosed elevator lobbies as permitted by Item 1 of Section 1016.2 shall not be construed as intervening rooms
~~*2.*~~*3. [SFM] In fully sprinklered office buildings, corridors may lead through enclosed elevator lobbies if all areas of the building have access to at least one required exit without passing through the elevator lobby.*

[Editorial Note: Remove 2013 CFC amendments to 1021.1. CA Amendments relocated to 1006.3 or covered with model code language in 1006.3.1.]
~~**1021.1 General.** Each story and occupied roof shall have the minimum number of *independent* exits, or access to exits, as specified in this section *Table 1021.1. A single exit or access to a single exit shall be permitted in accordance with Section 1021.2.* The required number of exits, or exit access stairways or ramps providing access to exits, from any story shall be maintained until arrival at grade or a public way. Exits or access to exits from any story shall be configured in accordance with this section. Each story above the second story of a building shall have a minimum of one interior or exterior exit stairway, or interior or exterior exit ramp. At each story above the second story that requires a minimum of three or more exits, or access to exits, a minimum of 50 percent of the required exits shall be interior or exterior exit stairways, or interior or exterior exit ramps.~~

~~**Exceptions:**~~
~~1. Interior exit stairways and interior exit ramps are not required in open parking garages where the means of egress serves only the open parking garage.~~
~~2. Interior exit stairways and interior exit ramps are not required in outdoor facilities where all portions of the means of egress are essentially open to the outside.~~

[Editorial Note: Remove 2013 CFC amendments to Table 1021.1. CA Amendments now matches model code at 1006.3.1.]

~~***TABLE 1021.1***~~
~~***MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS PER STORY***~~

~~*Occupant Load per Story*~~	~~*Minimum Number of Exits or Access to Exits From Story*~~
~~*1-500*~~	~~*2*~~
~~*501-1,000*~~	~~*3*~~
~~*More than 1,000*~~	~~*4*~~

[Editorial Note: Remove 2013 CBC amendments to 1021.2. CA Amendments relocate to more appropriate section. See 1006.3.2.]
~~**1021.2 *Single* exits from stories.** *A single exit or access to a single exit shall be permitted* Two exits, or exit access stairways or ramps providing access to exits, from any story or occupied roof, shall be provided where one of the following conditions exists:~~

~~1. The occupant load, or number of dwelling units *and exit access travel distance does not* exceed one of the values in Table 1021.2(1) or 1021.2(2).~~
~~2. The exit access travel distance exceeds that specified in Table 1021.2(1) or 1021.2(2) as determined in accordance with the provisions of Section 1016.1.~~
~~3. Helistop landing areas located on buildings or structures shall be provided with two exits, or exit access stairways or ramps providing access to exits. s one of the values in Table 1021.2(1) or 1021.2(2).~~
~~**Exceptions:**~~
~~*12.* Rooms, areas and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit *or access to a single exit*.~~
~~*23.* Group R-3 occupancy buildings shall be permitted to have one exit *where each individual story complies with Table 1021.2(1)*.~~
~~*34.* Parking garages where vehicles are mechanically parked shall be permitted to have one exit *or access to a single exit*.~~
~~4. Air traffic control towers shall be provided with the minimum number of exits specified in Section 412.3.~~
~~5. Individual dwelling units in compliance with Section 1021.2.3.~~
~~*65.* Group R-3 and R-4 congregate residences shall be permitted to have one exit *where each individual story complies with Table 1021.2(1) or 1021.2(2)*.~~
~~*6.* Individual single-story or multi-story dwelling units shall be permitted to have a single exit *or access to a single exit* within and from the dwelling unit provided that all of the following criteria are met:~~
~~*6.1* The dwelling unit complies with Section 1015.1 as a space with one means of egress and~~
~~*6.2* Either the exit from the dwelling unit discharges directly to the exterior at the level of exit discharge, or the exit access outside the dwelling unit's entrance door provides access to not less than two approved independent exits.~~
~~7. Exits serving specific spaces or areas need not be accessed by the remainder of the story when all of the following are met:~~
~~7.1 The number of exits from the entire story complies with Section 1021.2.4;~~
~~7.2 The access to exits from each individual space in the story complies with Section 1015.1; and~~
~~7.3 All spaces within each portion of a story shall have access to the minimum number of approved independent exits based on the occupant load of that portion of the story but not less than two exits.~~

[Editorial Note: Remove section 1021.2.2. Model code was also removed from the 2012 IBC (section 1021.2.2)]
~~***1021.2.2 Exits from specific space.*** *Exits serving specific spaces or areas need not be accessed by the remainder of the story when all of the following are met:*~~

~~*1. The number of exits from the entire story complies with Section 1021.4.1 1021.1;*~~
~~*2. The access to exits from each individual space in the story complies with Section* 1015.1*; and*~~
~~*3. All spaces within each portion of a story shall have access to the minimum number of approved independent exits based on the occupant load of that portion of the story but not less than two exits.*~~

~~**1022.2**~~**1023.2 Construction.** Enclosures for interior exit stairways and ramps shall be constructed as fire barriers in accordance with Section 707 of the ~~*International*~~*California Building Code* or horizontal assemblies constructed in accordance with Section 711 of the ~~*International*~~*California Building Code*, or both. Interior exit stairway and ramp enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the interior exit stairways or ramps shall include any basements, but not any mezzanines. Interior exit stairways and ramps shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.

Exceptions~~s~~:
1.~~*1.*~~ Interior exit stairways and ramps in Group I-3 occupancies in accordance with the provisions of Section 408.3.8 of the ~~*International*~~*California Building Code*.
2. Interior exit stairways within an atrium enclosed in accordance with Section 404.6 of the ~~*International*~~*California* Building Code
~~*2.*~~*3. Fixed guideway transit stations, constructed in accordance with Section ~~433~~443 of the California Building Code.*

~~**1022.3.1**~~**1023.3.1 Extension.** Where interior exit stairways and ramps are extended to an exit discharge or a public way by an exit passageway, the interior exit stairway and ramp shall be separated from the exit passageway by a fire barrier constructed in accordance with Section 707 of the ~~*International*~~*California Building Code* or a horizontal assembly constructed in accordance with Section 711 of the ~~*International*~~*California Building Code*, or both. The fire-resistance rating shall be not less than that required for the interior exit stairway and ramp. A fire door assembly complying with Section 716.5 of the ~~*International*~~*California Building Code* shall be installed in the fire barrier to

provide a means of egress from the interior exit stairway and ramp to the exit passageway. Openings in the fire barrier other than the fire door assembly are prohibited. Penetrations of the fire barrier are prohibited.

Exceptions:
1. Penetrations of the fire barrier in accordance with Section 1023.5 shall be permitted.
2. Separation between an interior exit stairway or ramp and the exit passageway extension shall not be required where there are no openings into the exit passageway extension.

~~1022.4~~1023.4 Openings. Interior exit stairway and ramp opening protectives shall be in accordance with the requirements of Section 716 of the ~~*International*~~*California Building Code*. Openings in interior exit stairways and ramps other than unprotected exterior openings shall be limited to those necessary for exit access to the enclosure from normally occupied spaces and for egress from the enclosure. Elevators shall not open into interior exit stairways and ramps.

~~1022.5~~1023.5 Penetrations. Penetrations into or through interior exit stairways and ramps are prohibited except for equipment and ductwork necessary for independent ventilation or pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication systems and electrical raceway serving the interior exit stairway and ramp and terminating at a steel box not exceeding 16 square inches (0.010 m2). Such penetrations shall be protected in accordance with Section 714 of the ~~*International*~~*California Building Code*. There shall be no penetrations or communication openings, whether protected or not, between adjacent interior exit stairways and ramps.

Exception: Membrane penetrations shall be permitted on the outside of the interior exit stairway and ramp. Such penetrations shall be protected in accordance with Section 714.3.2 of the ~~*International*~~*California Building Code*.

~~1022.6~~1023.6 Ventilation. Equipment and ductwork for interior exit stairway and ramp ventilation as permitted by Section 1023.5 shall comply with one of the following items:
1. Such equipment and ductwork shall be located exterior to the building and shall be directly connected to the interior exit stairway and ramp by ductwork enclosed in construction as required for shafts.
2. Where such equipment and ductwork is located within the interior exit stairway and ramp, the intake air shall be taken directly from the outdoors and the exhaust air shall be discharged directly to the outdoors, or such air shall be conveyed through ducts enclosed in construction as required for shafts.
3. Where located within the building, such equipment and ductwork shall be separated from the remainder of the building, including other mechanical equipment, with construction as required for shafts.

In each case, openings into the fire-resistance-rated construction shall be limited to those needed for maintenance and operation and shall be protected by opening protectives in accordance with Section 716 of the ~~*International*~~*California Building Code* for shaft enclosures.

The interior exit stairway and ramp ventilation systems shall be independent of other building ventilation systems.

~~1022.7~~1023.7 Interior exit stairway and ramp exterior walls. Exterior walls of the interior exit stairway or ramp shall comply with the requirements of Section 705 of the ~~*International*~~*California Building Code* for exterior walls. Where nonrated walls or unprotected openings enclose the exterior of the stairway or ramps and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or ramp, or to the roof line, whichever is lower.

~~1022.9~~1023.9 Stairway identification signs. A sign shall be provided at each floor landing in an interior exit stairway and ramp connecting more than three stories designating the floor level, the terminus of the top and bottom of the interior exit stairway and ramp and the identification of the stairway or ramp. The signage shall also state the story of, and the direction to, the exit discharge and the availability of roof access from the interior exit stairway and ramp for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. ~~In addition to the stairway identification sign, a floor-level sign in~~ , ~~raised characters and braille complying with ICC A117.1 shall be located at each floor-level landing adjacent to the door leading from the interior exit stairway and ramp into the corridor to identify the floor level.~~

In addition to the stairway identification sign, raised characters and braille floor identification signs that comply with Chapter 11B of the California Building Code shall be located at the landing of each floor level, placed adjacent to the door on the latch side, in all enclosed stairways in buildings two or more stories in height to identify the floor level. At the exit discharge level, the sign shall include a raised five pointed star located to the left of the identifying floor level. The outside diameter of the star shall be the same as the height of the raised characters.

~~1022.9.1~~1023.9.1 Signage requirements. Stairway identification signs shall comply with all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The letters designating the identification of the ~~interior exit stairway and ramp~~ *stair enclosure, such as* STAIR NO. 1 *or* WEST STAIR*, shall be placed at the top of the sign and* shall be not less than 11/2 inches (38 mm) in height *block lettering with ¼-inch (6-mm) strokes*.
3. The number designating the floor level shall be not less than of 5 inches (127 mm) in height *with ¾-inch (19mm) strokes* and located in the center of the sign. *The mezzanine levels shall have the letter "M" preceding the floor level. basement levels shall have the letter "B" preceding the floor number.*
4. Other lettering and numbers shall be a minimum of 1 inch (25 mm) in height.
5. The stairway's upper terminus, such as ROOF ACCESS *or* NO ROOF ACCESS*, shall be placed under the stairway identification in 1-inch-high (25 mm) block lettering with ¼-inch (6 mm) strokes.*
6. The lower and upper terminus of the stairway shall be placed at the bottom of the sign in 1-inch-high (25 mm) block lettering with ¼-inch (6 mm) strokes.
~~5.~~*7.* Characters and their background shall have a nonglare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.
~~6.~~*8.* Where signs required by Section 1023.9 are installed in the interior exit stairways and ramps of buildings subject to Section 1025, the signs shall be made of the same materials as required by Section 1025.4.

~~1022.10~~1023.11 Smokeproof enclosures. Where required by Section 403.5.4 or 405.7.2 of the ~~*of the International*~~*California Building Code*, interior exit stairways and ramps shall be smokeproof enclosures in accordance with Section 909.20 *of the California Building Code*.

~~1022.10.1~~1023.11.1 Termination and extension. A smokeproof enclosure shall terminate at an exit discharge or a public way. The smokeproof enclosure shall be permitted to be extended by an exit passageway in accordance with Section 1023.2. The exit passageway shall be without openings other than the fire door assembly required by Section 1023.1 and those necessary for egress from the exit passageway. The exit passageway shall be separated from the remainder of the building by 2-hour fire barriers constructed in accordance with Section 707 of the ~~International~~*California Building Code* or horizontal assemblies constructed in accordance with Section 711 of the ~~International~~*California Building Code*, or both.

Exceptions:
1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.
2. The fire barrier separating the smokeproof enclosure ~~or pressurized stairway~~ from the exit passageway is not required, provided the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure.
3. A smokeproof enclosure shall be permitted to egress through areas on the level of discharge or vestibules as permitted by Section 1028.

~~1022.10.2~~1023.11.2 Enclosure access. Access to the stairway or ramps within a smokeproof enclosure shall be by way of a vestibule or an open exterior balcony.

~~**Exception:** Access is not required by way of a vestibule or exterior balcony for stairways and ramps using the pressurization alternative complying with Section 909.20.5 of the International Building Code.~~

~~1023.2~~1024.2 Width. The required capacity of exit passageways shall be determined as specified in Section 1005.1 but the minimum width shall be not less than 44 inches (1118 mm), except that exit passageways serving an occupant load of less than 50 shall be not less than 36 inches (914 mm) in interior exit ramps and exit passageways, with the exception of the sides of steps, shall be provided with solid and continuous demarcation lines on the floor or on the walls or a combination of both. The stripes shall be 1 to 2 inches (25 mm to 51 mm) wide with interruptions not

exceeding 4 inches (102 mm).

Exception: The minimum width of 1 inch (25 mm) shall not apply to outlining stripes listed in accordance with UL 1994.

The clear width of exit passageways in a Group I-2 occupancy used for the movement of beds and litters shall be 44" (1118) minimum.

~~1023.3~~1024.3 Construction. Exit passageway enclosures shall have walls, floors and ceilings of not less than a 1-hour fire-resistance rating, and not less than that required for any connecting interior exit stairway or ramp. Exit passageways shall be constructed as fire barriers in accordance with Section 707 of the *~~International~~California Building Code* or horizontal assemblies constructed in accordance with Section 711 of the *~~International~~California Building Code*, or both.

~~1023.5~~1024.5 Openings. Exit passageway opening protective shall be in accordance with the requirements of Section 716 of the *~~International~~California* Building Code.

Except as permitted in Section 402.8.7 of the *~~International~~California* Building Code, openings in exit passageways other than unprotected exterior openings shall be limited to those necessary for exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where an interior exit stairway or ramp is extended to an exit discharge or a public way by an exit passageway, the exit passageway shall comply with Section 1023.3.1.

Elevators shall not open into an exit passageway.

~~1023.6~~1024.6 Penetrations. Penetrations into or through an exit passageway are prohibited except for equipment and ductwork necessary for independent pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication and electrical raceway serving the exit passageway and terminating at a steel box not exceeding 16 square inches (0.010 m2). Such penetrations shall be protected in accordance with Section 714 of the *~~International~~California Building Code*. There shall not be penetrations or communicating openings, whether protected or not, between adjacent exit passageways.

Exception: Membrane penetrations shall be permitted on the outside of the exit passageway. Such penetrations shall be protected in accordance with Section 714.3.2 of the *~~International~~California Building Code*.

~~1025.2~~1026.2 Separation. The separation between buildings or refuge areas connected by a horizontal exit shall be provided by a fire wall complying with Section 706 of the *~~International~~California Building Code*; or by a fire barrier complying with Section 707 of the *~~International~~California Building Code* or a horizontal assembly complying with Section 711 of the *~~International~~California Building Code*, or both. The minimum fire-resistance rating of the separation shall be 2 hours. Opening protectives in horizontal exits shall also comply with Section 716 of the *~~International~~California Building Code*. Duct and air transfer openings in a fire wall or fire barrier that serves as a horizontal exit shall also comply with Section 717 of the *~~International~~California Building Code*. The horizontal exit separation shall extend vertically through all levels of the building unless floor assemblies have a fire-resistance rating of not less than 2 hours with no unprotected openings.

Exception: A fire-resistance rating is not required at horizontal exits between a building area and an above-grade pedestrian walkway constructed in accordance with Section 3104 of the *~~International~~California Building Code*, provided that the distance between connected buildings is more than 20 feet (6096 mm).

Horizontal exits constructed as fire barriers shall be continuous from exterior wall to exterior wall so as to divide completely the floor served by the horizontal exit.

~~1025.3~~1026.3 Opening protectives. Fire doors in horizontal exits shall be self-closing or automatic-closing when activated by a smoke detector in accordance with Section 716.5.9.3 of the *~~International~~California Building Code*. Doors, where located in a cross-corridor condition, shall be automatic-closing by activation of a smoke detector installed in accordance with Section 716.5.9.3 of the *~~International~~California Building Code*.

[Editorial Note: 2013 CBC amendments for Section 1026.4 relocated to 1026.4.2]

~~1025.4~~1026.4 Refuge area. The refuge area of a horizontal exit shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment shall be based on the capacity of the horizontal exit doors entering the refuge area.

~~1027.1~~1028.1 General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide *a* direct ~~access~~*path of egress travel* to grade. The exit discharge shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required exits.

Exceptions:
1. Not more than 50 percent of the number and minimum width or required capacity of interior exit stairways and ramps is permitted to egress through areas on the level of discharge provided all of the following conditions are met:
1.1. Discharge of interior exit stairways and ramps shall be provided with a free and unobstructed path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the enclosure.
1.2. The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating for the enclosure.
1.3. The egress path from the interior exit stairway and ramp on the level of exit discharge is protected throughout by an approved automatic sprinkler system. Portions of the level of exit discharge with access to the egress path shall either be equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of interior exit stairways or ramps.
1.4. Where a required interior exit stairway or ramp and an exit access stairway or ramp serve the same floor level and terminate at the same level of exit discharge, the termination of the exit access stairway or ramp and the exit discharge door of the interior exit stairway or ramp shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the exit discharge door from the interior exit stairway or ramp and the last tread of the exit access stairway or termination of slope of the exit access ramp.

2. Not more than 50 percent of the number and minimum width or required capacity of the interior exit stairways and ramps is permitted to egress through a vestibule provided all of the following conditions are met:
2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating of the interior exit stairway or ramp enclosure.
2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
2.3 The area is separated from the remainder of the level of exit discharge by a fire partition constructed in accordance with Section 708 of the International Building Code.

Exception: The maximum transmitted temperature rise is not required.

2.4. The area is used only for means of egress and exits directly to the outside.
3. Horizontal exits complying with Section 1026 shall not be required to discharge directly to the exterior of the building.

~~1027.5~~1028.5 Access to a public way. The exit discharge shall provide a direct and unobstructed access to a public way.

Exception: Where access to a public way cannot be provided, a safe dispersal area shall be provided where all of the following are met:

1. The area shall be of a size to accommodate not less than 5 square feet (0.28 m^2) for each person.
2. *For other than Group E buildings,* ~~T~~*t*he area shall be located on the same lot not less than 50 feet (15 240 mm) away from the building requiring egress*. For Group E buildings, the area shall be located on the same lot at least 50 feet (15 240 mm) away from any building.*
3. The area shall be permanently maintained and identified as a safe dispersal area.
4. The area shall be provided with a safe and unobstructed path of travel from the building.

~~1028.1~~1029.1 General. A room or space used for assembly purposes that contains seats, tables, displays, equipment or other material shall comply with this section.

Exception: *Group A occupancies within Group I-3 facilities are exempt from egress requirements of 1028.*

~~1028.2~~1029.2 Assembly main exit. A building, room or space used for assembly purposes that has an occupant load of greater than 300 and is provided with a main exit, that main exit shall be of sufficient capacity to accommodate not less than one-half of the occupant load, but such capacity shall be not less than the total required capacity of all means of egress leading to the exit. Where the building is classified as a Group A occupancy, the main exit shall front on not less than one street or an unoccupied space of not less than ~~10 feet (3048 mm)~~ *20 feet (6096 mm)* in width that adjoins a street or public way. In a building, room or space used for assembly purposes where there is not a well defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building provided that the total capacity of egress is not less than 100 percent of the required capacity *and ~~at least~~not less than one exit shall discharge on a street or an unoccupied space of not less than 20 feet (6096 mm)in ~~width~~capacity that adjoins a street or publicway. Smoke-protected seating shall comply with Section ~~1028.6.2~~1029.6.2.*

~~1028.3~~1029.3 Assembly other exits. In addition to having access to a main exit, each level in a building used for assembly purposes having an occupant load greater than 300 and provided with a main exit, shall be provided with additional means of egress that shall provide an egress capacity for not less than one-half of the total occupant load served by that level and shall comply with Section 1007.1. *~~At least~~Not less than one-half of the additional means of egress required by this section shall be directly to an exit, or through a lobby, that is not used to access the main exit, to an exit, or to a one hour rated corridor to an exit.* In a building used for assembly purposes where there is not a well-defined main exit or where multiple main exits are provided, exits for each level shall be permitted to be distributed around the perimeter of the building, provided that the total width of egress is not less than 100 percent of the required width *and ~~at least~~not less than one exit shall discharge on a street or an unoccupied space of not less than 20 feet (6096 mm) in ~~width~~capacity that adjoins a street or publicway.Smoke-protected seating shall comply~~ing~~ with Section ~~1028.6.2~~1029.6.2.*

~~1028.3.1~~1029.3.1 ***Occupant loads 300 or less.*** *Group A occupancies or assembly occupancies accessory to Group E occupancies that have an occupant load of 100 or more and 300 or less, shall have ~~at least~~not less than one of the required means of egress directly to an exit, or through a lobby, that is not used to access the other required exit, to an exit, or to a one-hour rated corridor to an exit or continuous through a one-hour rated lobby to an exit. A~~t least~~Not less than one exit shall discharge on a street or an unoccupied space of not less than 20 feet (6096 mm) in ~~width~~capacity that adjoins a street or public way.*

~~1028.6.4~~1029.6.4 ***Public address system.*** *See section 907.2.1.3.*

~~1028.9.1~~1029.9.1 Minimum aisle width. The minimum clear width for aisles shall comply with one of the following:

1. Forty-eight inches (1219 mm) for stepped aisles having seating on each side.

Exception: Thirty-six inches (914 mm) where the stepped aisles serve less than 50 seats.

2. Thirty-six inches (914 mm) for stepped aisles having seating on only one side.

Exception: Twenty-three inches (584 mm) between an aisle stair handrail and seating where a stepped aisle does not serve more than five rows on one side.

3. Twenty-three inches (584 mm) between a stepped aisle handrail or guard and seating where the stepped aisle is subdivided by a mid-aisle handrail.
4. Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.

Exceptions:
1. Thirty-six inches (914 mm) where the aisle serves less than 50 seats.
2. Thirty inches (762 mm) where the aisle does not serve more than 14 seats.

5. Thirty-six inches (914 mm) for level or ramped aisles having seating on only one side.

Exception: For other than ramped aisles that serve as part of an accessible route, 30 inches (762 mm) where the ramped aisle does not serve more than 14 seats.

6. Libraries with open book stacks shall have main aisles not less than 44 inches (1118 mm) in width, and side, range and end aisles not less than 36 inches (914 mm) in width.

~~1028.12~~1029.14 Seat stability…

[California Code of Regulations, Title 19, Division 1, §3.06(a)] Bonding of Chairs and Spacing of Tables.

(a) Bonding of chairs. In every Group A and Group E occupancy, all loose seats, folding chairs or similar seating facilities that are not fixed to the floor shall be bonded together in groups of not less than three.

Exceptions:
(1) When not more than 200 such seats, chairs or facilities are provided, bonding thereof may be deleted.
(2) The bonding of chairs shall not be required when tables are provided as when the occupancy is used for dining or similar purposes.
(3) Upon approval of the enforcing agency, the bonding of chairs shall not be required when the placement and location of such chairs do not obstruct any required exit or any line of egress toward required exits and do not constitute a fire hazard as defined in California Code of Regulations, Title 19, Division 1, Section 3.14.

~~1029.1~~1030.1 General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue openings in Group R~~-2~~ occupancies ~~in accordance with Tables 1006.3.2(1) and 1006.3.2(2) and Group R-3 occupancies~~. Basements and sleeping rooms below the fourth story above grade plane shall have at least one exterior emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, emergency escape and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such openings shall open directly into a public way or to a yard or court that opens to a public way.

Exceptions:
1. In Groups R-1 and R-2 occupancies constructed of Type I, Type IIA, Type IIIA or Type IV construction equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1
~~1.~~*2.* Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue openings.
~~2.~~*3.* Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior exit balcony that opens to a public way.
~~3.~~*4.* Basements without habitable spaces and having not more than 200 square feet (18.6 m2) in floor area shall not be required to have emergency escape and rescue openings.

~~1029.4~~1030.4 Operational constraints. Emergency escape and rescue openings *and any exit doors* shall be *maintained free of any obstructions other than those allowed by this section and shall be* operational from the inside of the room ~~without the use of keys or tools~~. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with Section 1030.2 and such devices shall be releasable or removable from the inside without the use of a key, tool*, special knowledge or effort* or force greater than that which is required for normal operation of the escape and rescue opening. Where such bars, grilles, grates or similar devices are installed ~~in existing buildings~~, smoke alarms shall be installed in accordance with Section 907.2.11 regardless of the valuation of the alteration. *The release mechanism shall be maintained operable at all times.*

Such bars, grills, grates or any similar devices shall be equipped with an approved exterior release device for use by the fire department only when required by the authority having jurisdiction.

Where security bars (burglar bars) are installed on emergency egress and rescue windows or doors, on or after July 1, 2000, such devices shall comply with California Building Standards Code, Part 12, Chapter 12-3 and other applicable provisions of Part 2.

Exception: *Group R-1 occupancies provided with a monitored fire sprinkler system in accordance with section 903.2.8 and designed in accordance with NFPA 13 may have openable windows permanently restricted to a maximum 4-inch (102mm) open position.*

[California Code of Regulations, Title 19, Division 1, §4.2] Labeling.

Burglar bars shall not be sold in California at wholesale or retail unless warning information as specified in California Code of Regulations, Title 19, Division 1, Section 4.3 is provided either on the packaging or provided inside the packaging along with the burglar bars.

[California Code of Regulations, Title 19, Division 1, §4.3(a) through (c)] Warning Information.

(a) Warning information located on or in burglar bar packaging shall contain the following information:
(1) Warning that the burglar bars are intended to deter or delay intruders, they are not intended to prevent entry.
(2) A reprint of the following requirements from California Building Code, Part 2, Chapter 10:
"Bars, grilles, grates or similar devices may be installed on emergency escape or rescue windows, doors or window wells, or any required exit door, provided:
1. The devices are equipped with approved release mechanisms which are openable from the inside without the use of a key or special knowledge or effort; and
2. The building is equipped with smoke alarms installed in accordance with California Building Code, Part 2, Section 907.
Such bars, grilles, grates or similar devices shall be equipped with an approved release device for use by the fire department only on the exterior side for the purpose of fire department emergency access, when required by the authority having jurisdiction."
(3) A statement regarding the necessity of installing early warning smoke alarms (as required by the California Building Code, Part 2, Section 907) and planning occupant's escape routes and meeting places.
(4) Contact the local building and fire official to determine if a local ordinance requires a building permit prior to installation and if the burglar bars are required to have a release mechanism on the outside for use by the fire department in the event of a fire emergency.
(5) Written directions and illustrations on the operation of the emergency escape release mechanisms. These directions shall include a warning that the mechanisms be tested on a monthly basis.
(b) The textual information required by this section shall be printed in a minimum 12 –point non –decorative lettering providing a sharp contrast to the background.
(c) Graphical information required by this section shall be of sufficient size to clearly illustrate the intended actions.

[California Code of Regulations, Title 19, Division 1, §4.4] Warning Information Location.

When placed on burglar bar packaging, the information required by California Code of Regulations, Title 19, Division 1, Section 4.3 shall be conspicuously located and shall not be covered or made illegible by product advertising not required by Section 4.3.

[California Code of Regulations, Title 19, Division 1, §4.5(a)] Contractor or Installer Disclosures.

Any contractor or installer of burglar bars shall provide the owner of the residential dwelling the warning information required pursuant to California Code of Regulations, Title 19, Division 1, Section 4.3 prior to installing burglar bars.

[California Code of Regulations, Title 19, Division 1, §4.6(a) and (b)] Prohibited Installations.

No person shall install for profit unopenable burglar bars on a residential dwelling:
(a) Where the California Building Code requires openable burglar bars for emergency escape or rescue, or
(b) On mobilehomes, manufactured homes, or multiunit manufactured housing unless at least one window or door to the exterior in each bedroom is openable for emergency escape or rescue.

~~1030.1~~1031.1 General…

[California Code of Regulations, Title 19, Division 1, §3.11(a) through (d)] Exits, Aisles, Ramps, Corridors and Passageways.

(a) No person shall install, place or permit the installation or placement of any bed, chair, equipment, concession, turnstile, ticket office or anything whatsoever, in any manner which would block or obstruct the required width of any exit.
(b) No person shall install, place or permit the installation or placement of any combustible material or equipment in or exposed to any exit.

Exceptions:*:*
(1) Furniture or equipment constructed of wood or other material of similar combustibility may be permitted in an exit or exposed to an exit when approved by the enforcing agency.
(2) When approved by the enforcing agency, combustible materials, may be permitted in exit foyers and lobbies.

(c) No person shall install, place or permit the installation or placement of any storage material of any kind in any exit regardless of the required width of such exit.

Exception: *Personal material located in metal lockers in Groups B and E Occupancies as defined in California Code of Regulations, Title 24, Part 2.*

(d) Aisles shall not be occupied by any person for whom seating is not available.

CHAPTER 11
CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

1101.2 Intent. The intent of this chapter is to provide a minimum degree of fire and life safety to persons occupying existing buildings by providing minimum construction requirements where such existing buildings do not comply with the minimum requirements of the ~~*International*~~*California Building Code*.

1101.3 Permits. Permits shall be required as set forth in Sections 105.6 and 105.7 and the ~~*International*~~*California Building Code* and this code.

1103.7 Fire alarm systems. An approved fire alarm system shall be installed in existing buildings and structures in accordance with Sections 1103.7.1 through 1103.7.7 and provide occupant notification in accordance with Section 907.5 unless other requirements are provided by other sections of this code. *Existing high-rise buildings shall comply with Section ~~1103.7.8~~1103.7.9.*

Exception: Occupancies with an existing, previously approved fire alarm system.

1103.7.3 Group I-2 *and Group I-2.1*. In Group I-2 *and Group I-2.1*, an automatic fire alarm system *that activates the occupant notification system in accordance with Section 907.5* shall be installed in accordance with Section 1105.9.

1103.7.3.1 Additional provisions for existing Group I Occupancies: *In projects requiring the Office of Statewide Health Planning and Development approval in existing Group I-2 and I-2.1 occupancies located in buildings defined as hospitals in Section 1250 of the Health and Safety Code, facilities not equipped with an automatic sprinkler system throughout shall be equipped with an automatic fire alarm system which responds to the products of combustion other than heat.*

Exception: *Heat detectors may be used in closets, unusable spaces under floor areas, storage rooms, bathrooms, and rooms of similar use.*

1103.7.8 Existing Group R 1 and Group R 2 High-rise. ~~*Notwithstanding the provisions of Section 3414.23 of the California Building Code, every existing high-rise building used for the housing of a Group R-1 or Group R-2 Occupancies shall have installed therein a fire alarm system conforming to this subsection*~~ *See Section 1113.3.*

1103.7.8.1 General. *Every apartment house and every hotel shall have installed therein an automatic or manually operated fire alarm system. Such fire alarm systems shall be so designed that all occupants of the building may be warned simultaneously.*

1103.7.8.2 Installation. *The installation of all fire alarm equipment shall be in accordance with this Code.*

1103.7.9 Existing High-rise Buildings

1103.7.9.1 Fire alarm system. *Every existing high-rise building shall be provided with an approved fire alarm system. In department stores, retail sales stores and similar occupancies where the general public is admitted, such systems shall be of a type capable of alerting staff and employees. In office buildings and all other high-rise buildings, such systems shall be of a type capable of alerting all occupants simultaneously.*

Exceptions:
1. In areas of public assemblage, the type and location of audible appliances shall be as determined by the enforcing agency.

2. When acceptable to the enforcing agency, the occupant voice notification system required by ~~California Building Code~~ Section ~~3414.20~~1114.20 and California Existing Building Code may be used in lieu of the fire alarm system.

1103.7.9.2 Existing systems. *Existing fire alarm systems, when acceptable to the enforcing agency, shall be deemed as conforming to the provisions of these regulations.*

1103.7.9.3 Annunciation*. When a new fire alarm system is installed, it shall be connected to an annunciator panel installed in a location approved by the enforcing agency.*

For purposes of annunciation, zoning shall be in accordance with Section ~~907.6.3.4~~907.6.4.4:

1103.7.9.4 Monitoring *Shall be in accordance with section ~~907.6.5~~907.6.6.*

1103.7.9.5 Systems Interconnection*. When an automatic fire detection system or automatic extinguishing system is installed, activation of such system shall cause the sounding of the fire alarm notification appliances at locations designated by the enforcing agency.*

1103.7.9.6 Manual fire alarm boxes*. A manual fire alarm box shall be provided in the locations designated by the enforcing agency. Such locations shall be where boxes are readily accessible and visible and in normal paths of daily travel by occupants of the building.*

1103.7.9.7 Emergency voice/alarm communication system. *Such system shall provide communication from a location available to and designated by the enforcing agency to not less than all public areas.*

The emergency voice/alarm commutation system may be combined with a fire alarm system provide the combined system has been approved and listed by the State Fire Marshal. The sounding of a fire alarm signal in any given area or floor shall not prohibit voice communication to other areas of floors. Combination systems shall be designed to permit voice transmission to override the fire alarm signal, but the fire alarm signal shall not terminate in less than three minutes.

1103.7.9.8 Fire department system. *When it is determined by test that portable fire department communication equipment is ineffective, a communication system acceptable to the enforcing agency shall be installed within the building to permit emergency communication between fire-suppression personnel.*

1103.7.9.9 Smoke control systems*. Existing air-circulation systems shall be provided with an override switch in a location approved by the enforcing agency which will allow for the manual control of shutdown of the systems.*

Exception: *Systems which serve only a single floor, or portion thereof, without any penetration by ducts or other means into adjacent floors.*

1103.7.9.10 Elevator recall smoke detection*. Smoke detection for emergency operation of elevators shall be provided in accordance with Section 907.3.3.*

1103.8.2 Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling or sleeping unit, 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.

Exceptions:
1. Interconnection is not required in buildings that are not undergoing alterations, repairs or construction of any kind.
2. Smoke alarms in existing areas are not required to be interconnected where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available that could provide access for interconnection without the removal of interior finishes.
3. Smoke alarms are not required to be interconnected where repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
4. Smoke alarms are not required to be interconnected when work is limited to the installation, alteration or repairs of plumbing or mechanical systems or the installation, alteration or repair of electrical systems which do not result in the

removal of interior wall or ceiling finishes exposing the structure.

1103.8.3 Power source. Single-station smoke alarms shall receive their primary power from the building wiring provided that 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 backup shall be connected to an emergency electrical system. 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.

Exceptions:
1. Smoke alarms are permitted to be solely battery operated in existing buildings where construction is not taking place.
2. Smoke alarms are permitted to be solely battery operated in buildings that are not served from a commercial power source.
3. Smoke alarms are permitted to be solely battery operated in existing areas of buildings undergoing *alterations* or repairs that do not result in the removal of interior walls or ceiling finishes exposing the structure, unless there is an attic, crawl space or *basement* available that could provide access for building wiring without the removal of interior finishes.
4. Smoke alarms are permitted to be solely battery operated where repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
5. Smoke alarms are permitted to be solely battery operated when work is limited to the installation, alteration or repairs of plumbing or mechanical systems or the installation, alteration or repair of electrical systems which do not result in the removal of interior wall or ceiling finishes exposing the structure.

1103.8.4 Group R-3.1 *In all facilities housing a bedridden client, smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall be electrically interconnected so as to cause all smoke alarms to sound a distinctive alarm signal upon actuation of any single smoke alarm. Such alarm signal shall be audible throughout the facility at a minimal level of 15 db above ambient noise level. These devices need not be interconnected to any other fire alarm device, have a control panel, or be electrically supervised or provided with emergency power.*

1103.8.5 Additional provisions for existing Group R occupancies.

1103.8.5.1 *Existing Buildings housing Group R Occupancies established prior to the effective date of these regulations may have their use continued if they conform or are made to conform to provisions of these regulations to the extent that reasonable and adequate life safety against the hazards of fire, panic and explosion is substantially provided. Additional means of egress, the installation of automatic sprinkler systems, automatic fire alarm system or other life safety measures, may be required to provide reasonable and adequate safety.*

Note: *It is the intent of this sections that every existing occupancy need not mandatorily conform with the requirements for new construction. Reasonable judgment in the application of requirements must be exercised by the enforcing agency.*

1103.8.5.2 *For purposes of clarification, Health and Safety Code section 13113.7 is repeated.*
(a) Except as otherwise provided in this section, a smoke detector, approved and listed by the State Fire Marshal pursuant to Section 13114, shall be installed, in accordance with the manufacturer's instructions in each dwelling intended for human occupancy within the earliest applicable time period as follows:
(1) For all dwelling units intended for human occupancy, upon the owner's application on or after January 1, 1985, for a permit for alterations, repairs, or additions, exceeding one thousand dollars ($1,000).
(2) For all other dwelling units intended for human occupancy on or after January 1, 1987.
However, if any local rule, regulation, or ordinance, adopted prior to the compliance dates specified in paragraphs (1) and (2) requires installation in a dwelling unit intended for human occupancy of smoke detector, which receive their power from the electrical system of the building and requires compliance with the local rule, regulation, or ordinance at a date subsequent to the dates specified in this section, the compliance date specified in the rule, regulation, or ordinance shall, but only with respect to the dwelling units specified in this section, take precedence over the dates specified in this section.
The State Fire Marshal may adopt regulations exempting dwellings intended for human occupancy with fire sprinkler systems from the provisions of this section, if he or she determines that a smoke detector is not reasonably necessary for fire safety in the occupancy.

Unless prohibited by local rules, regulations, or ordinances, a battery-operated smoke detector which otherwise meets the standards adopted pursuant to Section 13114 for smoke detectors, satisfies the requirements of this section.
(b) "Dwelling units intended for human occupancy," as used in this section, includes a duplex, lodging house, apartment complex, hotel, motel, condominium, stock cooperative, time-share project, or dwelling unit of a multiple-unit dwelling complex. For the purpose of this part, "dwelling units intended for human occupancy" does not include manufactured homes as defined in Section 18007, mobilehomes as defined in Section 18008, and commercial coaches as defined in 18001.8.
(c) The owner of each dwelling unit subject to this section shall supply and install smoke detectors required by this section in the locations and in the manner set forth in the manufacturer's instructions, as approved by the State Fire Marshal's regulations. In the case of apartment complexes and other multiple-dwelling complexes, a smoke detector shall be installed in the common stairwells. All fire alarm warning systems supplemental to the smoke detector shall also be listed by the State Fire Marshal.
(d) A high rise structure, as defined in subdivision (b) of Section 13210 and regulated by Chapter 3 (commencing with Section 13210), and which is used for purposes other than as dwelling units intended for human occupancy, is exempt from the requirements of this section.
(e) The owner shall be responsible for testing and maintaining detectors in hotels, motels, lodging houses, and common stairwells of apartment complexes and other multiple dwelling complexes.
An owner or the owner's agent may enter any dwelling unit, efficiency dwelling unit, guest room, and suite owned by the owner for the purpose of installing, repairing, testing, and maintaining single station smoke detectors required by this section. Except in cases of emergency, the owner or owner's agent shall give the tenants of each such unit, room, or suite reasonable notice in writing of the intention to enter and shall enter only during normal business hours. Twenty-four hours shall be presumed to be reasonable notice in absence of evidence to the contrary.
The smoke detector shall be operable at the time that the tenant takes possession. The apartment complex tenant shall be responsible for notifying the manager or owner if the tenant becomes aware of an inoperable smoke detector within his or her unit. The owner or authorized agent shall correct any reported deficiencies in the smoke detector and shall not be in violation of this section for a deficient smoke detector when he or she has not received notice of the deficiency.
(f) A violation of this section is an infraction punishable by a maximum fine of two hundred dollars ($200) for each offense.
(g) This section shall not affect any rights which the parties may have under any other provision of law because of the presence or absence of a smoke detector.
(h) This section shall not apply to the installation of smoke detectors in single-family dwellings or factory-built housing which is regulated by Section 13113.8, as added by Assembly Bill No. 2285 of the 1983-84 Regular Session.

1103.8.5.3 *For purposes of clarification, Health and Safety Code section 13113.8 is repeated.*
(a) On and after January 1, 1986, every single-family dwelling and factory-built housing, as defined in Section 19971, which is sold shall have an operable smoke detector. The detector shall be approved and listed by the State Fire Marshal and installed in accordance with the State Fire Marshal's regulations. Unless prohibited by local rules, regulations, or ordinances, a battery-operated smoke detector shall be deemed to satisfy the requirements of this section.
(b) On and after January 1, 1986, the transferor of any real property containing a single-family dwelling, as described in subdivision (a), whether the transfer is made by sale, exchange, or real property sales contract, as defined in Section 2985 of the Civil Code, shall deliver to the transferee a written statement indicating that the transferor is in compliance with this section. The disclosure statement shall be either included in the receipt for deposit in a real estate transaction, an addendum attached thereto, or a separate document.
(c) The transferor shall deliver the statement referred to in subdivision (b) as soon as practicable before the transfer of title in the case of a sale or exchange, or prior to execution of the contract where the transfer is by a real property sales contract, as defined in Section 2985. or purposes of this subdivision, "delivery" means delivery in person or by mail to the transferee or transferor, or to any person authorized to act for him or her in the transaction, or to additional transferees who have requested delivery from the transferor in writing. Delivery to the spouse of a transferee or transferor shall be deemed delivery to a transferee or transferor, unless the contract states otherwise.
(d) This section does not apply to any of the following:
(1) Transfers which are required to be preceded by the furnishing to a prospective transferee
of a copy of a public report pursuant to Section 11018.1 of the Business and Professions Code.
(2) Transfers pursuant to court order, including, but not limited to, transfers ordered by a probate court in the administration of an estate, transfers pursuant to a writ of execution, transfers by a trustee in bankruptcy, transfers by eminent domain, or transfers resulting from a decree for specific performance.

(3) Transfers to a mortgagee by a mortgagor in default, transfers to a beneficiary of a deed of trust by a trustor in default, transfers by any foreclosure sale after default, transfers by any foreclosure sale after default in an obligation secured by a mortgage, or transfers by a sale under a power of sale after a default in an obligation secured by a deed of trust or secured by any other instrument containing a power of sale.
(4) Transfers by a fiduciary in the course of the administration of a decedent's estate, guardianship, conservatorship, or trust.
(5) Transfers from one co-owner to one or more co-owners.
(6) Transfers made to a spouse, or to a person or persons in the lineal line of consanguinity of one or more of the transferors.
(7) Transfers between spouses resulting from a decree of dissolution of a marriage, from a decree of legal separation, or from a property settlement agreement incidental to either of those decrees.
(8) Transfers by the Controller in the course of administering the Unclaimed Property Law provided for in Chapter 7 (commencing with Section 1500) of Title 10 of Part 3 of the Code of Civil Procedure.
(9) Transfers under the provisions of Chapter 7 (commencing with Section 3691) or Chapter 8 (commencing with Section 3771) of Part 6 of Division 1 of the Revenue and Taxation Code.
(e) No liability shall arise, nor any action be brought or maintained against, any agent of any party to a transfer of title, including any person or entity acting in the capacity of an escrow, for any error, inaccuracy, or omission relating to the disclosure required to be made by a transferor pursuant to this section.
However, this subdivision does not apply to a licensee, as defined in Section 10011 of the Business and Professions Code, where the licensee participates in the making of the disclosure required to be made pursuant to this section with actual knowledge of the falsity of the disclosure.
(f) Except as otherwise provided in this section, this section shall not be deemed to create or imply a duty upon a licensee, as defined in Section 10011 of the Business and Professions Code, or upon any agent of any party to a transfer of title, including any person or entity acting in the capacity of an escrow, to monitor or ensure compliance with this section.
(g) No transfer of title shall be invalidated on the basis of a failure to comply with this section, and the exclusive remedy for the failure to comply with this section is an award of actual damages not to exceed one hundred dollars ($100), exclusive of any court costs and attorney's fees.
(h) Local ordinances requiring smoke detectors in single-family dwellings may be enacted or amended. However, the ordinances shall satisfy the minimum requirements of this section.
(i) For the purposes of this section, "single-family dwelling" does not include a manufactured home as defined in Section 18007, a mobile home as defined in Section 18008, or a commercial coach as defined in Section 18001.8.
(j) This section shall not apply to the installation of smoke detectors in dwellings intended for human occupancy, as defined in and regulated by Section 13113.7 of the Health and Safety Code, as added by Senate Bill No. 1448 in the 1983-84 Regular Session.

1104.5 Illumination emergency power. Where means of egress illumination is provided, the power supply for means of egress illumination shall normally be provided by the premises' electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for the following occupancies where such occupancies require two or more means of egress:
1. Group A having 50 or more occupants.

Exception: Assembly occupancies used exclusively as a place of worship and having an occupant load of less than 300.

2. Group B buildings three or more stories in height, buildings with 100 or more occupants above or below a level of exit discharge serving the occupants or buildings with 1,000 or more total occupants.
3. Group E in interior exit access and exit stairways and ramps, corridors, windowless areas with student occupancy, shops and laboratories.
4. Group F having more than 100 occupants.

Exception: Buildings used only during daylight hours and that are provided with windows for natural light in accordance with the ~~*International*~~*California Building Code*.

5. Group I.
6. Group M.

Exception: Buildings less than 3,000 square feet (279 m2) in gross sales area on one story only, excluding mezzanines.

7. Group R-1.

Exception: Where each sleeping unit has direct access to the outside of the building at grade.

8. Group R-2.

Exception: Where each dwelling unit or sleeping unit has direct access to the outside of the building at grade.

9. Group R-4.

Exception: Where each sleeping unit has direct access to the outside of the building at ground level.

1104.17 Corridor construction. Corridors serving an occupant load greater than 30 and the openings therein shall provide an effective barrier to resist the movement of smoke. Transoms, louvers, doors and other openings shall be kept closed or be self-closing. In Group I-2, corridors in areas housing patient sleeping or care rooms shall comply with Section 1105.4.

Exceptions:
1. Corridors in occupancies other than in Group H, that are equipped throughout with an approved automatic sprinkler system.
2. Corridors in occupancies in Group E where each room utilized for instruction or assembly has not less than one-half of the required means of egress doors opening directly to the exterior of the building at ground level.
3. Corridors that are in accordance with the ~~*International*~~*California* Building Code.

1104.17.1 Corridor openings. Openings in corridor walls shall comply with the requirements of the ~~*International*~~*California* Building Code.

Exceptions:
1. Where 20-minute fire door assemblies are required, solid wood doors not less than 1.75 inches (44 mm) thick or insulated steel doors are allowed.
2. Openings protected with fixed wire glass set in steel frames.
3. Openings covered with 0.5-inch (12.7 mm) gypsum wallboard or 0.75-inch (19.1 mm) plywood on the room side.
4. Opening protection is not required where the building is equipped throughout with an approved automatic sprinkler system.

TABLE 1104.18
COMMON PATH, DEAD-END AND TRAVEL DISTANCE LIMITS (by occupancy)
[Table not show for clarity]

NR = No requirements.
For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m2.
a. 20 feet for common path serving 50 or more persons; 75 feet for common path serving less than 50 persons.
b. See Section 1029.9.5 for dead-end aisles in Group A occupancies.
c. This dimension is for the total travel distance, assuming incremental portions have fully utilized their allowable maximums. For travel distance within the room, and from the room exit access door to the exit, see the appropriate occupancy chapter.
d. See the ~~*International*~~*California* Building Code for special requirements on spacing of doors in aircraft hangars.
e. In Group I-2, separation of exit access doors within a care recipient sleeping room, or any suite that includes care recipient sleeping rooms, shall comply with Section 1105.5.7.
f. In Group I-2, in smoke compartments containing care recipient sleeping rooms and treatment rooms, dead-end corridors shall comply with Section 1105.5.6.
g. In Group I-2 Condition 2, care recipient sleeping rooms, or any suite that includes care recipient sleeping rooms, shall comply with Section 1105.6.
h. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet.

SECTION ~~1106~~1107
GROUP A PUBLIC ADDRESS SYSTEM

***~~1106.1~~1107.1* Group A occupancy public address system.** *Existing buildings or structures intended for public assemblies of 10,000 or more persons, which, on or after January 1, 1991 have or subsequently have installed a public address system, shall have an emergency backup power system for the public address system.*

[Editorial Note: Section 1113 was duplicated from 2013 CBC Section 3413]

SECTION 1113
EXISTING GROUP R-1 AND GROUP R-2 OCCUPANCIES [SFM]

1113.1 Scope. *The provisions of this section are intended to maintain or increase the current degree of public safety, health and general welfare in existing buildings classified as Group R Occupancies.*

1113.1.1 Application. *In accordance with Health and Safety Code Section 111143.2, the provisions of Sections 1113.2 through 1113.12 shall only apply to multiple-story structures existing on January 1, 1975, let for human habitation, including, and limited to, apartment houses, hotels, and motels wherein rooms used for sleeping are let above the ground floor.*

1113.2 Number of exits. *Every apartment and every other sleeping room shall have access to not less than two exits when the occupant load is 10 or more (exits need not be directly from the apartment or sleeping room). A fire escape as specified herein may be used as one required exit.*

Subject to approval of the authority having jurisdiction, a ladder device as specified herein may be used in lieu of a fire escape when the construction feature or the location of the building on the property cause the installation of a fire escape to be impractical.

1113.3 Stair construction. *All stairs shall have a minimum run of 9 inches (229 mm) and a maximum rise of 8 inches (203 mm) and a minimum width exclusive of handrails of 30 inches (762 mm). Every stairway shall have at least one handrail. A landing having a minimum horizontal dimension of 30 inches (762 mm) shall be provided at each point of access to the stairway.*

1113.4 Interior stairways. *Every interior stairway shall be enclosed with walls of not less than one-hour fire-resistive construction. Where existing partitions form part of a stairwell enclosure, wood lath and plaster in good condition will be acceptable in lieu of one-hour fire-resistive construction. Doors to such enclosures shall be protected by a self-closing door equivalent to a solid wood door with a thickness of not less than 13/4 inches (44.5 mm).*

Enclosures shall include all landings between flights and any corridors, passageways or public rooms necessary for continuous exit to the exterior of the buildings. The stairway need not be enclosed in a continuous shaft if cut off at each story by the fire-resistive construction required by this subsection for stairwell enclosures. Enclosures shall not be required if an automatic sprinkler system is provided for all portions of the building except bedrooms, apartments and rooms accessory thereto. Interior stairs and vertical openings need not be enclosed in two-story buildings.

1113.5 Exterior stairways. *Exterior stairways shall be noncombustible or of wood of not less than 2-inch (51 mm) nominal thickness with solid treads and risers.*

1113.6 Fire escapes, exit ladder devices. *Fire escapes may be used as one means of egress if the pitch does not exceed 60 degrees, the width is not less than 18 inches (457 mm), the treads are not less than 4 inches (102 mm) wide, and they extend to the ground or are provided with counterbalanced stairs reaching to the ground. Access shall be by an opening having a minimum dimension of 29 inches (737 mm) when open. The sill shall not be more than 30 inches (762 mm) above the floor and landing.*

A ladder device, when used in lieu of a fire escape, shall conform to Section 1113.6.1 and the following:

Serves an occupant load of nine people or less or a single dwelling unit or hotel room.
The building does not exceed three stories in height.
The access is adjacent to an opening as specified for emergency egress or rescue or from a balcony.
The device does not pass in front of any building opening below the unit being served.
The availability of activating the ladder device is accessible only to the opening or balcony served.
The device as installed will not cause a person using it to be within 12 feet (3658 mm) of exposed energized high-voltage conductors.

1113.6.1 Exit ladder devices.

1113.6.1.1 Scope. *This standard for exit ladder devices is applicable where such devices are permitted by the building official for installation on existing apartment houses and hotels in conformance with the California Building Code.*

1113.6.1.2 Instructions. *Installation shall be in accordance with the manufacturer's instructions. Instructions shall be illustrated and shall include directions and information adequate for attaining proper and safe installation of the product. Where exit ladder devices are intended for mounting on different support surfaces, specific installation instructions shall be provided for each surface.*

1113.6.1.3 General design. *All load-bearing surfaces and supporting hardware shall be of noncombustible materials. Exit ladder devices shall have a minimum width of 12 inches (305 mm) when in the position intended for use. The design load shall not be less than 400 pounds (1780N) for 16-foot (4877 mm) length and 600 pounds (2699N) for 25-foot (7620 mm) length.*

1113.6.1.4 Performance.

1113.6.1.4.1 *Exit ladder devices shall be capable of withstanding an applied load of four times the design load when installed in the manner intended for use. Test loads shall be applied for a period of one hour.*

1113.6.1.4.2 *Exit ladder devices of the retractable type shall, in addition to the static load requirements of Section 413.6.1.4.1 of the California Building Code, be capable of withstanding the following tests:*

1. Rung strength
2. Rung-to-side-rail shear strength
3. Release mechanism
4. Low temperature

1113.6.1.5 Rung-strength test. *Rungs of retractable exit ladder devices shall be capable of withstanding a load of 1,000 pounds (4448N) when applied to a 31/2-inch-wide (89 mm) block resting at the center of the rung. The test load shall be applied for a period of one hour. The ladder shall remain operational following this test.*

1113.6.1.6 Rung-to-side-rail shear test. *Rungs of retractable exit ladder devices shall be capable of withstanding 1,000 (4448N) when applied to a 31/2-inch-wide (89 mm) block resting on the center rung as near the side rail as possible. The test load shall be applied for a period of one hour. Upon removal of the test load the fasteners attaching the rung to the side rail shall show no evidence of failure. The ladder shall remain operational following the test.*

1113.6.1.7 Release mechanism test. *The release mechanism of retractable exit ladder devices shall operate with an average applied force of not more than 5 pounds (22.2N) for hand-operated releasing mechanisms and an average applied force of not more than 25 pounds (111N) for foot-pedal types of releasing mechanisms. For these tests, a force gauge shall be applied to the release mechanism, and the average of three consecutive readings shall be computed.*

1113.6.1.8 Low temperature operation test. *Representative samples of the exit ladder devices shall be subjected to a temperature of -40ºC in an environmental chamber for a period of 24 hours. The release mechanism shall be operated immediately upon removal from the chamber. The ladder device shall function as intended without any restriction of operation.*

1113.7 Doors and openings. *Exit doors and openings shall meet the requirements of Sections 1008.1.2, 1008.8.1.8, 1008.1.9 and 708.6 of the California Building Code. Doors shall not reduce the required width of stairway more than 6 inches (152 mm) when open. Transoms and openings other than doors from corridors to rooms shall be fixed closed and shall be covered with a minimum of 3/4-inch (19 mm) plywood or 1/2-inch (13 mm) gypsum wallboard or equivalent material.*

Exceptions:
1. Existing solid-bonded wood-core doors 13/8 inches thick (34.9 mm), or their equivalent may be continued in use.
2. Where the existing frame will not accommodate a door complying with Section 708.6 of the California Building Code, a 13/8-inch-thick (35 mm) solid-bonded wood-core door may be used.

1113.8 Exit signs. *Every exit doorway or change of direction of a corridor shall be marked with a well-lighted exit sign having letters at least 5 inches (127 mm) high.*

1113.9 Enclosure of vertical openings. *Elevators, shafts, ducts and other vertical openings shall be enclosed as required for stairways in Section 1113.5 or by wired glass set in metal frames. Doors shall be noncombustible or as regulated in Section 1113.5.*

1113.10 Separation of occupancies. *Occupancy separations shall be provided as specified in Section 508 of the California Building Code. Lobbies and public dining rooms, not including cocktail lounges, shall not require a separation if the kitchen is so separated from the dining room. Every room containing a boiler or central heating plant shall be separated from the rest of the building by not less than a one-hour fire-resistive occupancy separation.*

Exception: *A separation shall not be required for such rooms with equipment serving only one dwelling unit.*

1113.11 Equivalent protection. *In lieu of the separation of occupancies required by Section 1113.10, equivalent protection may be permitted when approved by the enforcement agency.*

Exception: *The provisions of Sections 1113.3 through 1113.11 above shall not apply to any existing apartment house, hotel or motel having floors (as measured from the top of the floor surface) used for human occupancy located more than 75 feet (22 860 mm) above the lowest floor level having building access which is subject to the provisions of Section ~~3414, California Building Code~~ 1114 and the California Existing Building Code, relating to existing high-rise buildings.*

Note: *In accordance with Health and Safety Code Section 17920.7, the provisions of Sections 1113.3 through 1113.11 above shall apply only to multiple-story structures existing on January 1, 1975, let for human habitation including, and limited to, apartments, houses, hotels and motels wherein rooms used for sleeping are let above the ground floor.*

1113.12 Fire alarms.

1113.12.1 General. *Every apartment house three or more stories in height or containing more than 15 apartments, every hotel three or more stories in height or containing 20 or more guest rooms, shall have installed therein an automatic or manually operated fire alarm system. Such fire alarm systems shall be so designed that all occupants of the building may be warned simultaneously and shall be in accordance with the California Fire Code. See Section 1114.14 for special requirements in buildings over 75 feet (22 860 mm) in height.*

Exception: *A fire alarm system need not be installed provided such apartment house or hotel is separated by an unpierced wall of not less than four-hour fire resistance in buildings of Type IA, Type IIB, Type III or Type IV construction and two-hour fire resistance in buildings of all other types of construction provided:*

1. Areas do not exceed the number of apartments or guest rooms stipulated.
2. The fire-resistive wall conforms to the requirements of Section 706.6 of the California Building Code.
3. The wall complies with all other applicable provisions of the California Building Code.
4. The wall extends to all outer edges of horizontal projecting elements, such as balconies, roof overhangs, canopies, marquees or architectural projections.
5. No openings are permitted for air ducts or similar penetrations, except that openings for pipes, conduits and electrical outlets of copper, sheet steel or ferrous material shall be permitted through such wall and need not be protected, provided they do not unduly impair the required fire resistance of the assembly.
6. Tolerances around such penetrations shall be filled with approved noncombustible materials..

1113.12.2 Installation. *The installation of all fire alarm equipment shall be in accordance with the California Fire Code.*

1113.13 Existing Group R Occupancy high-rise buildings.

1113.13.1 General. *Regardless of other provisions of these regulations relating to existing high-rise buildings, requirements relative to existing Group R-1 or Group R-2 Occupancies shall not be less restrictive than those established pursuant to Health and Safety Code Section 111143.2.*

1113.13.2 Corridor openings. *Openings in corridor walls and ceilings shall be protected by not less than 13/4-inch (44.5 mm) solid-bonded wood-core doors, 1/4-inch-thick (6 mm) wired glass conforming to Section 715.1 of the California Building Code, by approved fire dampers or by equivalent protection in lieu of any of these items. Transoms shall be fixed closed with material having a fire-resistive rating equal to 1/2-inch (12.7 mm) Type X gypsum wallboard or equivalent material installed on both sides of the opening.*

1113.13.3 Fire alarm systems. *Notwithstanding the provisions of Section 403 of the California Building Code, every existing high-rise building used for the housing of a Group R-1 or Group R-2 Occupancies shall have installed therein a fire alarm system conforming to this subsection.*

1113.13.3.1 General. *Every apartment house and every hotel shall have installed therein an automatic or manually operated fire alarm system. Such fire alarm systems shall be so designed that all occupants of the building may be warned simultaneously.*

1113.13.3.2 Installation. *The installation of all fire alarm equipment shall be in accordance with the California Fire Code.*

1113.13.3.3 Fire-extinguishing systems. *Automatic fire-extinguishing systems installed in any structure subject to these regulations shall have an approved flow indicator electrically interconnected to the required fire alarm system.*

[Editorial Note: Section 1114 was duplicated from 2013 CBC Section 3414]

SECTION 1114
EXISTING HIGH-RISE BUILDINGS [SFM]

1114.1 Scope and definition. *The provisions of Sections 1114.1 through 1114.27 shall apply to every existing high-rise building of any type of construction or occupancy having floors (as measured from the top of the floor surface) used for human occupancy located more than 75 feet (22 860 mm) above the lowest floor level having building access.*

Exceptions:
1. Hospitals, as defined in Section 1250 of the Health and Safety Code.
2. The following structures, while classified as high-rise buildings, shall not be subject to the provisions of Sections 1114.1 through 1114.27, but shall conform to all applicable provisions of these regulations.
2.1 Building used exclusively as open parking garages.
2.2 Buildings where all floors above the 75 foot (22 860 mm) level are used exclusively as open parking garages.
2.3 Floors of buildings used exclusively as open parking garages and located above all other floors used for human occupancy.
2.4 Buildings such as power plants, look-out towers, steeples, grain houses, and similar structures, when so determined by the enforcing agency.
2.5 Buildings used exclusively for jails and prisons. For the purposes of this section, "building access" shall mean an exterior door opening conforming to all of the following:

1. Suitable and available for fire department use.
2. Located not more than 2 feet (610 mm) above the adjacent ground level.
3. Leading to a space, room or area having foot traffic communication capabilities with the remainder of the building.
4. Designed to permit penetration through the use of fire department forcible-entry tools and equipment unless other approved arrangements have been made with the fire authority having jurisdiction.

"Existing high-rise structure" means a high-rise structure, the construction of which is commenced or completed prior to July 1, 1974.

For the purpose of this section, construction shall be deemed to have commenced when plans and specifications are more than 50 percent complete and have been presented to the local jurisdiction prior to July 1, 1974. Actual construction of such buildings shall commence on or before January 1, 1976, unless all provisions for new buildings have been met.

Note: *it is the intent of this section that, in determining the level form which the highest occupied floor is to be measured, the enforcing agency should exercise reasonable judgment, including consideration of overall accessibility*

to the building by fire department personnel and vehicular equipment. When a building is situated on sloping terrain and there is building access on more than one level, the enforcing agency may select the level which provides the most logical and adequate fire department access.

1114.2 Compliance data. *Except as may be otherwise specified, existing high-rise building shall conform to the applicable requirements of these regulations by April 26, 1979.*

Exception: *The period of compliance may be extended upon showing of good cause for such extension if a systematic and progressive plan of correction is submitted to, and approved by, the enforcing agency. Such extension shall not exceed two years from the date of approval of such plan. Any plan of correction submitted pursuant to this exception shall be submitted and approved on or before April 26, 1979.*

1114.3 Continued use. *Existing high-rise building may have their use continued if they conform, or are made to conform, to the intent of the provisions of Sections 1114.5 through 1114.27 to provide for the safety of the occupants of the high-rise buildings and person involved in fire-suppression activities.*

1114.4 Alternate protection. *Alternate means of egress, fire walls or fire barriers, smoke barriers, automatic fire detection or fire-extinguishing systems, or other fire-protection devices, equipment or installations may be approved by the enforcing agency to provide reasonable and adequate life safety as intended by Sections 1114.5 through 1114.27 for existing high-rise buildings.*

1114.5 Basic provisions. *The provisions outlined in Sections 1114.1 through 1114.27 are applicable to every existing highrise building.*

1114.6 Minimum construction. *Existing wood lath and plaster, existing 1/2-inch (12.7 mm) gypsum wallboard, existing installations of 1/2-inch thick (12.7 mm) wired glass which are or are rendered inoperative and fixed in a closed position, or other existing materials having similar fire-resistive capabilities shall be acceptable. All such assemblies shall be in good repair, free of any condition which would diminish their original fire-resistive characteristics.*

Where 13/4-inch (44.5 mm) solid-bonded wood-core doors are specified in these regulations for existing high-rise buildings, new or existing 13/8-inch (34.9 mm) doors shall be acceptable where existing framing will not accommodate a 13/4-inch (44.5 mm) door.

Note: *It is the intent of this provisions that existing wood frames may have their use continued.*

1114.7 New construction. *All new construction shall be composed of materials and assemblies of materials conforming to the fire-resistive provisions of these regulations. In no case shall enclosure walls be required to be of more than one-hour fire-resistive construction.*

Exception: *When approved by the enforcing agency, materials specified in Section 1114.6 may be used for new construction when necessary to maintain continuity of design and measurement of existing construction.*

1114.8 Exits. *Every floor from an existing high-rise building shall have access to two separate means of egress, one of which, when approved by the enforcing agency, may be an existing exterior fire escape. New installations of smoke-proof enclosures shall not be required.*

Note: *In determining the adequacy of exits and their design, Chapter 10 of the California Building Code may be used as a guide. It is the intent of this section that every existing high-rise building need not mandatorily conform or be made to conform with the requirements for new high-rise buildings. Reasonable judgment in the application of requirements must be exercised by the enforcing agency.*

1114.9 Fire escapes. *An existing fire escape in good structural condition may be acceptable as one of the required means of egress from each floor. Access to such fire escapes may be by any one of the following:*

Through a room between the corridor and the fire escape if the door to the room is operable from the corridor side without the use of any key, special knowledge or effort.
By a door operable to a fire escape from the interior without the use of any key, special knowledge or effort.

By a window operable from the interior. Such window shall have a minimum dimension of 29 inches (737 mm) when open.
The sill shall not be more than 30 inches (762 mm) above the floor and landing.

1114.10 Protection of exterior openings. *When an existing fire escape is accepted as one of the require means of egress, openings onto the fire escape landing and openings within 5 feet (1524 mm) horizontally of the landings shall be protected in a manner acceptable to the enforcing agency.*

1114.11 Locking of stairway doors. *When exit doors from corridors to exit stairways are locked to prohibit access from the stairway side, the locking mechanisms shall be retracted to the unlocked position upon failure of electrical power and a telephone or other two-way communication system connected to an approved emergency service that operates continuously shall be provided at not less than every fifth floor in each required stairway. In lieu thereof, master keys which will unlock all such doors from the stairway side shall be provided in such numbers and locations as approved by the enforcing agency.*

1114.12 Enclosures. *Interior vertical shafts, including but not limited to, elevators, stairway and utility, shall be enclosed with construction as set forth in Section 1114.6.*

1114.13 Opening protection. *Doors in other than elevators, which shall be of a type acceptable to the enforcing agency, shall be approved one-hour, fire-rated, tight-fitting or gasketed doors or equivalent protection, and shall be of the normally closed type, self-closing or a type which will close automatically in accordance with Section 715 of the California Building Code.*

Exception: *In lieu of stairway enclosures, smoke barriers may be provided in such a manner that fire and smoke will not spread to other floors or otherwise impair exit facilities. In these instances, smoke barriers shall not be less than one-hour fire resistive with openings protected by not less than approved one-third-hour, fire-rated, tight-fitting or gasketed doors. Such doors shall be of the self-closing type or of a type which will close automatically in the manner specified in Section 715 of the California Building Code.*

Doors crossing corridors shall be provided with wired-glass vision panels set in approved steel frames. Doors for elevators shall not be of the open-grille type.

1114.14 Fire alarm system. *Every existing high-rise building shall be provided with an approved fire alarm system. In department stores, retail sales stores and similar occupancies where the general public is admitted, such systems shall be of a type capable of alerting staff and employees. In office buildings and all other high-rise buildings, such systems shall be of a type capable of alerting all occupants simultaneously.*

Exceptions:
1. In areas of public assemblage, the type and location of audible appliances shall be as determined by the enforcing agency.
2. When acceptable to the enforcing agency, the occupant voice notification system required by Section 1114.20 may be used in lieu of the fire alarm system required by Section 1114.14.

1114.15 Existing systems. *Existing fire systems, when acceptable to the enforcing agency, shall be deemed as conforming to the provisions of these regulations. For requirements for existing Group R-1 Occupancies, see Section 312.13.*

1114.16 Annunciation. *When a new fire alarm system is installed, it shall be connected to an annunciator panel installed in a location approved by the enforcing agency. For purposes of annunciation, zoning shall be in accordance with Section 907.6.3 of the California Building Code.*

1114.17 Monitoring. *Shall be in accordance with Section 907.6.5 of the California Building Code.*

1114.18 Systems interconnection. *When an automatic fire detection system or automatic extinguishing system is installed, activation of such system shall cause the sounding of the fire alarm notification appliances at locations designated by the enforcing agency.*

1114.19 Manual fire alarm boxes. *A manual fire alarm box shall be provided in the locations designated by the enforcing agency. Such locations shall be where boxes are readily accessible and visible and in normal paths of daily travel by occupants of the building.*

1114.20 Emergency voice/alarm communication system. *An approved emergency voice/alarm system shall be provided in every existing high-rise building which exceeds 150 feet (45 720 mm) in height measured in the manner set forth in Section 312.1. Such system shall provide communication from a location available to and designated by the enforcing agency to not less than all public areas. The emergency voice/alarm system may be combined with a fire alarm system provide the combined system has been approved and listed by the State Fire Marshal. The sounding of a fire alarm signal in any given area or floor shall not prohibit voice communication to other areas of floors. Combination systems shall be designed to permit voice transmission to override the fire alarm signal, but the fire alarm signal shall not terminate in less than three minutes.*

1114.21 Fire department system. *When it is determined by test that portable fire department communication equipment is ineffective, a communication system acceptable to the enforcing agency shall be installed within the building to permit emergency communication between fire-suppression personnel.*

1114.22 Interior wall and ceiling finish. *Interior wall and ceiling finish of exitways shall conform to the provisions of Chapter 8 of the California Building Code. Where the materials used in such finishes do not conform to the provisions of Chapter 8 of the California Building Code, such finishes may be surfaced with an approved fire-retardant coating.*

1114.23 Ventilation. *Natural or mechanical ventilation for the removal of products of combustion shall be provided in every story of an existing high-rise building. Such ventilation shall be any one or combination of the following: Panels or windows in the exterior wall which can be opened. Such venting facilities shall be provided at the rate of at least 20 square feet (1.86m2) of opening per 50 lineal feet (15 240 lineal mm) of exterior wall in each story, distributed around the perimeter at not more than 50-foot (15 240 mm) intervals on at least two sides of the building. Approved fixed tempered glass may be used in lieu of openable panels or windows. When only selected panels or windows are of tempered glass, they shall be clearly identified as required by the enforcing agency. Any other design which will produce equivalent results.*

1114.24 Smoke control systems. *Existing air-circulation systems shall be provided with an override switch in a location approved by the enforcing agency which will allow for the manual control of shutdown of the systems.*

Exception: *Systems which serve only a single floor, or portion thereof, without any penetration by ducts or other means into adjacent floors.*

1114.25 Elevator recall smoke detection. *Smoke detectors for emergency operation of elevators shall be provided as required by Section 3003 of the California Building Code.*

1114.26 Exit signs and illumination. *Exits and stairways shall be provided with exit signs and illumination as required by Sections 1011.1 and 1011.2 of the California Building Code.*

1114.27 Automatic sprinkler system–Existing high-rise buildings. *Regardless of any other provisions of these regulations, every existing high-rise building of Type II-B, Type III-B or Type V-B construction shall be provided with an approved automatic sprinkler system conforming to NFPA 13.*

[Editorial Note: Section 1115 was duplicated from 2013 CBC Section 3415]

SECTION 1115
EXISTING GROUP I OCCUPANCIES [SFM]

1115.1 General. *Existing buildings housing existing protective social-care homes or facilities established prior to March 4, 1972 may have their use continued if they conform, or are made to conform, to the following provisions:*

1115.2 Use of floors. *The use of floor levels in buildings of Type III, IV or V nonfire-rated construction may be as follows: Nonambulatory—first floor only; Ambulatory—not higher than the third-floor level, provided walls and partitions are constructed of materials equal in fireresistive quality to that of wood lath and plaster in good repair and all walls are firestopped at each floor level.*

1115.3 Enclosure of exits and vertical openings. *Except for two-story structures housing ambulatory guests, all interior stairs shall be enclosed in accordance with Chapter 10 of the California Building Code. In lieu of stairway enclosures, floor separations or smoke barriers may be provided in such a manner that fire and smoke will not spread rapidly to floors above or otherwise impair exit facilities. In these instances, floor separations or smoke barriers shall have a fire resistance equal to not less than 1/2-inch (13 mm) gypsum wall board on each side of wood studs with openings protected by not less than a 13/4-inch (44.5 mm) solid bonded wood-core door of the self-closing type. All other vertical openings shall be enclosed in accordance with the provisions of Section 1114.6 and 1114.13.*

1115.4 Exit access. *Each floor or portion thereof of buildings used for the housing of existing protective social-care homes or facilities shall have access to not less than two exits in such a manner as to furnish egress from the building or structure in the event of an emergency substantially equivalent to the provisions of Chapter 10 of the California Building Code.*

1115.5 Corridor openings. *Openings from rooms to interior corridors shall be protected by not less than 13/4-inch (44.5 mm) solid-bonded wood-core doors. Transoms and other similar openings shall be sealed with materials equivalent to existing corridor wall construction.*

1115.6 Interior finishes. *Interior wall and ceiling finishes shall conform to the requirements for a Group R-1 Occupancy as specified in Chapter 8 of the California Building Code.*

1115.7 Automatic fire sprinklers. *Automatic sprinkler systems shall be installed in existing protective social-care occupancies in accordance with the provisions of Section 903.2.6 of the California Building Code.*

1115.8 Fire alarm systems. *Automatic fire alarm systems shall be installed in existing protective social-care homes or facilities in accordance with the provisions of Section 907.2.6 of the California Building Code.*

Exception: *When an approved automatic sprinkler system conforming to Section 903.2.6 of the California Building Code is installed, a separate fire alarm system as specified in this section need not be provided.*

[Editorial Note: Section 1116 was duplicated from 2013 CBC Section 3416]

SECTION 1116
EXISTING GROUP L OCCUPANCIES [SFM]

1116 Existing Group L Occupancies.

1116.1 Repairs general. *Additions, alterations or repairs may be made to any building or structure without requiring the existing building or structure to comply with all the requirements of this code section, provided the addition, alteration, or repair conforms to the requirements of this section.*

1116.2 Unsafe condition. *Additions, repairs or alterations shall not be made to an existing building or structure that will cause the existing building or structure to be in violation of any of the provisions of this code, nor shall such additions or alterations cause the existing building or structure to become unsafe, or to be in violation of any of the provisions of this code. An unsafe condition shall be deemed to have been created if an addition or alteration will cause the existing building or structure to become structurally unsafe or overloaded; will not provide adequate egress in compliance with the provisions of this code or will obstruct existing exits; will create a fire hazard; will reduce required fire resistance or will otherwise create conditions dangerous to human life.*

1116.3 Changes in use or occupancy. *Any buildings that have alternations or additions, which involves a change in use or occupancy, shall not exceed the height, number of stories and area permitted for new buildings*

1116.4 Buildings not in compliance with code. *Additions or alterations shall not be made to an existing building or structure when such existing building or structure is not in full compliance with the provisions of this code except when such addition or alteration will result in the existing building or structure being no more hazardous, based on life safety, fire safety and sanitation, than before such additions or alterations are undertaken.*

1116.5 Maintenance of structural and fire resistive integrity. *Alterations or repairs to an existing building or structure that are nonstructural and do not adversely affect any structural member of any part of the building or structure having required fire resistance may be made with the same materials of which the building or structure is constructed. The installation or replacement of glass shall be as required for new installations.*

1116.6 Continuation of existing use. *Buildings in existence at the time of the adoption of this code may have their existing use or occupancy continued if such use or occupancy was legal at the time of the adoption of this code, provided such continued use is not dangerous to life.*

1116.7 Maximum allowable quantities. *Laboratory suites approved prior to January 1, 2008 shall not exceed the maximum allowable quantities listed in Tables 1116.1 and 1116.2.*

TABLE 1116.7(1) EXEMPT AMOUNTS OF HAZARDOUS MATERIALS, LIQUIDS AND CHEMICALS PRESENTING A PHYSICAL HAZARD BASIC QUANTITIES PER LABORATORY SUITE[1]
When two units are given, values within parentheses are in cubic feet (Cu. Ft.) or pounds (Lbs.)

CONDITION		STORAGE			USE CLOSED SYSTEMS			USE OPEN SYSTEMS		
MATERIAL	CLASS	Solid Lbs. (Cu. Ft.)	Liquid Gallons (Lbs.)	Gas Cu. Ft.	Solid Lbs. (Cu. Ft.)	Liquid Gallons (Lbs.)	Gas Cu. Ft.	Solid Lbs. (Cu. Ft.)	Liquid Gallons (Lbs.)	Gas Cu. Ft.
1.1 Combustible liquid	II	—	120[2]	—	—	120	—	—	30	—
	III-A	—	330[2]	—	—	330	—	—	80	—
	III-B	—	13,200[2]	—	—	13,200	—	—	3,300	—
1.2 Combustible dust lbs./1000 cu. ft.		1	—	—	1	—	—	1	—	—
1.3 Combustible fiber (loose) (baled)		(100) (1,000)	— —	— —	(100) (1,000)	— —	— —	(20) (200)	— —	— —
1.4 Cryogenic, flammable or oxidizing			45	—	—	45	—	—	10	—
2.1 Explosives		12	(1)[2]	—	1/4	(1/4)	—	1/4	(1/4)	—
3.1 Flammable solid		125[2]	—	—	25	—	—	25	—	—
3.2. Flammable gas (gaseous) (liquefied)		— —	— 15[2]	750[2] —	— —	— 15[2]	750[2] —	— —	— —	— —
3.3 Flammable liquid Combination I-A, I-B, I-C	I-A	—	30[2]	—	—	30	—	—	10	—
	I-B	—	60[2]	—	—	60	—	—	15	—
	I-C	—	90[2]	—	—	90	—	—	20	—
		—	120[2]	—	—	120	—	—	30	—
4.1 Organic peroxide, unclassified detonatable		1[2]	(1)[2]	—	1/4	(1/4)	—	1/4	(1/4)	—
4.2 Organic peroxide	I II III IV V	5[2] 50[2] 125[2] 500 N.L.	(5)[2] (50)[2] (125)[2] (500) N.L.	— — — — —	(1) 50 125 500 N.L.	(1) (50) (125) (500) N.L.	— — — — —	1 10 25 100 N.L.	1 (10) (25) (100) N.L.	— — — — —
4.3 Oxidizer	4 3 2 1	1[2] 10[2] 250[2] 1,000[2]	(1)[2] (10)[2] (250)[2] (1,000)[2]	— — — —	1/4[2] 2 50 1,000	(1/4) (2) (250) (1,000)	— — — —	¼ 2 50 200	(1/4) (2) (50) (200)	— — — —
4.4 Oxidizer.Gas (gaseous) (liquefied)		— —	— 15[2]	1,500[2] —	— —	— 15[2]	1,500[2] —	— —	— —	— —
5.1 Pyrophoric		4[2]	(4)[2]	50[2]	1	(1)	10[2]	0	0	0

6.1 Unstable (reactive)	4 3 2 1	*1*[2] *5*[2] *50*[2] *125*[2]	*(1)*[2] *(5)*[2] *(50)*[2] *(125)*[2]	*10*[2] *50*[2] *250*[2] *750*[2]	*1/4* *1* *50* *125*	*(1/4)* *(1)* *(50)* *(125)*	*2*[2] *10*[2] *250*[2] *750*[2]	*1/4* *1* *10* *25*	*(1/4)* *(1)* *(10)* *(25)*	0 0 0 0
7.1 Water (reactive)	3 2 1	*5*[2] *50*[2] *125*[2]	*(5)*[2] *(50)*[2] *(125)*[2]	— — —	*5* *50* *125*	*(5)* *(50)* *(125)*[2]	— — —	*1* *10* *25*	*(1)* *(10)* *(25)*	— — —

[1] *A laboratory suite is a space up to 10,000 square feet (929 m2) bounded by not less than a one-hour fire-resistive occupancy separation within which the exempt amounts of hazardous materials may be stored, dispensed, handled or used. Up through the third floor and down through the first basement floor, the quantity in this table shall apply. Fourth, fifth and sixth floors and the second and third basement floor level quantity shall be reduced to 75 percent of this table. The seventh through 10th floor and below the third basement floor level quantity shall be reduced to 50 percent of this table.*

[2] *Quantities may be increased 100 percent when stored in approved exhausted gas cabinets, exhausted enclosures or fume hoods.*

TABLE 1116.7(2) EXEMPT AMOUNTS OF HAZARDOUS MATERIALS, LIQUIDS AND CHEMICALS PRESENTING A HEALTH HAZARD MAXIMUM QUANTITIES ER LABORATORY SUITE[1]
When two units are given, values within parentheses are in pounds (Lbs.)

	STORAGE			***USE CLOSED SYSTEMS***			***USE OPEN SYSTEMS***	
MATERIAL	***Solid Lbs.***	***Liquid Gallons (Lbs.)***	***Gas Cu. Ft.***	***Solid Lbs.***	***Liquid Gallons (Lbs.)***	***Gas Cu. Ft.***	***Solid Lbs.***	***Liquid Gallons (Lbs.)***
1. Corrosives	*5,000*	*500*	*650*[2]	*5,000*	*500*	*650*	*1,000*	*100*
2a. Highly toxics[2]	*40*	*10*	*65*	5	1	*65*	2	*1/4*
2b. Toxics	*500*	*50*	*650*[2]	*500*	*50*	*650*	5	*1/2*
3. Irritants	*5,000*	*500*	*650*	*5,000*	*500*	*650*	*1,000*	*100*
4. Sensitizers	*5,000*	*500*	*650*	*5,000*	*500*	*650*	*1,000*	*100*
5. Other health hazards	*5,000*	*500*	*650*	*5,000*	*500*	*650*	*1,000*	*100*

[1] *A laboratory suite is a space up to 10,000 square feet (929 m2) bounded by not less than a one-hour fire-resistive occupancy separation within which the exempt amounts of hazardous materials may be stored, dispensed, handled or used. Up through the third floor and down through the first basement floor, the quantity in this table shall apply. Fourth, fifth and sixth floors and the second and third basement floor level quantity shall be reduced to 75 percent of this table. The seventh through 10th floor and below the third basement floor level quantity shall be reduced to 50 percent of this table.*

[2] *Permitted only when stored or used in approved exhausted gas cabinets, exhausted enclosures or fume hoods. Quantities of high toxics in use in open systems need not be reduced above the third floor or below the first basement floor level. Individual container size shall be limited to 2 pounds (0.91 kg) for solids and 1/4 gallon (0.95 L) for liquids.*

CHAPTERS 12 through 19
RESERVED

CHAPTER 20
AVIATION FACILITIES

2004.6 Open flame. Repairing of aircraft requiring the use of open flames, spark-producing devices or the heating of parts above 500°F (260°C) shall only be done outdoors or in an area complying with the provisions of the ~~*International*~~*California Building Code* for a Group F-1 occupancy.

2006.17 Fuel-transfer locations. Aircraft fuel-transfer operations shall be prohibited indoors.

Exception: In aircraft hangars built in accordance with the provisions of the ~~*International*~~*California Building Code* for Group F-1 occupancies, aircraft fuel-transfer operations are allowed where either of the following conditions exist:

1. Necessary to accomplish aircraft fuel-system maintenance operations. Such operations shall be performed in accordance with nationally recognized standards.
2. The fuel being used has a flash point greater than 100°F (37.8°C).

2007.1 General. Helistops and heliports shall be maintained in accordance with Sections 2007.2 through 2007.8. Helistops and heliports on buildings shall be constructed in accordance with the ~~*International*~~*California Building Code*.

2007.4 Exits. Exits and stairways shall be maintained in accordance with Section 412.7 of the ~~*International*~~*California Building Code*.

CHAPTER 21
DRY CLEANING

2101.1.1 Compliance alternate for dry cleaning plants. *Dry cleaning plants shall be permitted to comply with the provisions of NFPA 32 in its entirety as an acceptable alternative to the requirements of this chapter.*

2103.3 Design. The occupancy classification, design and construction of dry cleaning plants shall comply with the applicable requirements of the ~~*International*~~*California Building Code*.

2104.2.1 Ventilation. Ventilation shall be provided in accordance with Section 502 of the ~~*International*~~*California Mechanical Code* and DOL 29 CFR Part 1910.1000, where applicable.

2105.3 Type IV and V systems. Type IV and V dry cleaning systems shall be provided with an automatically activated exhaust ventilation system to maintain a minimum of 100 feet per minute (0.51 m/s) air velocity through the loading door when the door is opened. Such systems for dry cleaning equipment shall comply with the ~~*International*~~*California Mechanical Code*.

2107.1 General equipment requirements. Dry cleaning systems, including dry cleaning units, washing machines, stills, drying cabinets, tumblers and their appurtenances, including pumps, piping, valves, filters and solvent coolers, shall be installed and maintained in accordance with NFPA 32. The construction of buildings in which such systems are located shall comply with the requirements of this section and the ~~*International*~~*California Building Code*.

CHAPTER 22
COMBUSTIBLE DUST-PRODUCING OPERATIONS

CHAPTER 23
MOTOR FUEL-DISPENSING FACILITIES AND REPAIR GARAGES

2301.1 Scope. Automotive motor fuel-dispensing facilities, marine motor fuel-dispensing facilities, fleet vehicle motor fuel-dispensing facilities, aircraft motor-vehicle fuel-dispensing facilities and repair garages shall be in accordance with this chapter and ~~*International*~~*California Building Code,* ~~*International Fuel Gas Code*~~*California Plumbing Code* and the ~~*International*~~*California Mechanical Code*. Such operations shall include both those that are accessible to the public and private operations.

2301.4 Indoor motor fuel-dispensing facilities. Motor fuel-dispensing facilities located inside buildings shall comply with the ~~*International*~~*California Building Code* and NFPA 30A.

2301.5 Electrical. Electrical wiring and equipment shall be suitable for the locations in which they are installed and shall comply with Section 605, NFPA 30A and ~~NFPA 70~~*the California Electrical Code*.

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*~~*California Plumbing Code* or the ~~*International*~~*California Mechanical Code*.

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 ~~*International*~~*California 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 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.

2303.1.1 Protection of dispensing devices *of Where dispensing devices are mounted at grade, they shall be protected at each end with a minimum of two concrete filled steel posts, 6 inches (152mm) in diameter, having a minimum 3 feet (914 mm) deep footing not less than 15 inches (38` mm) in diameter and projecting above grade at a minimum of 3 feet (914 mm) and be located not less than 4 feet (1219 mm) nor more than 5 feet (1524 mm) from fuel dispensers or point-of-sale devices, or equivalent means approved by the chief.*

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 *the* ~~NFPA 70~~*California Electrical Code*.

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 with~~out~~ a latch-open device. *The design of the system shall be 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.*

~~**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.~~

Any latch-open device determined to be inoperative by the fire code official shall be repaired or replaced, within 48 hours after notification.

2308.3 Location of dispensing operations and equipment. Compression, storage and dispensing equipment shall be located above ground, outside.

Exceptions:
1. Compression, storage or dispensing equipment shall be allowed in buildings of noncombustible construction, as set forth in the ~~*International*~~*California 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.

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 ~~*International*~~*California 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.

2308.8.1.2.4 Grounding and bonding. The structure or appurtenance used for supporting the cylinder shall be grounded in accordance with *the* ~~NFPA 70~~*California Electrical Code*. The cylinder valve shall be bonded prior to the commencement of venting operations.

2309.2.3 Electrical equipment. Electrical installations shall be in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

2309.3.1.1 Outdoors. Generation, compression, or storage equipment shall be allowed outdoors in accordance with Chapter 58 and NFPA 2 ~~*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 ~~*International*~~*California Building Code*, the ~~International Fuel Gas Code~~, the ~~*International*~~*California* Mechanical Code and NFPA 2.

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*~~*California Mechanical 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 ~~*International*~~*California Building Code*.

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 ~~*International*~~*California Building Code.*

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 ~~*International*~~*California Building Code.*

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 *the* ~~NFPA 70~~*California Electrical Code*. The valve of the vehicle storage tank shall be bonded with the defueling system prior to the commencement of discharge or defueling operations.

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 percent hydrogen or less by volume. Defueling operations and exiting purge flow shall be vented in accordance with Section ~~2311.8.1.2~~ *2309.6.1.2.*

2310.1 General. The construction of marine motor fuel-dispensing facilities shall be in accordance with the ~~*International*~~ *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.

2311.1 General. Repair garages shall comply with this section and the ~~*International*~~*California 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.

2311.2.3 Drainage and disposal of liquids and oil-soaked waste. Garage floor drains, where provided, shall drain to approved oil separators or traps discharging to a sewer in accordance with the ~~*International*~~*California 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

2311.3.1 Equipment. Appliances and equipment installed in a repair garage shall comply with the provisions of the ~~*International*~~*California Building Code,* the ~~*International*~~*California Mechanical Code* and *the* ~~NFPA 70~~*California Electrical Code.*

2311.4.1 Construction. Pits and below-grade work areas shall be constructed in accordance with the ~~*International*~~*California Building Code*.

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 ~~*International*~~*California Mechanical Code,* at a minimum rate of 1.5 cubic feet per minute per square foot (cfm/ft2) [0.008 m3/(s□m2)] to prevent the accumulation of flammable vapors.

2311.7.1 Ventilation. Repair garages used for the repair of natural gas- or hydrogen-fueled vehicles shall be provided with an approved mechanical ventilation system. The mechanical ventilation system shall be in accordance with the ~~*International*~~*California Mechanical Code* and Sections 2311.7.1.1 and 2311.7.1.2.

Exception: Repair garages with natural ventilation when approved.

CHAPTER 24
FLAMMABLE FINISHES

2403.2.1 Electrical wiring and equipment. Electrical wiring and equipment shall comply with this chapter and *the* ~~NFPA 70~~California *Electrical Code*.

2403.2.1.1 Flammable vapor areas. Electrical wiring and equipment in flammable vapor areas shall be of an explosionproof type approved for use in such hazardous locations. Such areas shall be considered to be Class I, Division 1 or Class II, Division 1 hazardous locations in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

2403.2.1.4 Areas subject to overspray deposits. Electrical equipment in flammable vapor areas located such that deposits of combustible residues could readily accumulate thereon shall be specifically approved for locations containing deposits of readily ignitable residue and explosive vapors in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

Exceptions:
1. Wiring in rigid conduit.
2. Boxes or fittings not containing taps, splices or terminal connections.
3. Equipment allowed by Sections 2404 and 2407 and Chapter 30.

2403.2.5 Grounding. Metal parts of spray booths, exhaust ducts and piping systems conveying Class I or II liquids shall be electrically grounded in accordance with *the* ~~NFPA 70~~*California Electrical Code*. Metallic parts located in resin application areas, including but not limited to exhaust ducts, ventilation fans, spray application equipment, workpieces and piping, shall be electrically grounded.

2404.2 Location of spray-finishing operations. Spray finishing operations conducted in buildings used for Group A, E, I or R occupancies shall be located in a spray room protected with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 and separated vertically and horizontally from other areas in accordance with the ~~*International*~~*California Building Code*. In other occupancies, spray-finishing operations shall be conducted in a spray room, spray booth or spraying space approved for such use.

Exceptions:
1. Automobile undercoating spray operations and spray-on automotive lining operations conducted in areas with approved natural or mechanical ventilation shall be exempt from the provisions of Section 2404 when approved and where utilizing Class IIIA or IIIB combustible liquids.
2. In buildings other than Group A, E, I or R occupancies, approved limited spraying space in accordance with Section 2404.9.
3. Resin application areas used for manufacturing of reinforced plastics complying with Section 2409 shall not be required to be located in a spray room, spray booth or spraying space.

2404.3.1 Spray rooms. Spray rooms shall be constructed and designed in accordance with Section 2404.3.1.1 and

the ~~*International*~~*California Building Code*, and shall comply with Sections 2404.4 through 2404.8.

2404.3.2.6 Size. The aggregate area of spray booths in a building shall not exceed the lesser of 10 percent of the area of any floor of a building or the basic area allowed for a Group H-2 occupancy without area increases, as set forth in the ~~*International*~~*California Building Code*. The area of an individual spray booth in a building shall not exceed the lesser of the aggregate size limit or 1,500 square feet (139 m2).

Exception: One individual booth not exceeding 500 square feet (46 m2).

2404.3.3 Spraying spaces. Spraying spaces shall be designed and constructed in accordance with the ~~*International*~~*California Building Code,* and Section 2404.3.3.1 and 2404.4 through 2404.8 of this code.

2404.6.1.2.2 Portable infrared apparatus. Where a portable infrared drying apparatus is used, electrical wiring and portable infrared drying equipment shall comply with *the* ~~NFPA 70~~*California Electrical Code*. Electrical equipment located within 18 inches (457 mm) of floor level shall be approved for Class I, Division 2 hazardous locations. Metallic parts of drying apparatus shall be electrically bonded and grounded. During spraying operations, portable drying apparatus and electrical connections and wiring thereto shall not be located within spray booths, spray rooms or other areas where spray residue would be deposited thereon.

2404.7 Ventilation. Mechanical ventilation of flammable vapor areas shall be provided in accordance with ~~Section~~ 502.7 of the ~~*International*~~*California Mechanical Code*.

2404.7.2 Recirculation. Air exhausted from spraying operations shall not be recirculated.

Exceptions:
1. Air exhausted from spraying operations is allowed to be recirculated as makeup air for unmanned spray operations, provided that all of the following conditions exist:

1.1. The solid particulate has been removed.
1.2. The vapor concentration is less than 25 percent of the LFL.
1.3. Approved equipment is used to monitor the vapor concentration.
1.4. When the vapor concentration exceeds 25 percent of the LFL, both of the following shall occur:

a. An alarm shall sound.
b. Spray operations shall automatically shut down.

1.5. In the event of shutdown of the vapor concentration monitor, 100 percent of the air volume specified in ~~Section 510 of~~ the *California Mechanical Code* is automatically exhausted.

2. Air exhausted from spraying operations is allowed to be recirculated as makeup air to manned spraying operations where all of the conditions provided in Exception 1 are included in the installation and documents have been prepared to show that the installation does not pose a life safety hazard to personnel inside the spray booth, spraying space or spray room.

2404.9.4 Electrical wiring. Electrical wiring within 10 feet (3048 mm) of the floor and 20 feet (6096 mm) horizontally of the limited spraying space shall be designed for Class I, Division 2 locations in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

2405.2 Location of dip-tank operations. Dip-tank operations conducted in buildings used for Group A, I or R occupancies shall be located in a room designed for that purpose, equipped with an approved automatic sprinkler system and separated vertically and horizontally from other areas in accordance with the ~~*International*~~*California Building Code*.

2407.2 Location and clear space. A space of at least twice the sparking distance shall be maintained between goods being painted or deteared and electrodes, electrostatic atomizing heads or conductors. *The equipment manufacturer's operating instructions shall be consulted to determine the sparking distance of the equipment involved.* A sign stating the sparking distance shall be conspicuously posted near the assembly.

Exception: Portable electrostatic paint-spraying apparatus listed for use in Class I, Division 1, locations.

CHAPTER 25
FRUIT AND CROP RIPENING

2504.5 Heating. Heating shall be by indirect means utilizing low-pressure steam, hot water or warm air.

Exception: Electric or fuel-fired heaters *approved* for use in hazardous (classified) locations and that are installed and operated in accordance with the applicable provisions of *the* ~~NFPA 70~~*California Electrical Code*, the ~~*International*~~*California Mechanical Code* ~~or the *International Fuel Gas Code*~~.

CHAPTER 26
FUMIGATION AND THERMAL INSECTICIDAL FOGGING

CHAPTER 27
SEMICONDUCTOR FABRICATION FACILITIES

2701.1 Scope. Semiconductor fabrication facilities and comparable research and development areas classified as Group H-5 shall comply with this chapter and the ~~*International*~~*California Building Code*. The use, storage and handling of hazardous materials in Group H-5 shall comply with this chapter, other applicable provisions of this code and the ~~*International*~~*California Building Code*.

2701.4 Existing buildings and existing fabrication areas. Existing buildings and existing fabrication areas shall comply with this chapter, except that transportation and handling of HPM in corridors and enclosures for stairways and ramps shall be allowed where in compliance with Section 2705.3.2 and the ~~*International*~~*California Building Code*.

2703.2.2 General requirements. In addition to the requirements in Section 2703.2, systems, equipment and processes shall also comply with Section 5003.2, other applicable provisions of this code, the ~~*International*~~*California Building Code* and the ~~*International*~~*California Mechanical Code*.

2703.3.1 Fabrication areas. Construction and location of fabrication areas shall comply with the ~~*International*~~*California Building Code*.

2703.3.2 Pass-throughs in exit access corridors. Pass-throughs in exit access corridors shall be constructed in accordance with the ~~*International*~~*California Building Code*.

2703.3.3 Liquid storage rooms. Liquid storage rooms shall comply with Chapter 57 and the ~~*International*~~*California Building Code*.

2703.3.4 HPM rooms. HPM rooms shall comply with the ~~*International*~~*California Building Code*.

2703.3.8 Service corridors. Service corridors shall comply with Section 2705.3 and the ~~*International*~~*Building Code*.

2703.7.1 Fabrication areas. Electrical wiring and equipment in fabrication areas shall comply with *the* ~~NFPA 70~~*California Electrical Code*.

2703.7.2 Workstations. Electrical equipment and devices within 5 feet (1524 mm) of workstations in which flammable or pyrophoric gases or flammable liquids are used shall comply with *the* ~~NFPA 70~~*California Electrical Code* for Class I, Division 2 hazardous locations. Workstations shall not be energized without adequate exhaust ventilation in accordance with Section 2703.14.

Exception: Class I, Division 2 hazardous electrical equipment is not required where the air removal from the workstation or dilution will prevent the accumulation of flammable vapors and fumes on a continuous basis.

2703.7.3 Hazardous production material (HPM) rooms, gas rooms and liquid storage rooms. Electrical wiring and equipment in HPM rooms, gas rooms and liquid storage rooms shall comply with *the* ~~NFPA 70~~*California Electrical Code*.

2703.10.4 Exhaust ducts for HPM. An approved automatic sprinkler system shall be provided in exhaust ducts conveying gases, vapors, fumes, mists or dusts generated from HPM in accordance with this section and the

~~*International*~~*California Mechanical Code*.

2703.14 Exhaust ventilation systems for HPM. Exhaust ventilation systems and materials for exhaust ducts utilized for the exhaust of HPM shall comply with Sections 2703.14.1 through 2703.14.3, other applicable provisions of this code, the ~~*International*~~*California Building Code* and the ~~*International*~~*California Mechanical Code*.

2703.14.1 Where required. Exhaust ventilation systems shall be provided in the following locations in accordance with the requirements of this section and the ~~*International*~~*California Building Code*:

1. Fabrication areas: Exhaust ventilation for fabrication areas shall comply with the ~~*International*~~*California Building Code*. The fire code official is authorized to require additional manual control switches.
2. Workstations: A ventilation system shall be provided to capture and exhaust gases, fumes and vapors at workstations.
3. Liquid storage rooms: Exhaust ventilation for liquid storage rooms shall comply with Section 5004.3.1 and the ~~*International*~~*California Building Code*.
4. HPM rooms: Exhaust ventilation for HPM rooms shall comply with Section 5004.3.1 and the ~~*International*~~*California Building Code*.
5. Gas cabinets: Exhaust ventilation for gas cabinets shall comply with Section 5003.8.6.2. The gas cabinet ventilation system is allowed to connect to a workstation ventilation system. Exhaust ventilation for gas cabinets containing highly toxic or toxic gases shall also comply with Chapter 60.
6. Exhausted enclosures: Exhaust ventilation for exhausted enclosures shall comply with Section 5003.8.5.2. Exhaust ventilation for exhausted enclosures containing highly toxic or toxic gases shall also comply with Chapter 60.
7. Gas rooms: Exhaust ventilation for gas rooms shall comply with Section 5003.8.4.2. Exhaust ventilation for gas rooms containing highly toxic or toxic gases shall also comply with Chapter 60.
8. Cabinets containing pyrophoric liquids or Class 3 water-reactive liquids: Exhaust ventilation for cabinets in fabrication areas containing pyrophoric liquids or Class 3 water-reactive liquids shall be as required in Section 2705.2.3.4.

2703.14.2 Penetrations. Exhaust ducts penetrating fire barriers constructed in accordance with Section 707 of the ~~*International*~~*California Building Code* or horizontal assemblies constructed in accordance with Section 711 of the ~~*International*~~*California Building Code* shall be contained in a shaft of equivalent fire-resistance-rated construction. Exhaust ducts shall not penetrate fire walls. Fire dampers shall not be installed in exhaust ducts.

2703.15.1 Required electrical systems. Emergency power shall be provided for electrically operated equipment and connected control circuits for the following systems:

1. HPM exhaust ventilation systems.
2. HPM gas cabinet ventilation systems.
3. HPM exhausted enclosure ventilation systems.
4. HPM gas room ventilation systems.
5. HPM gas detection systems.
6. Emergency alarm systems.
7. Manual fire alarm systems.
8. Automatic sprinkler system monitoring and alarm systems.
9. Automatic alarm and detection systems for pyrophoric liquids and Class 3 water-reactive liquids required in Section 2705.2.3.4.
10. Flow alarm switches for pyrophoric liquids and Class 3 water-reactive liquids cabinet exhaust ventilation systems required in Section 2705.2.3.4.
11. Electrically operated systems required elsewhere in this code or in the ~~*International*~~*California Building Code* applicable to the use, storage or handling of HPM.

2704.3.1 HPM storage. The indoor storage of HPM in quantities greater than those listed in Section 5003.1.1 and 3404.3.4 shall be in a room complying with the requirements of the ~~*International*~~*California Building Code* and this code for a liquid storage room, HPM room or gas room as appropriate for the materials stored.

2705.2.3.2 Protection of vessels. Vessels containing hazardous materials located in or connected to a workstation shall be protected as follows:

1. HPM: Vessels containing HPM shall be protected from physical damage and shall not project from the workstation.

2. Hazardous cryogenic fluids, gases and liquids:
Hazardous cryogenic fluid, gas and liquid vessels located within a workstation shall be protected from seismic forces in an approved manner in accordance with the ~~*International*~~*California Building Code*.
3. Compressed gases: Protection for compressed gas vessels shall also comply with Section 3003.5.
4. Cryogenic fluids: Protection for cryogenic fluid vessels shall also comply with Section 3203.3.

2705.2.3.1 Construction. Workstations in fabrication areas shall be constructed of materials compatible with the materials used and stored at the workstation. The portion of the workstation that serves as a cabinet for HPM gases, Class I flammable liquids or Class II or Class IIIA combustible liquids shall be noncombustible and, if of metal, shall be not less than 0.0478-inch (18 gage) (1.2 mm) steel. 2705.2.3.2 Protection of vessels. Vessels containing hazardous materials located in or connected to a workstation shall be protected as follows:
1. HPM: Vessels containing HPM shall be protected from physical damage and shall not project from the workstation.
2. Hazardous cryogenic fluids, gases and liquids: Hazardous cryogenic fluid, gas and liquid vessels located within a workstation shall be protected from seismic forces in an approved manner in accordance with the ~~*International*~~*California* Building Code.
3. Compressed gases: Protection for compressed gas vessels shall also comply with Section 5303.5.
4. Cryogenic fluids: Protection for cryogenic fluid vessels shall also comply with Section 5503.5.

2705.3.1 Corridors and enclosures for stairways and ramps. Corridors and enclosures for exit stairways and ramps in new buildings or serving new fabrication areas shall not contain HPM, except as permitted in corridors by Section 415.11.6.4 of the ~~*International*~~*California Building Code* and Section 2705.3.2 of this code.

2705.3.2.1 Fabrication area alterations. Where existing fabrication areas are altered or modified in existing buildings, HPM is allowed to be transported in existing corridors where such corridors comply with Section 5003.10 of this code and Section 415.11.2 of the ~~*International*~~*California Building Code*.

2705.3.3 Service corridors. Where a new fabrication area is constructed, a service corridor shall be provided where it is necessary to transport HPM from a liquid storage room, HPM room, gas room or from the outside of a building to the perimeter wall of a fabrication area. Service corridors shall be designed and constructed in accordance with the ~~*International*~~*California Building Code*.

CHAPTER 28
LUMBER YARDS AND WOODWORKING FACILITIES

2803.1 Open yards. Open yards required by the ~~*International*~~*California Building Code* shall be maintained around structures.

2803.2 Dust control. Equipment or machinery located inside buildings that generates or emits combustible dust shall be provided with an approved dust collection and exhaust system installed in accordance with Chapter 22 and the ~~*International*~~*California Mechanical Code*. Equipment or systems that are used to collect, process or convey combustible dusts shall be provided with an approved explosion control system.

2803.3 Waste removal. Sawmills, planning mills and other woodworking plants shall be equipped with a waste removal system that will collect and remove sawdust and shavings. Such systems shall be installed in accordance with Chapter 22 and the ~~*International*~~*California Mechanical Code*.

Exception: Manual waste removal where approved.

2803.4 Electrical equipment. Electrical wiring and equipment shall comply with *the* ~~NFPA 70~~*California Electrical Code*.

CHAPTER 29
MANUFACTURE OF ORGANIC COATINGS

2904.1 Wiring and equipment. Electrical wiring and equipment shall comply with this chapter and shall be installed in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

2905.1 Design. Process structures shall be designed and constructed in accordance with the ~~*International*~~*California Building Code*.

2909.2 Tank storage. Tank storage for flammable and combustible liquids located inside of structures shall be limited to storage areas at or above grade which are separated from the processing area in accordance with the ~~*International*~~*California Building Code*. Processing equipment containing flammable and combustible liquids and storage in quantities essential to the continuity of the operations shall not be prohibited in the processing area.

2909.4 Nitrocellulose storage. Nitrocellulose storage shall be located on a detached pad or in a separate structure or a room enclosed in accordance with the ~~*International*~~*California Building Code*. The nitrocellulose storage area shall not be utilized for any other purpose. Electrical wiring and equipment installed in storage areas adjacent to process areas shall comply with Section 2904.2.

2909.6 Finished products. Finished products that are flammable or combustible liquids shall be stored outside of structures, in a separate structure, or in a room separated from the processing area in accordance with the ~~*International*~~*California Building Code*. The storage of finished products shall be in tanks or closed containers in accordance with Chapter 57.

CHAPTER 30
INDUSTRIAL OVENS

3001.1 Scope. This chapter shall apply to the installation and operation of industrial ovens and furnaces. Industrial ovens and furnaces shall comply with the applicable provisions of NFPA 86, ~~the *International Fuel Gas Code*, *International*~~*California Mechanical Code* and this chapter. The terms “ovens” and “furnaces” are used interchangeably in this chapter.

3003.1 Ventilation. Enclosed rooms or basements containing industrial ovens or furnaces shall be provided with combustion air in accordance with the ~~*International*~~*California Mechanical Code* ~~and the *International Fuel Gas Code*~~, and with ventilation air in accordance with the ~~*International*~~*California Mechanical Code.*

3004.1 Fuel-gas piping. Fuel-gas piping serving industrial ovens shall comply with the ~~*International Fuel Gas*~~*California Mechanical Code*. Piping for other fuel sources shall comply with this section.

3004.2 Shutoff valves. Each industrial oven or furnace shall be provided with an approved manual fuel shutoff valve in accordance with the ~~*International*~~*California Mechanical Code* ~~or the *International Fuel Gas Code*~~.

3006.3 Fire extinguishers. Portable fire extinguishers complying with Section 906 shall be provided not closer than 15 feet (4572 mm) or not more than 50 feet (15 240 mm) ~~or in accordance with NFPA 10~~. This shall apply to the oven and related equipment.

CHAPTER 31
TENTS, CANOPIES AND OTHER MEMBRANE STRUCTURES

3101.1 Scope. Tents, temporary stage canopies and membrane structures shall comply with this chapter. The provisions of Section 3103 are applicable only to temporary tents and membrane structures. The provisions of Section 3104 are applicable to temporary and permanent tents and membrane structures. Other temporary structures shall comply with the ~~*International*~~*California* Building Code.

These building standards govern the use of tents, awnings or other fabric enclosures, including membrane (air-supported and air-inflated) structures and places of assemblage, in or under which 10 or more persons may gather for any lawful purpose.

Exceptions:
1. Tents, awnings or other fabric enclosures used to cover or enclose private swimming pools and similar facilities on the premises of private one- and two-family dwellings.
2. Tents used to conduct committal services on the ground of a cemetery.
3. Tents, awnings or other fabric enclosures erected and used within a sound stage, or other similar structural enclosure which is equipped with an overhead automatic sprinkler system.
4. Tensioned membrane roof materials supported by rigid frames or installed on a mast and cable system provided such structures conform to the requirements of one of the types of construction as described in these regulations.
5. Fabric structures which are part of mobilehomes, recreational vehicles, or commercial coaches governed by the

provisions of Division 13, Part 2, Health and Safety Code (Department of Housing and Community Development).

[California Code of Regulations, Title 19, Division 1, §303.(a) and (b)] Scope.
(a) The provisions of California Code of Regulations, Title 19, Division 1, Chapter 2 apply to the sale, offering for sale, manufacture for sale, rental and use of tents within this state.
(b) For building standards relating to tents and membrane structures, see California Code of Regulations, Title 24, Part 9.

3101.2 Alternate means of protection. *When approved by the enforcing agency, exceptions to the provisions of these building standards may be permitted, provided alternate means of protection which are at least equal to these regulations in quality, strength, effectiveness, fire resistance, durability and safety are provided.*

3101.3 Labor camps. *Tents used in labor camps for the housing of employees shall have tight wooden floors raised at least 4 inches (102 mm) above ground level having baseboards on all sides to a height of at least 6 inches (152 mm) or shall have concrete slabs with finished surface at least 4 inches (102mm) above grade having baseboards on all sides to a height of at least 6 inches (152 mm).*

Electrical installations serving and installed within tents shall comply with the applicable requirements of the California Electrical Code.

Tents shall not be considered suitable sleeping places when it is found necessary to provide heating facilities in order to maintain a minimum temperature of 60_F (33.3_C) within such tent during the period of occupancy.

Note: *See Section 17008 of the Health and Safety Code for definition of labor camp.*

3103.8.2 Location. Tents or membrane structures shall not be located within 20 feet (6096 mm) of *lot lines*, buildings, other tents or membrane structures, parked vehicles or internal combustion engines. For the purpose of determining required distances, support ropes and guy wires shall be considered as part of the temporary membrane structure or tent.

Exceptions:
1. Separation distance between membrane structures and tents not used for cooking is not required where the aggregate floor area does not exceed 15,000 square feet (1394 m2).
2. Membrane structures or tents need not be separated from buildings when all of the following conditions are met:

2.1. The aggregate floor area of the membrane structure or tent shall not exceed 10,000 square feet (929 m2).
2.2. The aggregate floor area of the building and membrane structure or tent shall not exceed the allowable floor area including increases as indicated in the ~~*International*~~*California Building Cod*e.
2.3. Required *means of egress* are provided for both the building and the membrane structure or tent including travel distances.
2.4. Fire apparatus access roads are provided in accordance with Section 503.

3. When approved by the enforcing agency, tents may be located in or on permanent buildings provided such use does not constitute an undue hazard.

[California Code of Regulations, Title 19, Division 1, §312.] Parking of Vehicles.
Vehicles necessary to the operation of the establishment, shall be parked at least twenty feet (20') from any tent. No other vehicle shall be parked less than one hundred feet (100') from any tent except vehicles parked on a public street shall park at least twenty feet (20') from any tent.

3103.8.4 Membrane structures on buildings. Membrane structures that are erected on buildings, balconies, decks or other structures shall be regulated as permanent membrane structures in accordance with Section 3102 of the ~~*International*~~*California Building Code*.

3103.9.1 Tents and membrane structures exceeding one story. Tents and membrane structures exceeding one story shall be designed and constructed to comply with Chapter 16 of the ~~*International*~~*California* Building Code.

3103.12.6.1 Exit sign illumination. Exit signs shall be either listed and labeled in accordance with UL 924 as the internally illuminated type and used in accordance with the listing or shall be externally illuminated by luminaires

supplied in either of the following manners:

1. Two separate circuits, one of which shall be separate from all other circuits, for occupant loads of 300 or less; or
2. Two separate sources of power, one of which shall be an approved emergency system, shall be provided where the occupant load exceeds 300. Emergency systems shall be supplied from storage batteries or from the on-site generator set, and the system shall be installed in accordance with *the* ~~NFPA 70~~*California* Electrical Code. The emergency system provided shall have a minimum duration of 90 minutes when operated at full design demand.

3104.1 General. Tents and membrane structures, both temporary and permanent, shall be in accordance with this section. Permanent tents and membrane structures shall also comply with the ~~*International*~~*California* Building Code.

[California Code of Regulations, Title 19, Division 1, §340.] Existing Small Tents.
Existing small tents are exempt from California Code of Regulations, Title 19, Division 1, Chapter 2.

[California Code of Regulations, Title 19, Division 1, §341.] Existing Membrane Structures and Other (Large) Existing Tents.
Existing membranes of membrane structures and large (10 or more capacity) existing tents may continue to be used provided evidence of satisfactory flame resistance is available to the enforcing authority. Such evidence may be in the form of certification that the fabric passes the standard small scale flame resistance test as set forth in California Code of Regulations, Title 19, Division 1, Chapter 8 regulations or through passage of effective field tests.

[California Code of Regulations, Title 19, Division 1, §321.] Abatement of Fire or Panic Hazards.
Any condition that presents a fire hazard, would contribute to the rapid spread of fire, interfere with the rapid exit of persons from the tents, or interfere with or delay the extinguishment of a fire, shall be immediately corrected as ordered by the enforcing authority.

[California Code of Regulations, Title 19, Division 1, §315.(a)] Flame Resistance Standards.
(a) All tent fabrics and all interior decorative fabrics or materials shall be flame resistant in accordance with appropriate standards set forth in California Code of Regulations, Title 19, Division 1, Chapter 8.
Tent tops and sidewalls shall be made either from fabric which has been flame resistant treated with an approved exterior chemical process by an approved application concern, or from inherently flame resistant fabric approved and listed by the State Fire Marshal.

[California Code of Regulations, Title 19, Division 1, §332.(a)] Flame Resistance.
(a) All tents manufactured for sale, sold, rented, offered for sale, or used in California shall be made from nonflammable material or one of the following flame resistant fabrics or material approved by the State Fire Marshal:
(1) Fabrics complying with the State Fire Marshal's requirements for flame resistance for exterior use, as set forth in California Code of Regulations, Title 19, Division 1, Chapter 8 or,
(2) Fabrics complying with the flame resistance requirements set forth in "A Specification for Flame Resistance Materials Used in Camping Tentage" published in 1975 by Canvas Products Association International, hereinafter referred to as CPAI-84.
EXCEPTIONS:
(1) Tents used for committal services at cemeteries
(2) Tents or similar fabric enclosures used within a sound stage or equivalent enclosure equipped with an overhead automatic fire extinguishing system.

3104.2 Flame propagation performance treatment. Before a permit is granted, the owner or agent shall file with the fire code official a certificate executed by an approved testing laboratory certifying that the tents and membrane structures and their appurtenances; sidewalls, drops and tarpaulins; floor coverings, bunting and combustible decorative materials and effects, including sawdust where used on floors or passageways, are ~~composed of material meeting the flame propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 or shall be treated with a flame retardant in an approved manner and meet the flame propagation performance criteria of NFPA 701, and that such flame propagation performance criteria are effective for the period specified by the permit.~~ *flame resistant in accordance with appropriate standards set forth in CCR, Title 19, Division 1, Chapter 8. Tops and sidewalls shall be made either from fabric which has been flame resistant treated with an approved exterior chemical process by an approved application concern, or from inherently flame resistant fabric approved and listed by the State Fire Marshal (see CCR, Title 19, Division 1, Chapter 8).*

3104.3 Label...

[California Code of Regulations, Title 19, Division 1, §334.] Requirements Pertaining to All Tents.
All tents manufactured for sale in California shall be labeled in accordance with the appropriate provisions of California Code of Regulations, Title 19, Division 1, Section 335.

[California Code of Regulations, Title 19, Division 1, §335.(a) and (b)] Labeling of Tents.
(a) Each section of top and sidewall in large tents shall have a durable label, permanently affixed, bearing the following information:
(1) The Seal of Registration.
(2) If treated fabric, the name and registration number of the approved application concern and approved chemical used, and the date of treatment.
(3) If registered fabric, the trade name and registration number of the approved fabric, and the date of production.
In lieu of attached labels, the required information may be applied directly to the fabric by print, stamp or stencil.
(b) Small tents shall have a permanently affixed label bearing the information in California Code of Regulations, Title 19, Division 1, Section 335, subsection (a), or shall comply with the provisions specified in CPAI-84 (1975) which reads as follows:
(1) Certification. A statement that the materials used in the manufacture of the item meet the flame resistance requirements of CPAI-84.
(2) Manufacturer Identification. An identification of the manufacturer of the item. If the item bears a private label, it shall identify the private labeler and shall also contain a code mark which will permit the seller of the item to identify the manufacturer to the purchaser upon request.
(3) Code Number. A number enabling the manufacturer to identify from his records the suppliers and suppliers' lot numbers of the certified materials used in the item. The manufacturer shall also maintain records identifying the parties to whom he sold camping tentage. Further, he shall maintain records identifying items manufactured from lots of certified material. Records shall be maintained for four (4) years.
(4) Warning label.

24 pt. type
WARNING

16 pt. type
KEEP ALL FLAME AND HEAT SOURCES AWAY FROM THIS TENT FABRIC

12 pt. type
This tent is made with flame resistant fabric which meets CPAI-84 specifications. It is not fire proof. The fabric will burn if left in continuous contact with any flame source.

The application of any foreign substance to the tent fabric may render the flame resistant properties ineffective .

This warning label or its equivalent must be permanently affixed to the tent at one conspicuous location, and must block letters on a white background. The first paragraph of the body of the label must be placed in a conspicuous location on each carton containing the tent.

3104.4 Certification…

[California Code of Regulations, Title 19, Division 1, §315.(d)] Flame Resistance Standards.
(d) Certificates of Flame Resistance or other documentation affirming the requirements of California Code of Regulations, Title 19, Division 1, Section 315, subsection(a) shall be made available upon request of the enforcement authority.

3104.5 Combustible materials…

[California Code of Regulations, Title 19, Division 1, §315.(b)] Flame Resistance Standards.
(b)Sawdust, shavings, or other combustible material used on the floor or ground shall be made flame resistant or when approved by the enforcing authority shall be kept adequately damp when tent is occupied.

[California Code of Regulations, Title 19, Division 1, §326.(b)] Hazard Abatement.
(b) Hay, straw, trash and other similar flammable material shall be stored more than 50 feet from any tent except upon approval of the enforcing authority.
EXCEPTION: Tents to which the public is not admitted.

3104.6 Smoking…

[California Code of Regulations, Title 19, Division 1, §316.] Smoking Prohibited.
Smoking is not permitted in any tent, and in any adjacent areas where hay or other highly flammable materials are kept. "No Smoking" signs shall be conspicuously posted in all tents open to the public and wherever otherwise specified by the enforcing authority.

3104.7 Open or exposed flame…

[California Code of Regulations, Title 19, Division 1, §317.] Fireworks and Open Flames.
Fireworks, open flame or any device emitting flame or spark shall not be used in or immediately adjacent to any tent while open to the public, except when approved in writing by the enforcing authority.

3104.12 Portable fire extinguishers. Portable fire extinguishers shall be provided as required by ~~Section 906~~ *California Code of Regulations, Title 19, Division 1, Chapter 2, Article 3, Section 319.*

[California Code of Regulations, Title 19, Division 1, §319.(a) through (c)] Fire Extinguishers and Other Fire Protection Equipment.
(a) One Class 2-A fire extinguisher shall be provided in every tent having a floor area between 500 square feet and 1,000 square feet plus one 2-A fire extinguisher in each auxiliary adjacent tent. One additional extinguisher shall be provided for each additional 2000 square feet or fraction thereof.
(b) At least one Class 10 B-C fire extinguisher shall be provided with each generator or transformer.
(c) At least one Class 10 B-C fire extinguisher shall be provided in kitchen, dining areas, and at locations where flammable or combustible liquids or flammable gases are used, stored, or dispensed.

3104.13 Fire protection equipment…

[California Code of Regulations, Title 19, Division 1, §319.(d) and (e)] Fire Extinguishers and Other Fire Protection Equipment.
(d) Tents having a capacity of 1,000 or more persons shall be protected on each of the long sides with fire hose lines of at least 1 ½ inch internal diameter and of sufficient length to reach either end of the tent. The water supply shall be either from the public water mains or from tanks having a capacity of not less than 500 gallons. There shall be at least 65 pounds of flowing pressure at the nozzle of the hose line when a ½ inch tip is used.
(e) The enforcing authority may modify or waive any of the requirements of this section [Title 19, Division1, Section 319] and may accept other types of fire extinguishing equipment in lieu of that required by Title 19, Division 1 regulations if, in the authorities' opinion, reasonable and adequate protection will be afforded.

3104.15.1 Installation. Heating or cooking equipment, tanks, piping, hoses, fittings, valves, tubing and other related components shall be installed as specified in the ~~*International*~~*California Mechanical Code* ~~and the *International Fuel Gas Code,*~~ and shall be approved by the fire code official.

3104.15.2 Venting. Gas, liquid and solid fuel-burning equipment designed to be vented shall be vented to the outside air as specified in the ~~*International Fuel Gas Code* and the *International*~~*California Mechanical Code*. Such vents shall be equipped with approved spark arresters where required. Where vents or flues are used, all portions of the tent, or membrane structure shall be not less than 12 inches (305 mm) from the flue or vent.

3104.15.7 Electrical heating and cooking equipment. Electrical cooking and heating equipment shall comply with *the* ~~NFPA 70~~*California* Electrical Code.

3104.16.1 General. LP-gas equipment such as tanks, piping, hoses, fittings, valves, tubing and other related components shall be approved and in accordance with Chapter 61 ~~and with the *International Fuel Gas*~~*California Mechanical Code*.

[California Code of Regulations, Title 19, Division 1, §325.] Liquefied Petroleum Gas.

Liquefied petroleum gas shall not be stored or used in connection with any tent unless the storage containers, equipment, fittings, appliances, placement, use and operation complies with the provisions of California Code of Regulations, Title 8, Article 5, Subchapter 1, Chapter 4.

3104.17.2 Flammable and combustible liquid storage…

[California Code of Regulations, Title 19, Division 1, §324.(a) and (b)] Flammable and Combustible Liquids.
(a) Liquids having a flash point below 200°F shall not be stored in any tent nor less than 50 feet from any tent.
(b) Flammable or combustible liquids shall be stored and dispensed in accordance with the provisions of the California Fire Code. The enforcing authority may permit limited quantities of flammable or combustible liquids required for display and normal merchandizing.

3104.20 Standby personnel…

[California Code of Regulations, Title 19, Division 1, §320.] Fire Safety Personnel.
The owners or operators of any tent used as a place of assemblage shall provide at least one qualified fire safety person in every tent having a capacity of 500 persons and one additional qualified person for each 1,000 additional persons or fraction thereof. Such persons shall be on duty in the tent at all times when the tent is open to the public. They shall be proficient in the handling of fire extinguishers and equipment and shall be familiar with the fire and panic safety regulations. The individual designated under this section shall meet the approval of the fire authority having jurisdiction.
EXCEPTION: The enforcing authority may waive or modify the provisions of this section if, in his opinion, public safety will not be jeopardized.

3104.21 Combustible vegetation…

[California Code of Regulations, Title 19, Division 1, §326.(a)] Hazard Abatement.
(a) All flammable vegetation within 50 feet of any tent shall be removed.

3104.22 Combustible waste material…

[California Code of Regulations, Title 19, Division 1, §326.(c)] Hazard Abatement.
(c) Combustible waste shall not be permitted to accumulate on the grounds either inside or outside of tents. Such waste shall be stored in approved containers until removed from the premises.

3104.23 Obstructions. *Exits, aisles and passageways shall not be blocked or have their minimum clear width obstructed in any manner by ticket offices, turnstiles, concessions, chairs, equipment, animal chutes, poles or guy ropes, or anything whatsoever, nor shall they be blocked by persons for whom no seats are available.*

In occupancies having fixed seating, and on request of the owner or manager, the enforcing agency may permit modifications from the provisions of this code to accommodate seating for handicapped persons using mechanical aids such as, but not limited to, walkers and wheelchairs.

3105.5 Required documents. The following documents shall be submitted to the fire code official and the building official for review before a permit is approved:

1. Construction documents: Construction documents shall be prepared in accordance with the ~~*International*~~*California* Building Code by a registered design professional. Construction documents shall include:

1.1. A summary sheet showing the building code used, design criteria, loads and support reactions.
1.2. Detailed construction and installation drawings.
1.3. Design calculations.
1.4. Operating limits of the structure explicitly outlined by the registered design professional including environmental conditions and physical forces.
1.5. Effects of additive elements such as video walls, supported scenery, audio equip-ment, vertical and horizontal coverings.
1.6. Means for adequate stability including specific requirements for guying and cross-bracing, ground anchors or ballast for different ground conditions.

2. Designation of responsible party: The owner of the temporary stage canopy shall designate in writing a person to have responsibility for the temporary stage canopy on the site. The designated person shall have sufficient knowledge of the construction documents, manufacturer's recommendations and operations plan to make judgments regarding the structure's safety and to coordinate with the fire code official.
3. Operations plan: The operations plan shall reflect manufacturer's operational guidelines, procedures for environmental monitoring and actions to be taken under specified conditions consistent with the construction documents.

CHAPTER 32
HIGH-PILED COMBUSTIBLE STORAGE

3201.3 Construction documents. At the time of building permit application for new structures designed to accommodate high-piled storage or for requesting a change of occupancy/use, and at the time of application for a storage permit, plans and specifications shall be submitted for review and approval. In addition to the information required by the ~~*International*~~*California Building Code*, the storage permit submittal shall include the information specified in this section. Following approval of the plans, a copy of the approved plans shall be maintained on the premises in an approved location. The plans shall include all of the following:

1. Floor plan of the building showing locations and dimensions of high-piled storage areas.
2. Usable storage height for each storage area.
3. Number of tiers within each rack, if applicable.
4. Commodity clearance between top of storage and the sprinkler deflector for each storage arrangement.
5. Aisle dimensions between each storage array.
6. Maximum pile volume for each storage array.
7. Location and classification of commodities in accordance with Section 3203.
8. Location of commodities that are banded or encapsulated.
9. Location of required fire department access doors.
10. Type of fire suppression and fire detection systems.
11. Location of valves controlling the water supply of ceiling and in-rack sprinklers.
12. Type, location and specifications of smoke removal and curtain board systems.
13. Dimension and location of transverse and longitudinal flue spaces.
14. Additional information regarding required design features, commodities, storage arrangement and fire protection features within the high-piled storage area shall be provided at the time of permit, when required by the fire code official.

TABLE 3206.2
GENERAL FIRE PROTECTION AND LIFE SAFETY REQUIREMENTS
[Table not show for clarity]

For SI: 1 foot = 304.8 mm, 1 cubic foot = 0.02832 m3 , 1 square foot = 0.0929 m2.
a. Where automatic sprinklers are required for reasons other than those in Chapter 32, the portion of the sprinkler system protecting the high-piled storage area shall be designed and installed in accordance with Sections 3207 and 3208.
b. For aisles, see Section 3206.9.
c. Piles shall be separated by aisles complying with Section 3206.9.
d. For storage in excess of the height indicated, special fire protection shall be provided in accordance with Note g where required by the fire code official. See Chapters 51 and 57 for special limitations for aerosols and flammable and combustible liquids, respectively.
e. Section 503 shall apply for fire apparatus access.
f. For storage exceeding 30 feet in height, Option 1 shall be used.
g. Special fire protection provisions including, but not limited to, fire protection of exposed steel columns; increased sprinkler density; additional in-rack sprinklers, without associated reductions in ceiling sprinkler density; or additional fire department hose connections shall be provided when required by the fire code official.
h. High-piled storage areas shall not exceed 500,000 square feet. A 2-hour fire wall constructed in accordance with Section 706 of the ~~*International*~~*California Building Code* shall be used to divide high-piled storage exceeding 500,000 square feet in area.
i. Not required where an automatic fire-extinguishing system is designed and installed to protect the high-piled storage area in accordance with Sections 3207 and 3208.
j. Not required where storage areas *with an exit access travel distance of 250 feet (76 200 mm)or less* are protected

by either early suppression fast response (ESFR) sprinkler systems or 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 the stored commodities with 12 or fewer sprinklers, installed in accordance with ~~NFPA 13~~ *Section 903.3.1.1.*

3206.3.1 Separation from other uses. Mixed occupancies shall be separated in accordance with the ~~*International*~~*California Building Code.*

3206.3.2.1 Aggregate area. The aggregate of all high-piled storage areas within a building shall be used for the application of Table 3206.2 unless such areas are separated from each other by 1-hour fire barriers constructed in accordance with Section 707 of the ~~*International*~~*California Building Code*. Openings in such fire barriers shall be protected by opening protectiveshaving a 1-hour fire protection rating.

3206.3.2.2 Multiclass high-piled storage areas. High-piled storage areas classified as Class I through IV not separated from high-piled storage areas classified as high hazard shall utilize the aggregate of all high-piled storage areas as high hazard for the purposes of the application of Table 3206.2. To be considered as separated, 1-hour fire barriers shall be constructed in accordance with Section 707 of the ~~*International*~~*California Building Code*. Openings in such fire barriers shall be protected by opening protectives having a 1-hour fire protection rating.

Exception: As provided for in Section 3204.2.

3206.8 Fire department hose connections. Where exit passageways are required by the ~~*International*~~*California Building Code* for egress, a Class I standpipe system shall be provided in accordance with Section 905.

3207.2 Fire protection. Where automatic sprinklers are required by Table 3206.2, an approved automatic sprinkler system shall be installed throughout the building or to 1-hour fire barriers constructed in accordance with Section 707 of the ~~*International*~~*California Building Code*. Openings in such fire barriers shall be protected by opening protectives having 1-hour fire protection rating. The design and installation of the automatic sprinkler system and other applicable fire protection shall be in accordance with the ~~*International*~~*California Building Code* and NFPA 13.

3208.2 Fire protection. Where automatic sprinklers are required by Table 3206.2, an approved automatic sprinkler system shall be installed throughout the building or to 1-hour fire barriers constructed in accordance with Section 707 of the ~~*International*~~*California Building Code*. Openings in such walls shall be protected by opening protective assemblies having 1-hour fire protection ratings. The design and installation of the automatic sprinkler system and other applicable fire protection shall be in accordance with Section 903.3.1.1 and the ~~*International*~~*California Building Code*.

CHAPTER 33
FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

3303.1 Listed. Temporary heating devices shall be listed and labeled in accordance with the ~~*International*~~*California Mechanical Code* ~~or the International Fuel Gas Code~~. Installation, maintenance and use of temporary heating devices shall be in accordance with the terms of the listing.

3303.3 LP-gas heaters. Fuel supplies for liquefied-petroleum gas-fired heaters shall comply with Chapter 61 and the ~~*International Fuel Gas*~~*California Mechanical Code*.

3304.7 Electrical. Temporary wiring for electrical power and lighting installations used in connection with the construction, alteration or demolition of buildings, structures, equipment or similar activities shall comply with *the* ~~NFPA 70~~*California Electrical Code*.

3306.2.1 Pipe cleaning and purging. The cleaning and purging of flammable gas piping systems, including cleaning new or existing piping systems, purging piping systems into service and purging piping systems out of service, shall comply with NFPA 56.

Exceptions:
1. Compressed gas piping systems other than fuel gas piping systems where in accordance with Chapter 53.
2. Piping systems regulated by the ~~*International Fuel Gas*~~*California Mechanical* Code.
3. Liquefied petroleum gas systems in accordance with Chapter 61.

3314.1 Completion before occupancy. In buildings where an automatic sprinkler system is required by this code or the ~~*International*~~*California Building Code*, it shall be unlawful to occupy any portion of a building or structure until the automatic sprinkler system installation has been tested and approved, except as provided in Section 105.3.4.

CHAPTER 34
TIRE REBUILDING AND TIRE STORAGE

3401.1 Scope. Tire rebuilding plants, tire storage *(including tire derived products as defined in Public Resources Code Section 42805.7(a))* and tire byproduct facilities shall comply with this chapter, other applicable requirements of this code and NFPA 13. Tire storage in buildings shall also comply with Chapter 32.

3403.1 Construction. Tire rebuilding plants shall comply with the requirements of the ~~*International*~~*California Building Code*, as to construction, separation from other buildings or other portions of the same building, and protection.

3404.2 Sources of heat. *Open flame,* ~~C~~cutting, welding or heating devices ~~shall not be operated in tire storage yards~~*, blow torches or highly flammable materials, including but not limited to, inner tubes are prohibited within 40 feet of a waste tire pile*.

3405.1 Individual piles. Tire storage shall be restricted to individual piles not exceeding 5,000 square feet (464.5 m2) of continuous area*. Pile width shall not exceed 50 feet.* Piles shall not exceed 50,000 cubic feet (1416 m3) in volume or 10 feet (3048 mm) in height.

3405.4 Distance from lot lines and buildings. Tire storage piles shall be located not less than 50 feet (15 240 mm) from lot lines and buildings.

Exceptions:
1. Tire storage piles containing less than 500 tires shall be permitted to be located no closer than 10 feet (3048 mm) from lot lines or from buildings. Tire storage piles shall not exceed 6 feet (1829 mm) in height when within 20 feet of any property line, building, or perimeter fencing. Side slopes shall not exceed 60 degrees. When approved by the fire code official in accordance with Section 1.11.2.4 distances of less than 10 feet (3048 mm) from lot lines or from buildings may be approved.
2. When approved by the fire code official in accordance with Section 1.11.2.4, exempted facilities defined in Public Resources Code Sections 42808(c) and 42831 and used tires as defined in 42806.5, tire storage piles shall be permitted to be located no closer than 10 feet (3 048 mm) from lot lines or from buildings. Tire storage piles shall not exceed 6 feet (1829 mm) in height when within 20 feet of any property line or perimeter fencing. Side slopes shall not exceed 60 degrees.
3. When approved by the fire code official in accordance with Section 1.11.2.4, "minor waste tire facilities" as defined in Public Resources Code Section 42808, tire storage piles shall be permitted to be located no closer than 10 feet (3 048 mm) from lot lines or 50 feet (15 240 mm) from buildings. Tire storage piles shall not exceed 6 feet (1829 mm) in height when within 20 feet of any property line or perimeter fencing. Side slopes shall not exceed 60 degrees.
4. Existing "minor waste tire storage facilities" as defined in Public Resources Code Section 42808, legally permitted prior to January 1, 2011, shall be permitted to maintain tire storage piles located no closer than 10 feet (3048 mm) from lot lines or 50 feet (15240 mm) from buildings. Tire storage piles shall not exceed 6 feet (1829 mm) in height when within 20 feet (6096 mm) of any property line or perimeter fencing. Side slopes shall not exceed 60 degrees.

3405.7 Location of storage. Outdoor waste tire storage shall not be located *in any of the following:*

1. ~~u~~*U*nder bridges, elevated trestles, elevated roadways or elevated railroads.
2. In any area where they may be subjected to immersion in water during a 100-year storm unless the operator demonstrates that the facility will be designed and operated so as to prevent waste tires from migrating off site.
3. On surfaces with grades or other physical features that will interfere with firefighting equipment or personnel unless mitigating measures have been approved in writing by the local fire authority or a fire safety engineer registered by the State of California. Measures established by a fire safety engineer shall be subject to approval by the local fire authority.

3405.8 Rim removal*. Waste tires stored on rims shall be stored separate from other waste tires.*

3405.9 Pyrolytic oil runoff. *The facility shall be designed and constructed to provide protection to by bodies of water from runoff of pyrolytic oil resulting from a potential tire fire****.***

3406.1 Required access. New *and existing* tire storage yards shall be provided with fire apparatus access roads in accordance with Section 503 and Section 3406.2. ~~Existing tire storage yards shall be provided with fire apparatus access roads where required in Chapter 11.~~

3408.1 Water supply. A public or private fire protection water supply shall be provided in accordance with Section 508 *and shall be capable of delivering at least 1,000 gallons per minute for a duration of at least three hours and at least 2,000 gallons per minute for a duration of at least three hours if the sum of altered plus whole waste tires exceeds 10,000*. The water supply shall be arranged such that any part of the storage yard can be reached by using not more than 500 feet (152 m) of hose.

3408.2 Fire extinguishers. Buildings or structures shall be provided with portable fire extinguishers in accordance with Section 906. Fuel-fired vehicles operating in the storage yard shall be equipped with a minimum ~~2-A:20-B:C~~ *A:40-B:C* rated portable fire extinguisher.

CHAPTER 35
WELDING AND OTHER HOT WORK

3506.4 Emergency disconnect. A switch or circuit breaker shall be provided so that fixed electric welders and control equipment can be disconnected from the supply circuit. The disconnect shall be installed in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

CHAPTER 36
MARINAS

CHAPTER 37
COMBUSTIBLE FIBERS

3703.5 Dust collection. Where located within a building, equipment or machinery that generates or emits combustible fibers shall be provided with an approved dust-collecting and exhaust system. Such systems shall comply with ~~Chapter 22 of this code and Section 511 of~~ the ~~*International*~~*California Mechanical Code.*

3704.3 Storage of more than 100 cubic feet to 500 cubic feet. Loose combustible fibers in quantities exceeding 100 cubic feet (3 m3) but not exceeding 500 cubic feet (14 m3) shall be stored in rooms enclosed with 1-hour fire barriers constructed in accordance with Section 707 of the ~~*International*~~*California* Building Code or horizontal assemblies constructed in accordance with Section 711 of the ~~*International*~~*California* Building Code, or both,with openings protected by an approved opening protective assembly having a fire protection rating of 3/4 hour in accordance with the ~~*International*~~*California Building Code*.

3704.4 Storage of more than 500 cubic feet to 1,000 cubic feet. Loose combustible fibers in quantities exceeding 500 cubic feet (14 m3) but not exceeding 1,000 cubic feet (28 m3) shall be stored in rooms enclosed with 2-hour fire-resistance-rated fire barriers, with openings protected by an approved opening protective assembly having a fire protection rating of 11/2 hours, and constructed in accordance with the ~~*International*~~*California Building Code*.

3704.5 Storage of more than 1,000 cubic feet. Loose combustible fibers in quantities exceeding 1,000 cubic feet (28 m3) shall be stored in rooms enclosed with 2-hour fire barriers constructed in accordance with Section 707 of the ~~*International*~~*California* Building Code or horizontal assemblies constructed in accordance with Section 711 of the ~~*International*~~*California* Building Code, or both, with openings protected by an approved opening protective assembly having a fire protection rating of 11/2 hours in accordance with the ~~*International*~~*California Building Code*. The storage room shall be protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1.

CHAPTERS 38 through 4~~9~~*47*
RESERVED

CHAPTER 48
MOTION PICTURE AND TELEVISION PRODUCTION STUDIO SOUND STAGES, APPROVED PRODUCTION FACILITIES, AND PRODUCTION LOCATIONS

4801 GENERAL

4801.1 Scope. *Production studios, sound stages, approved production facilities, and production locations used by the entertainment industry for the purpose of motion picture, television and commercial production shall be in accordance with the provisions of this article.*

4801.2 Purpose. *The purpose of this article is to establish minimum requirements that will provide a reasonable degree of safety from fire, panic and explosion. Buildings and structures defined herein shall be in accordance with this article.*

4801.3 DEFINITIONS.

APPROVED FIRE WATCH *are individuals provided with at least 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.*

APPROVED PRODUCTION FACILITY *is an existing building, or portion of a building, or a group of buildings altered for use by the entertainment industry for the purpose of motion picture, television and commercial production.*

PLATFORM *is part of a set, which is a floor or horizontal surface raised above stage floor level.*

PRODUCTION LOCATION *is any area or facility outside a production studio, approved production facility or sound stage used by the entertainment industry for the purpose of motion picture, television and commercial production.*

PRODUCTION STUDIO *is a building, portion of a building, or a group of buildings designed and constructed for use by the entertainment industry for the purpose of motion picture, television and commercial production.*

SET *is a structure built or assembled for the purpose of motion picture, television and commercial production.*

SOUND STAGE *is a building or portion of a building usually insulated from outside noise and natural light for use by the entertainment industry for the purpose of motion picture, television and commercial production.*

4802 OCCUPANCY CLASSIFICATION

4802.1 Live audience stages. *Production facilities, sound stages and approved production studios with live audience stages shall be classified as Group A-1 Occupancies in accordance with the California Building Code.*

4802.2 All other stages. *Production studios, sound stages and approved production facilities without live audience stages shall be classified as Group F-1 Occupancies in accordance with the California Building Code.*

Note: *Sections 4803 through 4810 apply only to Studio Sound Stages and Approved Production Facilities*

4803 REQUIRED PERMITS

4803.1 Change in use. *A permit from the Fire Code Official shall be obtained any time a change in use or occupancy is intended by the owner (e.g., for live audience shows, wrap parties).*

4803.2 Additional permits. *A permit shall be required for:*

a) Use of pyrotechnic special effects.
b) Open flames.
c) Flammable or combustible liquids, gases and dust.
d Hot work.
e) Presence of motor vehicles within a building.
f) Any additional permits as required by the Fire Code Official.

4803.3 Live audiences. *A permit shall be required for seating arrangements of all live audience stages.*

4804 GENERAL REQUIREMENTS

4804.1 Housekeeping. *Provisions of this part shall maintain proper housekeeping in accordance with Chapter 3.*

4804.2 Aisles. *Perimeter aisles within the sound stage and approved production facility shall be provided. Aisles required by this section shall have a minimum width of 4 feet (1219 mm). See Chapter 10 for maintenance requirements. Aisles required by this section shall have a minimum clear unobstructed height of 7 feet (2134 mm).*

4804.3 Travel distance. *The maximum travel distance to any exit within the sound stage and approved production facility shall be 150 feet (45,720 mm).*

4804.4 Exit doors. *Exit doors shall be equipped with panic hardware and swing in the direction of exit travel.*

4804.5 Exit signs. *Illuminated exit signs shall be installed in accordance with the California Building Code.*

4804.6 Exit illumination. *Exit illumination shall be provided in accordance with the California Building Code. In the event of power failure, exit path illumination shall be automatically provided by an approved emergency back-up system.*

4804.7 Exit obstructions. *All means of egress shall be maintained in accordance with the provisions of Chapter 10, Section 1005.1.*

4804.8 Foam plastics. *All foam plastics shall meet the requirements of Chapter 8, Sections ~~807.4.2.4~~807.5.1.5 and 807.5.7.*

4804.9 Decorative materials. *Drapes, drops, cut greens, etc., shall meet the flame retardant requirements of California Code of Regulations, Title 19, Division 1, Chapter 5, and Chapter 8, Sections ~~807.4.2.4~~807.5.1.5 and ~~807.4.5~~807.5.7.*

4805 FIRE-EXTINGUISHING SYSTEMS

4805.1 Existing sound stages and approved production facilities. *All existing sound stages and approved production facilities equipped with an automatic fire sprinkler system shall be maintained in accordance with the provisions in Chapter 9.*

4805.2 New sound stages. *All new sound stages shall be equipped with an approved automatic fire sprinkler system. The system shall be installed in accordance with the provisions in Chapter 9 and shall meet the minimum design requirements of an Extra Hazard, Group 2 system.*

4805.3 Solid-ceiling sets and platforms. *All interior solid-ceiling sets over 600 square feet (55.7 m^2) in area, and platforms (when provided) over 600 square feet (55.7 m^2) in area and which exceed 3 feet (914 mm) in height shall be protected by one of the following:*

1. An approved and listed heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. Detectors shall be connected to an approved and listed central, proprietary or remote station service or a local alarm, which will give an audible signal at a constantly attended location. Such system shall be installed in accordance with Chapter 9.
2. The ceiling shall be positioned to allow for the operation of the building's automatic fire sprinkler system after rehearsal, videotaping, filming, or broadcasting of programs has been completed for the day.
3. An approved fire watch.
4. Special hazards shall be reviewed by the Fire Code Official (see Additional Fire Protection Systems, Section 901.4.3).

4806 FIRE-DETECTION EQUIPMENT

4806.1 Fire alarm control units. *Fire alarm control units shall be California State Fire Marshal listed and shall be utilized in accordance with their listing. Control Units may be temporarily supported by sets, platforms or pedestals.*

4806.2 Heat detectors. *Heat detection required by this article shall be defined as a portable system as it is intended to be reinstalled when platforms or sets are changed.*

Heat detectors may be secured to standard outlet boxes which may be temporarily supported by sets, platforms or pedestals.

Heat detectors shall be provided for solid-ceiling sets and platforms where required by 4805.3 and 4811.14.

4807 FIRE SAFETY OFFICERS.

4807.1 *Where permits are required by the Fire Code, a requirement for standby fire safety officers shall be determined by the Fire Code Official on a case-by-case basis. Standby fire safety officers shall not be required when the provisions of this article are met.*

4808 ELECTRICAL REQUIREMENTS

4808.1 General. *All electrical equipment including lighting, cabling and temporary power, such as portable generators, shall be maintained in good working order and shall comply with the provisions of the California Electrical Code.*

4808.2 Lighting and power requirements. *A studio sound stage and approved production facility shall be provided with a minimum of 35 watts per square foot of permanently installed power dedicated for the distribution of production lighting and power. Mobile generators may be utilized for auxiliary power.*

4808.3 Distribution. *Distribution equipment shall be designed for sound stage use. The wiring to such equipment shall be considered permanent and shall comply with applicable provisions of the California Electrical Code. Temporary feeders shall not be tapped from panelboards and switchboards where deadfront covers have to be removed.*

4808.4 Installations. *Permanent or temporary electrical installations shall be installed in accordance with the California Electrical Code and this code. Such equipment shall not obstruct exits, means of egress or fire department access, unless approved by the Fire Code Official.*

4808.5 Generators. *Portable, mobile or stationary power-generating equipment may be used to supplement building electrical power for temporary use. Equipment shall be located at a pre- designated location as approved by the Fire Code Official.*

Temporary auxiliary power cables supplied from mobile generators or adjacent buildings may pass through exterior walls and interior fire-resistive assemblies provided an approved through- penetration fire-stop system is utilized for protection of the opening.

4809 MECHANICAL EQUIPMENT

4809.1 Existing equipment. *All mechanical equipment used as part of the building ventilation system shall be maintained in good working order and shall comply with the provisions of the California Mechanical Code.*

4809.2 Auxiliary equipment. *All auxiliary heating, ventilation and air-conditioning equipment shall be approved and listed for the intended use. Flexible duct, if utilized, shall be noncombustible. Such auxiliary equipment shall not obstruct exits, means of egress or fire department access.*

4810 DESIGN REQUIREMENTS *The Fire Code Official shall be provided with certification that approved production facilities and studio sound stages will sustain the anticipated loads of sets, props or other temporary modifications.*

Where the anticipated loads exceed the design criteria for an approved production facility and studio sound stage, the building or portions thereof shall be modified for the additional loads.

4811 PRODUCTION LOCATIONS

4811.1 General. *This chapter shall apply to Production Locations.*

4811.2 Permits. *A permit shall be obtained, unless waived by the Fire Code Official for any of the activities that follow:*

a) Use of pyrotechnic special effects, see Section 3307.1 and , California Code of Regulations, Title 19, Division 1, Chapter 6.
b) Open flames.
c) Flammable or combustible liquids, gases and dust.
d) Hot work.
e) Presence of motor vehicles within a building.
f) Tents and canopies, see Chapter 31.
g) Any additional permits as required by the AHJ.

4811.3 Pyrotechnic special effects and open flames. *The use of pyrotechnic special effects and open flames shall be subject to the approval of the Fire Code Official.*

4811.4 Standby fire personnel. *A requirement for standby fire safety officers shall be determined by the Fire Code Official on a case-by-case basis.*

4811.5 Foamed plastic materials. *All foam plastics shall meet the requirements of Chapter 8, Sections ~~807.4.2.4~~807.5.1.5 and ~~807.4.5~~807.5.7.*

4811.6 Smoking. *When the Fire Code Official determines that hazardous conditions necessitate controlled use of smoking materials, smoking may be prohibited or limited to designated smoking areas.*

4811.7 Structural loads. *Sets, scenery and other equipment shall not impact the structural integrity of a building or structure. Consultation with a building official or structural engineer may be required.*

4811.8 Electrical requirements.

4811.8.1 General. *All electrical equipment including lighting, cabling and temporary power, such as portable generators, shall be maintained in good working order and shall comply with the provisions of the California Electrical Code.*

4811.8.2 Distribution. *Temporary feeders shall not be tapped from panelboards and switchboards where deadfront covers have to be removed.*

4811.8.3 Installations. *Electrical installations shall be installed in accordance with the California Electrical Code. Such equipment shall not obstruct exits, means of egress or fire department access, unless approved by the Fire Code Official.*

4811.8.4 Generators. *Portable, mobile or stationary power-generating equipment may be used to supplement building electrical power for temporary use. Equipment shall be placed in a location acceptable to the Fire Code Official.*

4811.9 Fire department access. *Required emergency vehicle access shall be maintained. Any deviations are subject to approval by the Fire Code Official.*

4811.10 Means of egress. *The production location shall be provided with means of egress appropriate for the intended use as approved by the Fire Code Official.*

4811.11 Fire protection systems and equipment. *Functional fire protection systems and equipment shall be maintained in an operable condition, unless approved by the Fire Code Official. Disconnecting or altering of fire protection systems and/or equipment shall be prohibited, unless otherwise approved by the Fire Code Official with alternate means of protection provided.*

4811.12 Fire hydrants and fire appliances. *Hydrants, standpipes and Fire Department Connections (FDC) shall not be obstructed, blocked or rendered inoperable in accordance with Chapter 9, unless approved by the Fire Code Official.*

4811.13 Fire extinguishers. *Approved fire extinguishers shall be provided as required by the Fire Code Official.*

4811.14 Solid-ceiling sets and platforms. *In buildings with existing fire protection systems and where production intends to construct solid-ceiling sets over 600 square feet (55.7 m^2) in area, and platforms over 600 square feet (55.7 m^2) in area and which exceed 3 feet (914 mm) in height shall be protected by one of the following:*

1. An approved and listed heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. Detectors shall be connected to an approved and listed central, proprietary or remote station service or a local alarm, which will give an audible signal at a constantly attended location. Such system shall be installed in accordance with Chapter 9.
2. The ceiling shall be positioned to allow for the operation of the building's automatic fire sprinkler system after rehearsal, videotaping, filming, or broadcasting of programs has been completed for the day.
3. An approved fire watch.
4. Special hazards shall be reviewed by the enforcing agency (see additional fire protection systems, Section 901.4.3.).

4811.15 Buildings without fire protection systems. *Special hazards shall be reviewed by the Fire Code Official (see special hazards Section 901.4.3).*

CHAPTER 49
REQUIREMENTS FOR WILDLAND-URBAN INTERFACE FIRE AREAS

SECTION 4901
GENERAL

4901.1 Scope*. The mitigation of conditions where a wildfire burning in vegetative fuels may readily transmit fire to buildings and threaten to destroy life, overwhelm fire suppression capabilities, or result in large property losses shall comply with this chapter.*

4901.2 Purpose. *The purpose of this code is to provide minimum standards to increase the ability of a building to resist the intrusion of flame or burning embers being projected by a vegetation fire and contributes to a systematic reduction in conflagration losses through the use of performance and prescriptive requirements.*

4902 DEFINITIONS*.*

4902.1 General*. For the purpose of this chapter, certain terms are defined as follows:*
CDF DIRECTOR *means the Director of the California Department of Forestry and Fire Protection.*

FIRE PROTECTION PLAN *is a document prepared for a specific project or development proposed for a Wildland-Urban Interface Fire Area. It describes ways to minimize and mitigate potential for loss from wildfire exposure.*

The Fire Protection Plan shall be in accordance with this Article. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted. Only locally adopted ordinances that have been filed with the California Building Standards Commission in accordance with Section 101.14 or the Department of Housing and Community Development in accordance with Section 101.15 shall apply.

FIRE HAZARD SEVERITY ZONES *are geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code Sections 51175 through 51189.*

The California Code of Regulations, Title 14, section 1280 entitles the maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

LOCAL AGENCY VERY HIGH FIRE HAZARD SEVERITY ZONE *means an area designated by a local agency upon the recommendation of the CDF Director pursuant to Government Code Sections 51177(c), 51178 and 5118 that is not a state responsibility area and where a local agency, city, county, city and county, or district is responsible for fire protection.*

STATE RESPONSIBILITY AREA *means lands that are classified by the Board of Forestry pursuant to Public Resources Code Section 4125 where the financial responsibility of preventing and suppressing forest fires is primarily*

the responsibility of the state.

WILDFIRE *is any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property, or resources as defined in Public Resources Code Sections 4103 and 4104.*

WILDFIRE EXPOSURE *is one or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.*

WILDLAND-URBAN INTERFACE FIRE AREA *is a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires.*

SECTION 4903
PLANS [RESERVED]

SECTION 4904
FIRE HAZARD SEVERITY ZONES

4904.1 General. *Lands in the state are classified by the CDF Director in accordance with the severity of wildfire hazard expected to prevail in those areas and the responsibility for fire protection, so that measures may be identified which will reduce the potential for losses to life, property, and resources from wildfire.*

4904.2 Classifications*. The CDF Director classifies lands into fire hazard severity zones in accordance with California Public Resources Code Sections 4201 through 4204 for State Responsibility Areas and accordance with Government Code Sections 5117through 51189 for areas where a local agency is responsible for fire protection.*

SECTION 4905
WILDFIRE PROTECTION BUILDING CONSTRUCTION

4905.1 General. *Materials and construction methods for exterior wildfire exposure protection shall be applied within geographical areas where a wildfire burning in vegetative fuels may readily transmit fire to buildings and threaten to destroy life, overwhelm fire suppression capabilities, or result in large property losses.*

4905.2 Construction Methods and Requirements within Established Limits. *Within the limits established by law, construction methods intended to mitigate wildfire exposure shall comply with the wildfire protection building construction requirements contained in the California Building Standards Code including the following:*

1. California Building Code Chapter 7A,
2. California Residential Code Section R327
3. California Reference Standards Code Chapter 12-7A ~~and this chapter~~.

4905.3 Establishment of Limits. *The establishment of limits for the Wildland-Urban Interface Fire Area's required construction methods shall be designated pursuant to the California Public Resources Code for State Responsibility areas or by a local agency following a finding supported by substantial evidence in the record that the requirements of this Section are necessary for effective fire protection within the area.*

SECTION 4906
HAZARDOUS VEGETATION AND FUEL MANAGEMENT

4906.1 General. *Hazardous vegetation and fuels shall be managed to reduce the severity of potential exterior wildfire exposure to buildings and to reduce the risk of fire spreading to buildings as required by applicable laws and regulations.*

4906.2 Application. *Buildings and structures located in the following areas shall maintain the required hazardous vegetation and fuel management:*

1. All unincorporated lands designated by the State Board of Forestry and Fire Protection as State Responsibility Area (SRA) including:

1.1. Moderate Fire Hazard Severity Zones
1.2. High Fire Hazard Severity Zones
1.3. Very-High Fire Hazard Severity Zones

2. Land designated as Very-High Fire Hazard Severity Zone by cities and other local agencies.

4906.3 Requirements. *Hazardous vegetation and fuels around all applicable buildings and structures shall be maintained in accordance with the following laws and regulations:*

1. Public Resources Code Section 4291.
2. California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 3, Section 1299 (see guidance for implementation "General Guideline to Create Defensible Space").
3. California Government Code Section 51182.
4. California Code of Regulations, Title 19, Division 1, Chapter 7, Subchapter 1, Section 3.07.

SECTION 4907
DEFENSIBLE SPACE

4907.1 General. *Defensible space will be maintained around all buildings and structures in State Responsibility Area (SRA) as required in Public Resources Code 4290 and "SRA Fire Safe Regulations" California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 2, Section 1270.*

Buildings and structures within the Very High Fire Hazard Severity Zones of a Local Responsibility Areas (LRA) shall maintain defensible space as outlined in Government Code 51175 – 51189 and any local ordinance of the authority having jurisdiction.

CHAPTER 50
HAZARDOUS MATERIALS—GENERAL PROVISIONS

5001.2.2.1 Physical hazards. The material categories listed in this section are classified as physical hazards. A material with a primary classification as a physical hazard can also pose a health hazard.

1. Explosives and blasting agents.
2. Combustible liquids.
3. Flammable solids, liquids and gases.
4. Organic peroxide.
5. Oxidizer, solids or liquids.
6. Oxidizing gases.
7. Pyrophoric solids, liquids or gases.
8. Unstable (reactive) solids, liquids or gases.
9. Water-reactive ~~materials~~ solids or liquids.
10. Cryogenic fluids.

5001.5.1 Hazardous Materials Management Plan *(HMMP)*. Where required by the fire code official, an application for a permit shall include a*n* ~~Hazardous Materials Management Plan (~~HMMP~~)~~. The HMMP shall include a facility site plan designating the following:

1. Access to each storage and use area.
2. Location of emergency equipment.
3. Location where liaison will meet emergency responders.
4. Facility evacuation meeting point locations.
5. The general purpose of other areas within the building.
6. Location of all above-ground and underground tanks and their appurtenances including, but not limited to, sumps, vaults, below-grade treatment systems and piping.
7. The hazard classes in each area.
8. Locations of all control areas and Group H occupancies.
9. Emergency exits.

[For SFM] The HMMP shall comply with Health and Safety Code, Chapter 6.95, Sections 25500 through 25545, and Title 19, Division 2, Chapter 4.

TABLE 5003.1.1(2)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A HEALTH HAZARD [a, c, f, h, i]

[Table not show for clarity]

For SI: 1 cubic foot = 0.02832 m3, 1 pound = 0.454 kg, 1 gallon = 3.785 L, 1 pound per square inch absolute = 6.895 kPa,°C = [(°F)-32/1.8].

a. For use of control areas, see Section 5003.8.3.

b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

c. In retail and wholesale sales occupancies, the quantities of medicines, foodstuff or consumer products and cosmetics, containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

d. *[SFM] In other than Group L occupancies,* ~~M~~maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.

e. Maximum allowable quantities shall be increased 100 percent where stored in approved storage cabinets, gas cabinets or exhausted enclosures. Where Note d also applies, the increase for both notes shall be applied accumulatively.

f. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 5003.11, see Table 5003.11.1.

g. Allowed only where stored in approved exhausted gas cabinets or exhausted enclosures.

h. Quantities in parentheses indicate quantity units in parentheses at the head of each column.

i. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2.

5003.2.2.2 Additional regulations for supply piping for health-hazard materials. Supply piping and tubing for gases and liquids having a health-hazard ranking of 3 or 4 in accordance with NFPA 704 shall be in accordance with ASME B31.3 and the following:

1. Piping and tubing utilized for the transmission of highly toxic, toxic or highly volatile corrosive liquids and gases shall have welded, threaded or flanged connections throughout except for connections located within a ventilated enclosure if the material is a gas, or an approved method of drainage or containment is provided for connections if the material is a liquid.
2. Piping and tubing shall not be located within corridors, within any portion of a means of egress required to be enclosed in fire-resistance-rated construction or in concealed spaces in areas not classified as Group H occupancies.

Exception: Piping and tubing within the space defined by the walls of corridors and the floor or roof above or in concealed spaces above other occupancies where installed in accordance with Section 415.11.6.4 of the ~~*International*~~*California Building Code* for Group H-5 occupancies.

5003.2.8 Seismic protection. Machinery and equipment utilizing hazardous materials shall be braced and anchored in accordance with the seismic design requirements of the ~~*International*~~*California Building Code* for the seismic design category in which the machinery or equipment is classified.

5003.7.3 Industrial trucks. Powered industrial trucks used in areas designated as hazardous (classified) locations in accordance with *the* ~~NFPA 70~~*California Electrical Code* shall be listed and labeled for use in the environment intended in accordance with NFPA 505.

5003.8.1 Buildings. Buildings, or portions thereof, in which hazardous materials are stored, handled or used shall be constructed in accordance with the ~~*International*~~*California Building Code*.

Table 5003.8.2
DETACHED BUILDING REQUIRED

[Table not show for clarity]

For SI: 1 pound = 0.454 kg, 1 cubic foot = 0.02832 m3, 1 ton = 2000 lbs. = 907.2 kg.

a. For materials that are detonable, the distance to other buildings or lot lines shall be as specified in the ~~*International*~~*California Building Code.* For materials classified as explosives, the required separation distances shall

be as specified in Chapter 56.
b. “Maximum Allowable Quantity” means the maximum allowable quantity per control area set forth in Table 5003.1.1(1).
c. Limited to Division 1.4 materials and articles, including articles packaged for shipment, that are not regulated as an 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, providing the net explosive weight of individual articles does not exceed 1 pound.

5003.8.3.1 Construction requirements. Control areas shall be separated from each other by fire barriers constructed in accordance with Section 707 of the ~~*International*~~*California Building Code* or horizontal assemblies constructed in accordance with Section 711 of the ~~*International*~~*California Building Code*, or both.

5003.8.4.1 Construction. Gas rooms shall be protected with an automatic sprinkler system. Gas rooms shall be separated from the remainder of the building in accordance with the requirements of the ~~*International*~~*California Building Code* based on the occupancy group into which it has been classified.

5003.8.4.2 Ventilation system. The ventilation system for gas rooms shall be designed to operate at a negative pressure in relation to the surrounding area. Highly toxic and toxic gases shall also comply with Section 6004.2.2.6. The ventilation system shall be installed in accordance with the ~~*International*~~*California Mechanical Code*.

5003.8.5.2 Ventilation. Exhausted enclosures shall be provided with an exhaust ventilation system. The ventilation system for exhausted enclosures shall be designed to operate at a negative pressure in relation to the surrounding area. Ventilation systems used for highly toxic and toxic gases shall also comply with Items 1, 2 and 3 of Section 6004.1.2. The ventilation system shall be installed in accordance with the ~~*International*~~*California Mechanical Code*.

5003.8.6.2 Ventilation. Gas cabinets shall be provided with an exhaust ventilation system. The ventilation system for gas cabinets shall be designed to operate at a negative pressure in relation to the surrounding area. Ventilation systems used for highly toxic and toxic gases shall also comply with Items 1, 2 and 3 of Section 6004.1.2. The ventilation system shall be installed in accordance with the ~~*International*~~*California Mechanical Code*.

5003.8.7.1 Construction. The interior of cabinets shall be treated, coated or constructed of materials that are nonreactive with the hazardous material stored. Such treatment, coating or construction shall include the entire interior of the cabinet. Cabinets shall either be listed in accordance with UL 1275 as suitable for the intended storage or constructed in accordance with the following:

1. Cabinets shall be of steel having a thickness of not less than 0.0478 inch (1.2 mm) (No. 18 gage). The cabinet, including the door, shall be double walled with a 1 1/2-inch (38 mm) airspace between the walls. Joints shall be riveted or welded and shall be tight fitting. Doors shall be well fitted, self-closing and equipped with a self-latching device.
2. The bottoms of cabinets utilized for the storage of liquids shall be liquid tight to a minimum height of 2 inches (51 mm).

Electrical equipment and devices within cabinets used for the storage of hazardous gases or liquids shall be in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

5003.9.4 Electrical wiring and equipment. Electrical wiring and equipment shall be installed and maintained in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

5003.9.9 Shelf storage. Shelving shall be of substantial construction, and shall be braced and anchored in accordance with the seismic design requirements of the ~~*International*~~*California Building Code* for the seismic zone in which the material is located. Shelving shall be treated, coated or constructed of materials that are compatible with the hazardous materials stored. Shelves shall be provided with a lip or guard where used for the storage of individual containers.

Exceptions:
1. Storage in hazardous material storage cabinets or laboratory furniture specifically designed for such use.
2. Storage of hazardous materials in amounts not requiring a permit in accordance with Section 5001.5.

Shelf storage of hazardous materials shall be maintained in an orderly manner.

5003.10 Handling and transportation. In addition to the requirements of Section 5003.2, the handling and transportation of hazardous materials in corridors, *elevators*, enclosures for stairways and ramps shall be in accordance with Sections 5003.10.1 through ~~5003.10.3.6~~ *5003.10.4.4*

5003.10.2 Carts and trucks required. Liquids in containers exceeding 5 gallons (19 L) in a corridor~~*corridor*~~ or *exit* enclosure for a stairway or ramp shall be transported on a cart or truck. Containers of hazardous materials having a hazard ranking of 3 or 4 in accordance with NFPA 704 and transported within corridors or interior exit~~*exit*~~ stairways and ramps, shall be on a cart or truck. Where carts and trucks are required for transporting hazardous materials, they shall be in accordance with Section 5003.10.3. *Exceptions 1 through 4 shall not apply where elevators are utilized.*

Exceptions:
1. Two hazardous material liquid containers that are hand carried in acceptable safety carriers.
2. Not more than four drums not exceeding 55 gallons (208 L) each that are transported by suitable drum trucks.
3. Containers and cylinders of compressed gases that are transported by approved hand trucks, and containers and cylinders not exceeding 25 pounds (11 kg), which are hand carried.
4. Solid hazardous materials not exceeding 100 pounds (45 kg) that are transported by approved hand trucks, and a single container not exceeding 50 pounds (23 kg) that is hand carried.

5003.10.2.1 Above the 10th story. *Above the 10th story of any occupancy, all vertical handling and transportation of hazardous materials in the building shall be in approved carts.*

5003.10.2.2 Transportation of hazardous materials above the 10th story *The handling and **t**ransportation of hazardous materials above the 10th story shall be limited to 5 percent of the maximum allowable quantities of Tables 5003.1(1) (2.) Quantities are permitted to be increased 100 percent in buildings with an approved automatic sprinkler system in accordance with 903.3.1.1. Materials where Foot Note G applies shall not be increased.*

5003.10.4 Elevators utilized to transport hazardous materials.

5003.10.4.1. *When transporting hazardous materials, elevators shall have no other passengers other than the individual(s) handling the chemical transport cart.*

5003.10.4.2. *Hazardous materials liquid containers shall have maximum capacity of 20 liters (5.28 gal).*

5003.10.4.3. *Toxic and highly-toxic gases shall be limited to a container of a maximum water capacity of 1 lb.*

5003.10.4.4. *Means shall be provided to prevent the elevator from being summoned to other floors.*

5004.2.2.6 Drainage system design. Drainage systems shall be in accordance with the ~~*International*~~*California Plumbing Code* and all of the following:

1. The slope of floors to drains in indoor locations, or similar areas in outdoor locations shall be not less than 1 percent.
2. Drains from indoor storage areas shall be sized to carry the volume of the fire protection water as determined by the design density discharged from the automatic fire-extinguishing system over the minimum required system design area or area of the room or area in which the storage is located, whichever is smaller.
3. Drains from outdoor storage areas shall be sized to carry the volume of the fire flow and the volume of a 24-hour rainfall as determined by a 25-year storm.
4. Materials of construction for drainage systems shall be compatible with the materials stored.
5. Incompatible materials used in open systems shall be separated from each other in the drainage system.
6. Drains shall terminate in an approved location away from buildings, valves, means of egress, fire access roadways, adjoining property and storm drains.

5004.3.1 System requirements. Exhaust ventilation systems shall comply with all of the following:

1. Installation shall be in accordance with the ~~*International*~~*California Mechanical Code*.
2. Mechanical ventilation shall be at a rate of not less than 1 cubic foot per minute per square foot [0.00508 m3/(s•m2)] of floor area over the storage area.
3. Systems shall operate continuously unless alternative designs are approved.

4. A manual shutoff control shall be provided outside of the room in a position adjacent to the access door to the room or in an approved location. The switch shall be a break-glass or other approved type and shall be labeled: VENTILATION SYSTEM EMERGENCY SHUTOFF.

Exception: *[For SFM] When exhaust systems containing explosive, corrosive, combustible, flammable or highly toxic dusts, mists, fumes, vapors, or gases are 100 percent exhausted to the outside, an emergency ventilation system shutoff is not required.*

5. Exhaust ventilation shall be designed to consider the density of the potential fumes or vapors released. For fumes or vapors that are heavier than air, exhaust shall be taken from a point within 12 inches (305 mm) of the floor. For fumes or vapors that are lighter than air, exhaust shall be taken from a point within 12 inches (305 mm) of the highest point of the room.
6. The location of both the exhaust and inlet air openings shall be designed to provide air movement across all portions of the floor or room to prevent the accumulation of vapors.
7. Exhaust air shall not be recirculated to occupied areas if the materials stored are capable of emitting hazardous vapors and contaminants have not been removed. Air-contaminated with explosive or flammable vapors, fumes, or dusts; flammable, highly toxic or toxic gases; or radioactive materials shall not be recirculated.

[Editorial Note: Repeal 2013 amendment to CFC Section 5004.7.]
5004.7 Standby or emergency power. Where mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power in accordance with Section 604.
For storage areas for highly toxic or toxic materials, see Sections 6004.2.2.8 and 6004.3.4.2.

5004.13 Weather protection. Where overhead noncombustible construction is provided for sheltering outdoor hazardous material storage areas, such storage shall not be considered indoor storage where the area is constructed in accordance with the requirements for weather protection as required by the ~~*International*~~*California Building Code.*

Exception: Storage of explosive materials shall be considered as indoor storage.

[Editorial Note: Repeal 2013 amendment to CFC Section 5005.1.5.]
5005.1.5 Standby or emergency power. Where mechanical ventilation, treatment systems, temperature control, manual alarm, detection or other electrically operated systems are required by this code, such systems shall be provided with emergency or standby power in accordance with Section 604.

5005.2 Indoor dispensing and use. Indoor dispensing and use of hazardous materials shall be in buildings complying with the ~~*International*~~*California Building Code* and in accordance with Section 5005.1 and Sections 5005.2.1 through 5005.2.2.4.

5005.3.9 Weather protection. Where overhead noncombustible construction is provided for sheltering outdoor hazardous material use areas, such use shall not be considered indoor use where the area is constructed in accordance with the requirements for weather protection as required in the ~~*International*~~*California Building Code.*

Exception: Use of explosive materials shall be considered as indoor use.

CHAPTER 51
AEROSOLS

5101.1 Scope. The provisions of this chapter, the ~~*International*~~*California Building Code* and NFPA 30B shall apply to the manufacturing, storage and display of aerosol products. Manufacturing of aerosol products using hazardous materials shall also comply with Chapter 50.

CHAPTER 52
RESERVED

CHAPTER 53
COMPRESSED GASES

5303.7.6 Heating. Compressed gas containers, cylinders and tanks, whether full or partially full, shall not be heated

by devices that could raise the surface temperature of the container, cylinder or tank to above 125°F (52°C). Heating devices shall comply with the ~~*International*~~*California Mechanical Code* and *the* ~~NFPA 70~~*California Electrical Code* Approved heating methods involving temperatures of less than 125°F (52°C) are allowed to be used by trained personnel. Devices designed to maintain individual compressed gas containers, cylinders or tanks at constant temperature shall be approved and shall be designed to be fail-safe.

5303.8 Wiring and equipment. Electrical wiring and equipment shall comply with *the* ~~NFPA 70~~*California Electrical Code*. Compressed gas containers, cylinders, tanks and systems shall not be located where they could become part of an electrical circuit. Compressed gas containers, cylinders, tanks and systems shall not be used for electrical grounding.

5303.16.1 Listing required. Vaults shall be listed by a nationally recognized testing laboratory.

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 ~~*International*~~*California 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 ~~*International*~~*California 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 professional engineer. Consideration shall be given to soil and hydrostatic loading on the floors, walls and lid; anticipated seismic forces; uplifting by ground water or flooding; and to loads imposed from above, such as traffic and equipment loading on the vault lid.

5303.16.2 Design and construction. The vault shall completely enclose generation, compression, storage or dispensing equipment located in the vault. There shall not be openings in the vault enclosure except those necessary for vault ventilation and access, inspection, filling, emptying or venting of equipment in the vault. 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 any explosion occurring inside the vault is directed upward.

The top of an at- 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. Vaults shall be designed to be wind and earthquake resistant, in accordance with the ~~*International*~~*California Building Code*.

5303.16.9 Ventilation. Vaults 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 [0.00508 m3/(s • m2)], but not less than 150 cfm [0.071 m3/(s • m2)]. The exhaust system shall be designed to provide air movement across all parts of the vault floor for gases having a density greater than air and across all parts of the vault ceiling for gases having a density less than air. Supply ducts shall extend to within 3 inches (76 mm), but not more than 12 inches (305 mm), of the floor. Exhaust ducts shall extend to within 3 inches (76 mm), but not more than 12 inches (305 mm) of the floor or ceiling, for heavier-than-air or lighter-than-air gases, respectively. The exhaust system shall be installed in accordance with the ~~*International*~~*California Mechanical Code*.

5303.16.11 Liquid removal. Means shall be provided to recover liquid from the vault. Where a pump is used to meet this requirement, it shall not be permanently installed in the vault. Electric-powered portable pumps shall be suitable for use in Class I, Division 1 locations, as defined in *the* ~~NFPA 70~~*California Electrical Code*.

5303.16.14 Classified area. The interior of a vault containing a flammable gas shall be designated a Class I, Division 1 location, as defined in *the* ~~NFPA 70~~*California Electrical Code*.

5305.5 Venting. Venting of gases shall be directed to an approved location. Venting shall comply with the ~~*International*~~*California Mechanical Code*.

[Editorial Note: Repeal 2013 amendment to CFC Section 5305.7.]
5305.7 Transfer. Transfer of gases between containers, cylinders and tanks shall be performed by qualified personnel using equipment and operating procedures in accordance with CGA P-1.

Exception: The fueling of vehicles with CNG or CH2, conducted in accordance with Chapter 23.

5306.2 Interior supply location. Medical gases shall be stored in areas dedicated to the storage of such gases without other storage or uses. Where containers of medical gases in quantities greater than the permit amount are located inside buildings, they shall be in a 1-hour exterior room, a 1-hour interior room or a gas cabinet in accordance with Section 5306.2.1, 5306.2.2 or 5306.2.3, respectively. Rooms or areas where medical gases are stored or used in quantities exceeding the *maximum allowable quantity per control area* as set forth in Section 5003.1 shall be in accordance with the ~~*International*~~*California Building Code* for high-hazard Group H occupancies.

5306.2.1 One-hour exterior rooms. A 1-hour exterior room shall be a room or enclosure separated from the remainder of the building by fire barriers constructed in accordance with Section 707 of the ~~*International*~~*California* Building Code or horizontal assemblies constructed in accordance with Section 711 of the ~~*International*~~*California* Building Code, or both, with a fire-resistance rating of not less than 1 hour. Openings between the room or enclosure and interior spaces shall be self-closing smoke- and draft-control assemblies having a fire protection rating of not less than 1 hour. Rooms shall have not less than one exterior wall that is provided with not less than two nonclosable louvered vents. Each vent shall have a minimum free opening area of 24 square inches (155 cm2) for each 1,000 cubic feet (28 m3) at normal temperature and pressure (NTP) of gas stored in the room and shall be not less than 72 square inches (465 cm2) in aggregate free opening area. One vent shall be within 6 inches (152 mm) of the floor and one shall be within 6 inches (152 mm) of the ceiling. Rooms shall be provided with not less than one automatic sprinkler to provide container cooling in case of fire.

5306.2.2 One-hour interior room. Where an exterior wall cannot be provided for the room, automatic sprinklers shall be installed within the room. The room shall be exhausted through a duct to the exterior. Supply and exhaust ducts shall be enclosed in a 1-hour-rated shaft enclosure from the room to the exterior. Approved mechanical ventilation shall comply with the ~~*International*~~*California Mechanical Code* and be provided at a minimum rate of 1 cubic foot per minute per square foot [0.00508 m3/(s • m2)] of the area of the room.

CHAPTER 54
CORROSIVE MATERIALS

5404.2.1 Above-ground outside storage tanks. *When required by Section 5004.2.2* above-ground outside storage tanks ~~exceeding an aggregate quantity of 1,000 gallons (3785 L)~~ of corrosive liquids shall be provided with secondary containment ~~in accordance with Section 5004.2.2~~.

CHAPTER 55
CRYOGENIC FLUIDS

5503.1.2 Concrete containers. Concrete containers shall be built in accordance with the ~~*International*~~*California Building Code*. Barrier materials and membranes used in connection with concrete, but not functioning structurally, shall be compatible with the materials contained.

5503.5.2 Securing of containers. Stationary containers shall be secured to foundations in accordance with the ~~*International*~~*California Building Code*. Portable containers subject to shifting or upset shall be secured. Nesting shall be an acceptable means of securing containers.

5503.6 Electrical wiring and equipment. Electrical wiring and equipment shall comply with *the* ~~NFPA 70~~*California Electrical Code* and Sections 5503.6.1 and 5503.6.2.

5503.6.2 Electrical grounding and bonding. Containers and systems shall not be used for electrical grounding. Where electrical grounding and bonding is required, the system shall comply with *the* ~~NFPA 70~~*California Electrical Code*. The grounding system shall be protected against corrosion, including corrosion caused by stray electric currents.

5504.2.1.2 Construction of indoor areas. Cryogenic fluids in stationary containers stored indoors shall be located in buildings, rooms or areas constructed in accordance with the ~~*International*~~*California Building Code*.

5504.2.1.3 Ventilation. Storage areas for stationary containers shall be ventilated in accordance with the ~~*International*~~*California Mechanical Code*.

5504.2.2.2 Construction of indoor areas. Cryogenic fluids in portable containers stored indoors shall be stored in buildings, rooms or areas constructed in accordance with the ~~*International*~~*California Building Code*.

5504.2.2.3 Ventilation. Storage areas shall be ventilated in accordance with the ~~*International*~~*California Mechanical Code*.

5505.4.1 Dispensing areas. Dispensing of cryogenic fluids with physical or health hazards shall be conducted in approved locations. Dispensing indoors shall be conducted in areas constructed in accordance with the ~~*International*~~*California Building Code*.

5505.4.1.1 Ventilation. Indoor areas where cryogenic fluids are dispensed shall be ventilated in accordance with the requirements of the ~~*International*~~*California Mechanical Code* in a manner that captures any vapor at the point of generation.

Exception: Cryogenic fluids that can be demonstrated not to create harmful vapors.

CHAPTER 56
EXPLOSIVES AND FIREWORKS

CHAPTER 57
FLAMMABLE AND COMBUSTIBLE LIQUIDS

5701.1 Scope and application…

[California Code of Regulations, Title 19, Division 1, §3.15] Flammable and Combustible Liquids.
Flammable and combustible liquids shall not be placed, stored or handled in any occupancy within the scope of California Code of Regulations, Title 19, Division 1 regulations except as provided in the California Fire Code.

5701.3 Referenced documents. The applicable requirements of Chapter 50, other chapters of this code, the ~~*International*~~*California Building Code* and the ~~*International*~~*California Mechanical Code* pertaining to flammable liquids shall apply.

5703.1 Electrical. Electrical wiring and equipment shall be installed and maintained in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

TABLE 5703.1.1
CLASS I ELECTRICAL EQUIPMENT LOCATIONS[a]
[Table not show for clarity]

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
a. Locations as classified in *the* ~~NFPA 70~~*California Electrical Code*.
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.

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 *the* ~~NFPA 70~~*California Electrical Code*.

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 ~~*International*~~*California Mechanical Code*.

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.

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.

Exception: *When approved by the Enforcing Agency the procedures prescribed in API (API-RP-2003) Recommended Practices 2003 entitled; Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents may be used for changing tank contents.*

5704.2.7.7 Design of supports. The design of the supporting structure for tanks shall be in accordance with the ~~*International*~~*California Building Code* and NFPA 30.

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 ~~*International*~~*California 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 ~~*International*~~*California 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 professional engineer. 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. Vaults shall be designed to be wind and earthquake resistant, in accordance with the ~~*International*~~*California Building Code*.

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 m3/(s · m2)], but not less than 150 cfm (4 m3/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 ~~*International*~~*California Mechanical Code*.

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 *the* ~~NFPA 70~~*California Electrical Code*.

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 *the* ~~NFPA 70~~*California Electrical Code*.

5704.2.9.2.2 Foam fire protection system installations. Where foam fire protection is required, it shall be installed in accordance with NFPA -11.

5704.2.9.3 Supports, foundations and anchorage. Supports, foundations and anchorages for above-ground tanks shall be designed and constructed in accordance with NFPA 30 and the ~~*International*~~*California Building Code*.

5704.2.9.4 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 ~~*International*~~*California Building Code*.

5704.2.9.6.1 Locations where above-ground tanks are prohibited. Storage of Class I and II liquids in above-ground tanks outside of buildings is prohibited within the limits established by law as the limits of districts in which such storage is prohibited (see Section 3 of the Sample Legislation for Adoption of the ~~*International*~~*California Fire Code* on page v).

5704.3.3.5 Shelf storage. Shelving shall be of approved construction, adequately braced and anchored. Seismic requirements shall be in accordance with the ~~*International*~~*California Building Code*.

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 ~~*International*~~*California Building Code*.

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 ~~*International*~~*California Building Code*.

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 ~~*International*~~*California Building Code*, and where Class IA or unstable liquids are involved, explosion control shall be provided in accordance with Section 911.

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 ~~*International*~~*California Building Code* and Sections 5705.3.7.1 through 5705.3.7.5.
2. For closed systems, indoor use, dispensing and mixing of flammable and combustible liquids shall be within a room or building complying with the ~~*International*~~*California Building Code* and Sections 5705.3.7 through 5705.3.7.4 and Section 5705.3.7.6.

5705.3.7.1 Construction, location and fire protection. Rooms or buildings classified in accordance with the ~~*International*~~*California 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 ~~*International*~~*California Building Code*.

5705.3.7.2 Basements. In rooms or buildings classified in accordance with the ~~*International*~~*California 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 ~~*International*~~*California Building Code* as Group H-2 or H-3 occupancies shall be equipped with an approved 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 ~~*International*~~*California Building Code*.

5705.3.7.5.1 Ventilation. Continuous mechanical ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot [0.00508m3/(s ×m2)] of floor area over the design area. Provisions shall be made for introduction of makeup air in such a manner to include all floor areas or pits where vapor 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 ~~*International*~~*California Building Code* and ~~*International*~~*California Mechanical Code*.

Exception: Where natural ventilation can be shown to be effective for the materials used, dispensed or mixed.

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 on farms and rural areas and at construction sites, earth-moving projects, gravel pits 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 and the ~~*International*~~*California Mechanical Code*.

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 ~~*International*~~*California Building Code*.

5706.2.4.4 Locations where above-ground tanks are prohibited. The storage of Class I and II liquids in above-ground tanks is prohibited within the limits established by law as the limits of districts in which such storage is prohibited (see Section 3 of the Sample Legislation for Adoption of the ~~*International*~~*California Fire Code* on page xxi).

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:

1. The tank vehicle's specific function is that of supplying fuel to motor vehicle fuel tanks.
2. The dispensing hose does not exceed 100 feet (30 480 mm) in length.
3. The dispensing nozzle is an approved type.
4. The dispensing hose is properly placed on an approved reel or in a compartment provided 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 *the* ~~NFPA 70~~*California Electrical Code*.
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.

5706.4.1 Building construction. Buildings shall be constructed in accordance with the ~~*International*~~*California Building Code*.

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. 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 ~~*International*~~*California Mechanical Code*.

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 III liquids until such vehicles and all piping, pumps, hoses and meters connected thereto have been completely drained and flushed.

Exception: *When approved by the Enforcing Agency the procedures prescribed in API (API-RP-2003) Recommended Practices 2003 entitled; Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents may be used for changing tank contents.*

CHAPTER 58
FLAMMABLE GASES AND FLAMMABLE CRYOGENIC FLUIDS

5803.1.4 Ignition source control. Ignition sources in areas containing flammable gases in storage or in use shall be controlled in accordance with Section 5003.7.

Exception: Fuel gas systems connected to building service utilities in accordance with the ~~*International Fuel Gas*~~ *California Mechanical Code*.

5803.1.5 Electrical. Electrical wiring and equipment shall be installed and maintained in accordance with Section 605 and *the* ~~NFPA 70~~*California Electrical Code*.

5803.1.5.1 Bonding of electrically conductive materials and equipment. Exposed noncurrent-carrying metal parts, including metal gas piping systems, that are part of flammable gas supply systems located in a hazardous (electrically classified) location shall be bonded to a grounded conductor in accordance with the provisions of *the* ~~NFPA 70~~*California* Electrical Code.

5806.2 Limitations. Storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited within the limits established by law as the limits of districts in which such storage is prohibited (see Section 3 of the Sample Legislation for Adoption of the ~~International~~*California* Fire Code on page xxi).

5806.4.3 Depth, cover and fill. The tank shall be buried such that the top of the vacuum jacket is covered with not less than 1 foot (305 mm) of earth and with concrete not less than 4 inches (102 mm) thick placed over the earthen cover. The concrete shall extend not less than 1 foot (305 mm) horizontally beyond the footprint of the tank in all directions. Underground tanks shall be set on firm foundations constructed in accordance with the International Building Code and surrounded with not less than 6 inches (152 mm) of noncorrosive inert material, such as sand.

Exception: The vertical extension of the vacuum jacket as required for service connections.

[Editorial Note: 2013 CFC amendments removed from section 5808. Model code now matches CA amendments.]

CHAPTER 59
FLAMMABLE SOLIDS

5906.2.2 Storage of greater than 1,000 cubic feet. Magnesium storage in quantities greater than 1,000 cubic feet (28 m^3) shall be separated into piles not larger than 1,000 cubic feet (28 m^3) each. Piles shall be separated by aisles with a minimum width of not less than the pile height. Such storage shall not be located in nonsprinklered buildings of Type III, IV or V construction, as defined in the ~~*International*~~*California Building Code*.

5906.2.3 Storage in combustible containers or within 30 feet of other combustibles. Where in nonsprinklered buildings of Type III, IV or V construction, as defined in the ~~*International*~~*California Building Code*, magnesium shall not be stored in combustible containers or within 30 feet (9144 mm) of other combustibles.

5906.4.2 Storage of 50 to 1,000 cubic feet. Storage of fine magnesium scrap in quantities greater than 50 cubic feet (1.4 m3) [six 55-gallon (208 L) steel drums] shall be separated from other occupancies by an open space of not less than 50 feet (15 240 mm) or by a fire barrier constructed in accordance with the ~~*International*~~*California Building Code*.

5906.5.5 Electrical equipment. Electric wiring, fixtures and equipment in the immediate vicinity of and attached to dust-producing machines, including those used in connection with separator equipment, shall be of approved types and shall be approved for use in Class II, Division 1 hazardous locations in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

5906.5.6 Grounding. Equipment shall be securely grounded by permanent ground wires in accordance with *the* ~~NFPA 70~~*California Electrical Code*.

CHAPTER 60
HIGHLY TOXIC AND TOXIC MATERIALS

6003.1.3 Treatment system—highly toxic liquids. Exhaust scrubbers or other systems for processing vapors of highly toxic liquids shall be provided where a spill or accidental release of such liquids can be expected to release highly toxic vapors at normal temperature and pressure. Treatment systems and other processing systems shall be installed in accordance with the ~~*International*~~*California Mechanical Code*.

6003.1.4.2 Separation—highly toxic solids and liquids. In addition to the requirements set forth in Section 5003.9.8, highly toxic solids and liquids in storage shall be located in approved hazardous material storage cabinets or isolated from other hazardous material storage by construction in accordance with the ~~*International*~~*California Building Code*.

6003.2.3.2 Treatment system—highly toxic liquids. Exhaust scrubbers or other systems for processing vapors of highly toxic liquid shall be provided where a spill or accidental release of such liquids can be expected to release

highly toxic vapors at normal temperature and pressure (NTP). Treatment systems and other processing systems shall be installed in accordance with the ~~*International*~~*California Mechanical Code*.

6004.2.2.7 Treatment systems. The exhaust ventilation from gas cabinets, exhausted enclosures and gas rooms, and local exhaust systems required in Sections 6004.2.2.4 and 6004.2.2.5 shall be directed to a treatment system. The treatment system shall be utilized to handle the accidental release of gas and to process exhaust ventilation. The treatment system shall be designed in accordance with Sections 6004.2.2.7.1 through 6004.2.2.7.5 and ~~Section 510~~ *Chapter 5* of the ~~*International*~~*California Mechanical Code*.

Exceptions:
1. Highly toxic and toxic gases-storage. A treatment system is not required for cylinders, containers and tanks in storage where all of the following controls are provided:

1.1. Valve outlets are equipped with gas-tight outlet plugs or caps.
1.2. Handwheel-operated valves have handles secured to prevent movement.
1.3. Approved containment vessels or containment systems are provided in accordance with Section 6004.2.2.3.

2. Toxic gases—use. Treatment systems are not required for toxic gases supplied by cylinders or portable tanks not exceeding 1,700 pounds (772 kg) water capacity where the following are provided:

2.1. A listed or approved gas detection system with a sensing interval not exceeding 5 minutes.
2.2. A listed or approved automatic-closing fail-safe valve located immediately adjacent to cylinder valves. The fail-safe valve shall close when gas is detected at the permissible exposure limit (PEL) by a gas detection system monitoring the exhaust system at the point of discharge from the gas cabinet, exhausted enclosure, ventilated enclosure or gas room. The gas detection system shall comply with Section 6004.2.2.10.

[Editorial Note: Remove 2013 CFC amendments to 6004.2.2.8. CA Amendments no longer applies.]
6004.2.2.8 Emergency power. Emergency power shall be provided for the following systems in accordance with Section 604**:**

1. Exhaust ventilation system.
2. Treatment system.
3. Gas detection system.
4. Smoke detection system.
5. Temperature control system.
6. Fire alarm system.
7. Emergency alarm system.

6005.3.1 Cabinets. Ozone cabinets shall be constructed of approved materials and compatible with ozone. Cabinets shall display an approved sign stating: OZONE GAS GENERATOR— HIGHLY TOXIC—OXIDIZER.

Cabinets shall be braced for seismic activity in accordance with the ~~*International*~~*California Building Code*.

Cabinets shall be mechanically ventilated in accordance with the ~~*International*~~*California Mechanical Code* with ales than of six air changes per hour.

The average velocity of ventilation at makeup air openings with cabinet doors closed shall be not less than 200 feet per minute (1.02 m/s).

6005.3.2 Ozone gas generator rooms. Ozone gas generator rooms shall be mechanically ventilated in accordance with the ~~*International*~~*California Mechanical Code* with not less than of six air changes per hour. Ozone gas generator rooms shall be equipped with a continuous gas detection system that will shut off the generator and sound a local alarm when concentrations above the permissible exposure limit occur. Ozone gas generator rooms shall not be normally occupied, and such rooms shall be kept free of combustible and hazardous material storage. Room access doors shall display an approved sign stating: OZONE GAS GENERATOR—HIGHLY TOXIC—OXIDIZER.

CHAPTER 61
LIQUEFIED PETROLEUM GASES

6101.1 Scope…

[California Code of Regulations, Title 19, Division 1, §3.22(a) and (c)] Liquefied Petroleum Gas.
(a) When liquefied petroleum gas is used, the storage and handling thereof shall conform to the appropriate provisions referenced in California Code of Regulations, Title 19, Division 1, Sections 3.02 and 3.03.
(c) California Code of Regulations, Title 8, Section 475 is hereby adopted as a part of Title 19, Division 1 regulations.

6103.1 General. LP-gas equipment shall be installed in accordance with the ~~*International Fuel Gas*~~*California Mechanical Code* and NFPA 58, except as otherwise provided in this chapter.

6103.2.1.4 Group E and I occupancies…

[California Code of Regulations, Title 19, Division 1, §3.22(b)] Liquefied Petroleum Gas.
(b) All liquefied petroleum gas tanks located in school yards shall be surrounded by a rugged steel fence or equivalent. Tanks in other occupancies shall also be so protected if in the opinion of the enforcement agency such protection is needed to prevent unauthorized tampering. The fence shall be at least 6 feet in height and, if it completely surrounds the tank, shall be located a minimum of 3 feet from the tanks. Fenced areas shall be locked when unattended.

6103.2.1.7 Use for food preparation. Where approved, listed LP-gas commercial food service appliances are allowed to be used for food-preparation within restaurants and in attended commercial food-catering operations in accordance with the ~~*International Fuel Gas,* the *International*~~*California Mechanical Code* and NFPA58.

6103.3 Location of equipment and piping. Equipment and piping shall not be installed in locations where such equipment and piping is prohibited by the ~~*International Fuel Gas*~~*California Mechanical Code*.

6104.2 Maximum capacity within established limits. Within the limits established by law restricting the storage of liquefied petroleum gas for the protection of heavily populated or congested areas, the aggregate capacity of any one installation shall not exceed a water capacity of 2,000 gallons (7570 L) (see Section 3 of the Sample Legislationfor Adoption of the ~~*International*~~*California Fire Code* on page v).

Exception: In particular installations, this capacity limit shall be determined by the fire code official, after consideration of special features such as topographical conditions, nature of occupancy, and proximity to buildings, capacity of proposed LP-gas containers, degree of fire protection to be provided and capabilities of the local fire department.

6109.11.2 Construction. The construction of such buildings and rooms shall comply with requirements for Group H occupancies in the ~~*International*~~*California Building Code*, Chapter 10 of NFPA 58 and both of the following:

1. Adequate vents shall be provided to the outside at both top and bottom, located not less than 5 feet (1524 mm) from building openings.
2. The entire area shall be classified for the purposes of ignition source control in accordance with Section 6.22 of NFPA 58.

CHAPTER 62
ORGANIC PEROXIDES

6204.1.2 Distance from detached buildings to exposures. In addition to the requirements of the ~~*International*~~*California Building Code*, detached storage buildings for Class I, II, III, IV and V organic peroxides shall be located in accordance with Table 6204.1.2. Detached buildings containing quantities of unclassified detonable organic peroxides in excess of those set forth in Table 5003.8.2 shall be located in accordance with Table 5604.5.2(1)..

CHAPTER 63
OXIDIZERS, OXIDIZING GASES AND OXIDIZING CRYOGENIC FLUIDS

6306.4 Maximum aggregate quantity. The maximum aggregate quantity of liquid oxygen allowed in storage and in use in each dwelling unit shall be 31.6 gallons (120 L).

Exceptions:
1. The maximum aggregate quantity of liquid oxygen allowed in Group I-4 occupancies shall be limited by the maximum allowable quantity set forth in Table 5003.1.1(1).
2. Where individual sleeping rooms are separated from the remainder of the *dwelling unit* by *fire barriers* constructed in accordance with Section 707 of the ~~*International*~~*California Building Code*, and horizontal assemblies constructed in accordance with Section 711 of the ~~*International*~~*California Building Code*, or both, having a minimum *fire-resistance rating* of 1 hour, the maximum aggregate quantity per dwelling unit shall be increased to allow not more than 31.6 gallons (120 L) of liquid oxygen per sleeping room.

CHAPTER 64
PYROPHORIC MATERIALS

6404.1.4 Separation from incompatible materials. In addition to the requirements of Section 5003.9.8, indoor storage of pyrophoric materials shall be isolated from incompatible hazardous materials by 1-hour fire barriers with openings protected in accordance with the ~~*International*~~*California Building Code*.

Exception: Storage in approved hazardous materials storage cabinets constructed in accordance with Section 5003.8.7.

CHAPTER 65
PYROXYLIN (CELLULOSE NITRATE) PLASTICS

CHAPTER 66
UNSTABLE (REACTIVE) MATERIALS

6604.1 Indoor storage. Indoor storage of unstable (reactive) materials in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) shall be in accordance with Sections 5001, 5003, 5004 and this chapter. In addition, Class 3 and 4 unstable (reactive) detonable materials shall be stored in accordance with the ~~*International*~~*California Building Code* requirements for explosives.

CHAPTER 67
WATER-REACTIVE SOLIDS AND LIQUIDS

CHAPTERS 68 through 79
RESERVED

CHAPTER 80
REFERENCED STANDARDS

This chapter lists the standards that are referenced in various sections of this document. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of this document that reference the standard. The application of the referenced standards shall be as specified in Sections *1.1.5, 1.1.7 and* 102.6.

ASME American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

Standard reference number	Title	Referenced in code section number
A17.1/CSA B44 *California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*	Safety Code for Elevators and Escalators	508.1.5, 607.1, 907.3.3, 1007.4 1007.9

BPE – 2009 *Bio-processing Equipment Standard*

FM

Factory Mutual
Standards Laboratories Department
1151 Boston-Providence Turnpike
Norwood, MA 02062

Standard reference number	Title	Referenced in code section number
3260–00	*Radiant Energy-Sensing Fire Detectors for Automatic Fire Alarm Signaling.*	
3011–99	*Approval Standard for Central Station Service for Fire Alarm and Protective Equipment Supervision…….....*	*907.7.5.2*
4430-80	*Acceptance Criteria for Smoke and Heat Vents……..…..*	*910.3.1*

ICC

International Code Council
5203 Leesburg Pike, Suite 600
Falls Church, VA 22041

Standard reference number	Title	Referenced in code section number
~~ICC/ANSI A117.1—09~~	~~Accessible and Usable Buildings and Facilities . . . . . .~~	~~907.6.2.3.4, 1010.1, 1010.6.5, 1010.9, 1011.3, 1022.8~~
ICC ES AC 331	*Acceptance Criteria for Smoke and Heat Vents……..……*	*910.3.1*
ICC ES AC77	*Acceptance Criteria for Smoke Containment Systems Used with Fire-resistance-rated Elevator Hoistway Doors and Frames……..……*	*707.14.1*
~~IBC—15~~	~~International Building Code® . . . . . .~~	~~102.3, 102.4, 102.5, 201.3, 202, 304.1.3, 306.1, 311.1.1, 311.3, 313.1, 408.7.2, 504.1, 508.1, 508.1.2, 603.2, 603.5.2, 603.6.1, 603.8, 604.1, 604.2.9, 604.2.14.1, 604.2.14.1.3, 604.2.15, 604.2.15.1.1, 604.2.16, 607.3, 608.4, 608.8, 701.1, 704.1, 801.1, 803.1,Table 803.3, 803.7.1, 803.7.2, 807.1.2, 807.4.2.2, 901.4.1, 901.4.2, 903.2, 903.2.3.2, 903.2.9.1, 903.3.2, 903.3.5.2, 903.6, 907.1.1, 907.2.6.2, 907.2.6.3.3, 907.2.7, 907.2.13, 907.2.18, 907.2.21, 907.7.5, 909.1, 909.2, 909.3, 909.4.3, 909.5, 909.5.2, 909.5.2.1, 909.10.5, 909.11, 911.2, 914.1, 914.2.1, 914.3.1, 914.5.3, Table 914.8.2, 914.10, 1003.2, 1003.5, 1006.3, 1007.2, 1007.4, 1007.5, 1007.6.2, 1007.8, 1007.9, 1008.1.4.1, 1008.1.4.3, 1008.1.7, 1008.1.9.1, 1008.1.10.1, 1009.4.2, 1009.12, 1009.13.1, 1010.1, 1010.6.3, 1010.6.4, 1010.6.5, 1010.9, 1011.4, 1011.5.3, 1012.1, 1013.1.1, 1014.2.7, Table 1016.1, 1017.2, 1018.1, Table 1018.1, 1021.1, Table 1021.2, 1022.1, 1022.2.1, 1022.3, 1022.4, 1022.8, 1022.9.1, 1023.3, 1023.5, 1025.2, 1025.3, 1027.3, 1028.1.1, 1028.6.2, 1028.14.2, 1104.6, 1106.17, 1107.1, 1107.4, 1203.3, 1207.1, 1414.1, 1502.1, 1504.2, 1504.3.1, 1504.3.2.6, 1504.3.3, 1505.2, 1801.1, 1801.4, 1803.2.2, 1803.3.1, 1803.3.2, 1803.3.3, 1803.3.4, 1803.3.8, 1803.14, 1803.14.1, 1803.15.1, 1804.3.1, 1805.2.3.2, 1805.3.1, 1805.3.2, 1805.3.3, 1903.1, 2005.1, 2009.2, 2009.4, 2009.6, 2201.1, 2201.4, 2203.1, 2207.4, 2208.3, 2208.3.1, Table 2209.3.1, 2209.3.2.3, 2209.3.2.6.1, 2209.3.3, 2210.1, 2211.1, 2211.3.1, 2211.4.1, 2211.8.1.2.3, 2301.3,Table 2306.2, 2306.3.1, 2306.3.2.1, 2306.3.2.2, 2306.8, 2307.2, 2308.2, 2402.1, 2403.8.2, 2403.8.4, 2404.1, 2503.1, 2703.2.2.2, 2703.2.8, 2703.8.1, Table 2703.8.2, 2703.8.3.1, 2703.8.4.1, 2703.9.9, 2704.13, 2705.2, 2705.3.9, 2801.1, 2904.3, 2904.4, 2904.5, 3003.16.1, 3003.16.2, 3006.2, 3203.1.2, 3203.5.2, 3204.2, 3204.2.2.2, 3204.4.3, 3205.4.1, 3304.2,Table 3304.5.2.3, 3305.5, 3401.3, 3404.2.7.7, 3404.2.8.1, 3404.2.8.2, 3404.2.9.3, 3404.2.9.4, 3404.3.3.5, 3404.3.7.1, 3404.3.8, 3405.3.4, 3405.3.5.3, 3405.3.7.1, 3405.3.7.2, 3405.3.7.3, 3405.3.7.4, 3405.3.7.5.1, 3406.2.3, 3406.4.1, 3504.2.1.1, 3606.2.2, 3606.2.3, 3606.4.2, 3703.1.4.2, 3705.3.1, 3809.11.2, 3904.1.2, 4004.1.2, 4104.1.4, 4106.1.1, 4304.1, 4601.2, 4601.3, 4604.5, 4604.17, 4604.17.1, Table 4604.17.2, B104.2, Table B105.1, H102.1~~
~~IEBC—15~~	~~International Existing Building Code®. . . . . .~~	~~1011.5.2, 1103.1~~
~~IFGC—15~~	~~International Fuel Gas Code®. . . . . .~~	~~201.3, 603.1, 603.1.2, 603.3.2.4, 603.5.2, 603.8, 1403.1, 1403.3, 1604.5, 2101.1, 2103.1, 2104.1, 2104.2, 2201.1, 2201.6, 2209.3.2.3, 2209.3.2.6, 2404.15.1, 2404.15.2, 2404.16.1, Table 2703.1.1(1), 3001.1, 3501.1, 3503.1.4, 3803.1, 3803.2.1.7, 3803.3~~

~~IMC—15~~	~~International Mechanical Code®~~	~~201.3, 202, 308.3, 603.1, 603.1.2, 603.2, 603.3, 603.5.2, 603.8, 606.1, 606.2, 606.3, 606.4, 606.7, 606.8, 606.16, 608.6.1, 609.1, 903.2.11.4, 904.11, 907.4.1, 909.1, 909.10.2, 1015.5, 1018.5.1, 1204.2.1, 1205.3, 1403.1, 1504.7, 1504.7.2, 1604.5, 1803.2.2, 1803.10.4, 1803.14, 1903.2, 1903.3, 2101.1, 2103.1, 2104.2, 2201.1, 2201.6, 2209.3.2.3, 2211.3.1, 2211.4.3, 2211.7.1, 2404.15.1, 2404.15.2, Table 2703.1.1(1), 2703.8.4.2, 2703.8.5.2, 2703.8.6.2, 2704.3.1, 2903.5, 3003.7.6, 3003.16.9, 3005.5, 3006.2.2, 3204.2.1.3, 3204.2.2.3, 3205.4.1.1, 3401.3, 3403.6.1, 3404.2.8.9, 3405.3.7.5.1, 3406.2, 3406.4.4, 3506.4.3, 3703.1.3, 3703.2.3.2, 3704.2.2.7, 3705.3.1, 3705.3.2, 3803.2.1.7~~
~~IPC—15~~	~~International Plumbing Code®~~	~~201.3, 903.3.5, 912.5, 2211.2.3, 2704.2.2.6~~
~~IPMC—15~~	~~International Property Maintenance Code®~~	~~311.1.1~~
~~IRC—15~~	~~International Residential Code®~~	~~202, 1001.1~~
~~IWUIC—12~~	~~International Wildland Urban Interface Code™~~	~~304.1.2, B103.3~~

NFPA National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269-9101

Standard reference number	Title	Referenced in code section number
[Editorial Note: Repeal Existing CA amendment adopting NFPA 2. Use Model code lanauge.]		
02-11	Hydrogen Technologies Code	
~~*2-11*~~	~~*Hydrogen Technologies Code*~~	*2309.3.1.1, 309.3*
~~10—10~~	~~Portable Fire Extinguishers~~	
11—10 ~~*13*~~	Low-, Medium- and High-expansion Foam	
13—13~~*13*~~	Installation of Sprinkler Systems *as amended**.	903.3.1.1, 903.3.2, 903.3.5.1.1, 903.3.5.2, 904.11, 905.3.4, 907.6.3, 1009.3, 3201.1, 3204.2, Table 3206.2, 3206.9, 3207.2, 3207.2.1, 3208.2.2, 3208.2.2.1, 3208.4, 3210.1, 3401.1, 5104.1, 5106.5.7, 5704.3.3.9, Table 5704.3.6.3(7), 5704.3.7.5.1, 5704.3.8.4

**NFPA 13, Amended Sections as follows:*

Revise Section 2.2 and add publications as follows:

2.2 NFPA Publications.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, 2013 California* edition.

Revise Section 8.15.1.2.15 as follows:

8.15.1.2.15 Exterior columns under 10 ft^2 (0.93m2) in *total* area, formed by studs or wood joist, *with no sources of ignition within the column,* supporting exterior canopies that are fully protected with a sprinkler system, shall not require sprinkler protection.

Revise Section 8.15.5.7 as follows:

8.15.5.7 The sprinkler required at the top and bottom of the elevator hoistway by 8.15.5.6 shall not be required where permitted by Chapter 30 of the California Building Code.

Revise Section 8.15.7.1 as follows:*

8.15.7.1* Unless the requirements of 8.15.7.2 or 8.15.7.3 are met, sprinklers shall be installed under exterior roofs, canopies, porte-cochere, balconies, decks, or similar projections exceeding 4 ft (1.2 m) in width.

Revise Section 8.15.7.2 as follows:*

8.15.7.2* Sprinklers shall be permitted to be omitted where the canopies, roofs, balconies, decks, or similar projections are constructed with materials that are noncombustible, limited-combustible, or fire retardant treated wood as defined in

NFPA 703, *Standard for Fire Retardant–Treated Wood and Fire-Retardant Coatings for Building Materials*.

Delete Section A.8.15.7.2 of Annex

Revise Section 8.15.7.3
8.15.7.3 Sprinklers shall be permitted to be omitted from below the canopies, roofs, balconies, decks, or similar projections are combustible construction, provided the exposed finish material on the roof, *or* canopy is noncombustible, limited-combustible, or fire retardant treated wood as defined in NFPA 703, *Standard for Fire Retardant–Treated Wood and Fire-Retardant Coatings for Building Materials*, and the roofs, *or* canopies contains only sprinklered concealed spaces or any of the following unsprinklered combustible concealed spaces:
(1) Combustible concealed spaces filled entirely with noncombustible insulation
(2) Light or ordinary hazard occupancies where noncombustible or limited-combustible ceilings are directly attached to the bottom of solid wood joists so as to create enclosed joist spaces 160 ft^3 (4.5 m^3) or less in volume, including space below insulation that is laid directly on top or within the ceiling joists in an otherwise sprinklered attic *[See 11.2.3.1.4(4)(d)].*
(3) Concealed spaces over isolated small roofs, or canopies not exceeding 55 ft^2 (5.1

Delete language to section 8.15.7.4 and reserve section number.
8.15.7.4 *Reserved.*

Revise Annex Section A.8.15.7.5 as follows:
A. 8.15.7.5 The presence of planters, newspaper machines and *similar items*, should not be considered storage .

Add new Sections 8.15.7.6 as follows:
8.15.7.6 Sprinklers may be omitted for following structures:
(1) Solar photovoltaic panel structures with no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.
(2) Solar photovoltaic (PV) panels supported by framing that have sufficient uniformly distributed and unobstructed openings throughout the top of the array (horizontal plane) to allow heat and gases to escape, as determined by the enforcing agency.

Add new Sections 8.16.1.1.1.4 and 8.16.1.1.1.5 as follows:

8.16.1.1.1.4 Where a system includes floor control valves, a hydraulic design information sign containing information for the floor shall be provided at each floor control valve. A hydraulic design information sign shall be provided for each area calculated. The installing contractor shall identify a hydraulically designed sprinkler system with a permanently marked weatherproof metal or rigid plastic sign secured with corrosion resistant wire, chain, or other approved means. Such signs shall be placed at the alarm valve, dry pipe valve, preaction valve, or deluge valve supplying the corresponding hydraulically designed area.

8.16.1.1.1.5 Control valves, check valves, drain valves, antifreeze valves shall be readily accessible for inspection, testing, and maintenance. Valves located more than 7 feet above the finished floor shall be provided with a means of opening and closing the valve from the floor level.

Add new Sections 8.16.1.7, 8.16.1.7.1, 8.16.1.7.1.1, 8.16.1.7.1.2~~, 8.16.1.7.1.2~~, 8.16.1.7.1.3, 8.16.1.7.2, as follows:

8.16.1.7 Sectional Valves.

8.16.1.7.1 *P*rivate fire service main systems shall have sectional control valves at appropriate points in order to permit sectionalizing the system in the event of a break or for the making of repairs or extensions.

8.16.1.7.1.1 Sectional control valves are not required when the fire service main system serves less than six fire appurtenances.

8.16.1.7.1.2 Sectional control valves shall be indicating valves in accordance with Section 6.7.1.3.

8.16.1.7.1.3 Sectional control valves shall be located so that no more than five fire appurtenances are affected by shut-down of any single portion of the fire service main. Each fire hydrant, fire sprinkler system riser, and standpipe riser shall be considered a separate fire appurtenance. In-rack sprinkler systems shall not be considered as a separate

appurtenance.

8.16.1.7.1.4 The number of fire appurtenances between sectional control valves is allowed to be modified by the authority having jurisdiction.

8.16.1.7.2 A valve shall be provided on each bank where a main crosses a *body of* water *or* outside the building foundation(s) where the main or section of main runs under a building.

Add new Section 9.1.3.9.1.1 as follows:
9.1.3.9.1.1 Powder-driven studs used for attaching hangers to the building structure are prohibited in Seismic design Categories C, D, E and F

Revise Section 9.3.5.11.4 as follows:
9.3.5.11.4 *Where threaded pipe is used for sway bracing, it shall have a wall thickness of not less then Schedule 40.*

Replace Section 9.3.5.12.4 as follows:
Lag screws or power-driven fasteners shall not be used to attach braces to the building structure.

Add language to the beginning of Section 9.3.5.12.6 as follows:
9.3.5.12.6 *Fastening methods other than those identified in 9.3.5.9* shall not apply to other fastening methods, which shall be acceptable for use if certified by a registered professional engineer to support the loads determined in accordance with the criteria in 9.3.5.6. Calculations shall be submitted *to* the authority having jurisdiction.

Revise Section 9.3.5.12.7.2 as follows:*
9.3.5.12.7.2* Concrete anchors other than those shown in Figure 9.3.5.12.1 *and identified in 9.3.5.11.11* shall be acceptable for use where designed in accordance with the requirements of the building code and certified by a registered professional engineer.

Revise Section 9.3.6.1(3) as follows:
9.3.6.1(3) No. 12, 440 lb (200 Kg) wire installed at least 45 degrees from the vertical plane and anchored on both sides of the pipe. Powder-driven fasteners for attaching restraint is allowed to be used provided that the restraint component does not support the dead load.*

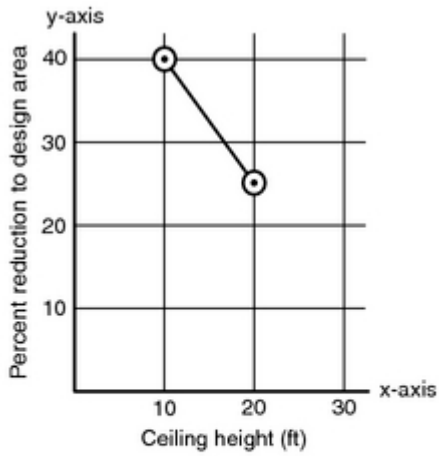
Revise Section 10.6.4 as follows:
10.6.4 Pipe joints shall not be located under foundation footings. *The pipe under the building or building foundation shall not contain mechanical joints.*

Exceptions:
1. Where allowed in accordance with 10.6.2
2. Alternate designs may be utilized where designed by a registered professional engineer and approved by the enforcing agency.

Revise Section 11.2.3.1.4(4)(i) as follows:
11.2.3.1.4(4)(i) Exterior columns under 10 ft^2 (0.93m2) in *total* area, formed by studs or wood joist, *with no sources of ignition within the column,* supporting exterior canopies that are fully protected with a sprinkler system.

Revise Section 11.2.3.2.3.1 as follows:
11.2.3.2.3.1 Where listed quick-response sprinklers, excluding extended coverage quick-response sprinklers, are used throughout a system or portion of a system having the same hydraulic design basis, the system area of operation shall be permitted to be reduced without revising the density as indicated in Figure 11.2.3.2.3.1 when all of the following conditions are satisfied:

(1) Wet pipe system
(2) Light hazard occupancy
(3) 20 ft (6.1 m) maximum ceiling height
(4) There are no unprotected ceiling pockets as allowed by 8.6.7 and 8.8.7 exceeding 32 ft^2 (3 m^2)



Note: $y = \frac{-3x}{2} + 55$

For ceiling height ≥ 10 ft and ≤ 20 ft, $y = \frac{-3x}{2} + 55$

For ceiling height < 10 ft, $y = 40$

For ceiling height > 20, $y = 0$

For SI units, 1 ft = 0.31 m.

FIGURE 11.2.3.2.3.1 Design Area Reduction for Quick-Response Sprinklers.

Revise Section 11.2.3.2.3.2 as follows:

11.2.3.2.3.2 The number of sprinklers in the design area shall never be less than *seven.*

Revise Section 12.1.1.2 as follows:

12.1.1.2 Early suppression fast-response (ESFR) sprinklers shall not be used in buildings with automatic heat or smoke vents unless the vents use a standard-response operating mechanism *with a minimum temperature rating of 360ºF (182ºC) or 100ºF (56ºC) above the operating temperature of the sprinklers, whichever is higher*.

Add Section 25.1(5)

25.1 Approval of Sprinkler Systems and Private Fire Service Mains.

The installing contractor shall do the following:

(1) Notify the authority having jurisdiction and the property owner or property owner's authorized representative of the time and date testing will be performed.

(2) Perform all required testing *(see Section ~~24.2~~25.2)*

(3) Complete and sign the appropriate contractor's material and test certificate(s) *(see Figure ~~24.1~~25.1)*

(4) Remove all caps and straps prior to placing the sprinkler
system in service

(5) Upon system acceptance by the authority having jurisdiction a label prescribed by Title 19 California Code of Regulations, Chapter 5 shall be affixed to each system riser.

Revise Section 25.4(2) and Add Section 24.5(3) as follows:

25.4 Instructions.

The installing contractor shall provide the property owner or the property owner's authorized representative with the following:

(1) All literature and instructions provided by the manufacturer describing proper operation and maintenance of any equipment and devices installed

(2) NFPA 25, *Standard for the Inspection, testing, and maintenance of Water-Based Fire Protection Systems, 2013 California Edition*

(3) Title 19, California Code of Regulations, Chapter 5, "Fire Extinguishing Systems".

Add sentence at the end of Section 25.5.1 as follows:

25.5.1 *"Pipe schedule systems shall be provided with a sign indicating that the system was designed and installed as a*

pipe schedule system and the hazard classification(s) included in the design."

Revise Section 25.5.2(3) and Add Sections 25.5.2(7) to (14) as follows:
25.5.2 The sign shall include the following information:
(3) Required flow and pressure of the system at the base of the riser
(7) Required flow and pressure of the system at the water supply source.
(8) Required flow and pressure of the system at the discharge side of the fire pump where a fire pump is installed.
(9) Type or types and number of sprinklers or nozzles installed including the orifice size, temperature rating, orientation, K-Factor, sprinkler identification number (SIN) for sprinkler heads when applicable, and response type.
(10) The minimum discharge flow rate and pressure required from the hydraulically most demanding sprinkler.
(11) The required pressure settings for pressure reducing valves.
(12) For deluge sprinkler systems, the required flow and pressure at the hydraulically most demanding sprinkler or nozzle.
(13) The protection area per sprinkler based on the hydraulic calculations
(14) The edition of NFPA 13 to which the system was designed and installed.

Revise Section 25.6.1 as follows:
25.6.1 *California Edition* NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*.

13D—13~~13~~ Standard for the Installation of Sprinkler Systems in One-and Two-Family Dwellings and Manufactured Homes *as amended**……903.3.1.3, 903.3.5.1.1

**NFPA 13D, Amended Sections as follows:*

Revise 6.2.2, , 6.2.2.1, 6.2.4 to read as follows:

6.2.2 Where a *well,* pump, tank *or combination thereof* is the source of supply for a fire sprinkler system, *the water supply shall serve both domestic and fire sprinkler systems, and* the following shall be met:
(1) A test connection shall be provided downstream of the pump that creates a flow of water equal to the smallest sprinkler on the system. The connection shall return water to the tank.
(2) Any disconnecting means for the pump shall be approved.
(3) A method for refilling the tank shall be piped to the tank.
(4) A method of seeing the water level in the tank shall be provided without having to open the tank.
(5) The pump shall not be permitted to sit directly on the floor.

6.2.2.1 Where a fire sprinkler system is supplied by a stored water source with an automatically operated means of pressurizing the system other than an electric pump, the water supply may serve the sprinkler system only.

6.2.4 Where a water supply serves both domestic and fire sprinkler systems, 5 gpm (19 L/min) shall be added to the sprinkler system demand at the point where the systems are connected, to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler.

Revise 8.3.4 to read as follows:
8.3.4* Sprinklers shall not be required in *detached* garages, open attached porches, carports *with no habitable space above*, and similar structures.

Add Section ~~8.4~~*8.4.1* as follows:
8.4.1 Sprinklers shall be permitted to be omitted ~~for~~ from the following structures:
(1) Solar photovoltaic panel structures with no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.

(2) Solar photovoltaic (PV) panels supported by framing that have sufficient uniformly distributed and unobstructed openings throughout the top of the array (horizontal plane) to allow heat and gases to escape, as determined by the enforcing agency.

13R—13~~13~~ Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height *as amended** 903.3.1.2, 903.3.5.1.1, 903.3.5.1.2, 903.4

**NFPA 13R, Amended Sections as follows:*

Revise Section 2.2 and add publications as follows:

2.2 NFPA Publications.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, 2013 California* edition.

Add new Sections 6.6.9 as follows:

6.6.9 Sprinklers shall be permitted to be omitted ~~for~~ from the following structures:

(1) Solar photovoltaic panel structures with no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.

(2) Solar photovoltaic (PV) panels supported by framing that have sufficient uniformly distributed and unobstructed openings throughout the top of the array (horizontal plane) to allow heat and gases to escape, as determined by the enforcing agency.

Revise Section 11.4 as follows:

11.4 Instructions.

The installing contractor shall provide the property owner or the property owner's authorized representative with the following:

(1) All literature and instructions provided by the manufacturer describing proper operation and maintenance of any equipment and devices installed

(2) NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems 2013 California Edition and Title 19, California Code of Regulations, Chapter 5.

(3) Once the system is accepted by the authority having jurisdiction a label as prescribed by Title 19, California Code of Regulations, Chapter 5, shall be affixed to each system riser.

14—13~~13~~ Installation of Standpipe and Hose System, *as amended**……..905.2, 905.3.4, 905.4.2, 905.6.2, 905.8

**NFPA 14, Amended Sections as follows:*

Replace Section 6.3.7.1

6.3.7.1 System water supply valves, isolation control valves, and other valves in fire mains shall be supervised in an approved manner in the open position by one of the following methods:

(1) Where a building has a fire alarm system or a sprinkler monitoring system installed, the valve shall be supervised by:

(a) a central station, proprietary, or remote supervising station, or

(b) a local signaling service that initiates an audible signal at a constantly attended location.

(2) Where a building does not have a fire alarm system or a sprinkler monitoring system installed, the valve shall be supervised by:

(a) Locking the valves in the open position, or

(b) Sealing of valves and a approved weekly recorded inspection where valves are located within fenced enclosures under the control of the owner.

16— 15 Installation of Foam-water Sprinkler and Foam-water Spray Systems.....904.7, 904.11

20—13 ~~13~~ Installation of Stationary Pumps for Fire Protection 913.1, 913.2, 913.5.1, 913.6

22—13 ~~13~~ Water Tanks for Private Fire Protection

24—13 ~~13~~ *Installation of Private Fire Service Mains and Their Appurtenances*: *as amended** …… 507.2.1, 2809.5

**NFPA 24, Amended Sections as follows:*

Amend Section 4.2.1

Section 4.2.1. Installation work shall be done by fully experienced and responsible *contractors. Contractors shall be appropriately licensed in the State of California to install private fire service mains and their appurtenances.*

Revise Section 4.2.2 as follows:

4.2.2 *Installation or modification of private fire service mains shall not begin until plans are approved and appropriate permits*

secured from the authority having jurisdiction.

Add Section 4.2.2.1 as follows:
4.2.2.1 *As approved by the authority having jurisdiction, emergency repair of existing system may start immediately, with plans being submitted to the authority having jurisdiction within 96 hours from the start of the repair work.*

Revise Section 5.9.1.2 as follows:
Section 5.9.1.2 Fire department connections shall be properly supported *and protected from mechanical damage.*

Revise Section 5.9.5.1 as follows:
5.9.5.1 Fire department connections shall be on the street side of buildings and *as approved by the authority having jurisdiction.*

Revise Section 6.5.1 as follows:
6.5.1 *P*rivate fire service main systems shall have sectional control~~ling~~ valves at appropriate points in order to permit sectionalizing the system in the event of a break or for the making of repairs or extensions.

Add Section 6.5.2.1 – ~~6.5.2.3~~ 6.5.2.4
6.5.2.1 Sectional control valves are not required when the fire service main system serves less than six fire appurtenances.

6.5.2.2 Sectional control valves shall be indicating valves in accordance with NFPA 13 Section 6.7.1.3.

6.5.2.3 Sectional control valves shall be located so that no more than five fire appurtenances are affected by shut-down of any single portion of the fire service main. Each fire hydrant, fire sprinkler system riser, and standpipe riser shall be considered a separate fire appurtenance. In-rack sprinkler systems shall not be considered as a separate appurtenance.

6.5.2.4 The number of fire appurtenances between sectional control valves is allowed to be modified by the authority having jurisdiction.

Revise Section 6.6.2 as follows:
6.6.2 A sectional valve shall be provided at the following locations:
(1) On each bank where a main crosses *a body of* water
(2) Outside the building foundation(s) where a main or a section of a main runs under a building

Revise Section 10.6.5 as follows:
10.6.5 Pipe joints shall not be located under foundation footings. *The pipe under the building or building foundation shall not contain mechanical joints.*

Exceptions:
1.Where allowed in accordance with 10.6.2
2. Alternate designs may be utilized where designed by a registered professional engineer and approved by the enforcing agency.

Revise Section 10.9.1 as follows:
10.9.1 Backfill shall be well tamped in layers or puddle under and around pipes to prevent settlement or lateral movement. Backfill shall consist of clean fill sand or pea gravel to a minimum 6" below and to a minimum of 12" above the pipe *and shall contain no ashes, cinders, refuse, organic matter, or other corrosive materials. Other backfill materials and methods are permitted where designed by a registered professional engineer and approved by the enforcing agency.*

25—*13* CA — *California NFPA 25 Edition (Based on the 2013Edition)*
Inspection, Testing and Maintenance of Water-based Fire Protection Systems . . . . . .507.5.3, Table 901.6.1, 904.7.1, 912.6, 913.5, I101.1

31—11 ~~*11*~~ — Installation of Oil-burning Equipment
32—11 — Dry Cleaning Plants. *as amended** 21*01.1.1, 21*07.1, 2107.3

**NFPA 32, Amended Sections as follows:*

Delete the following publications from Section 2.2:

2.2 NFPA Publications.
NFPA 10, *Standard for Portable Fire Extinguishers,* 2010 edition.
NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,* 2011 edition.
NFPA 70, *National Electrical Code®,* 2011 edition.
NFPA *101®*, *Life Safety Code®,* 2009 edition.
NFPA 5000®, *Building Construction and Safety Code®,* 2009 edition.

Revise 4.4.1.1 to read as follows:

4.4.1.1 General building and structure design and construction shall be in accordance with *California Building Code*.

Delete language to section 4.4.1.2 and 4.4.1.3 and reserve section numbers.

4.4.1.2 Reserved

4.4.1.3 Reserved

Revise 4.4.4 to read as follows:

4.4.4 Means of Egress. Means of egress shall conform with the provisions of *the California Building Code*.

Revise 4.6.2 to read as follows:

4.6.2 Automatic Sprinkler Systems. Where required by this standard, automatic sprinkler systems shall be installed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, and periodically inspected, tested, and maintained in accordance with *California Code of Regulations, Title 19, Division 1, Chapter 5*.

Revise 4.6.4 to read as follows:

4.6.4 Portable Fire Extinguishers. Suitable numbers and types of portable fire extinguishers shall be installed and maintained throughout the drycleaning plant in accordance *California Code of Regulations, Title 19, Division 1, Chapter 3*.

Revise 7.3.2 to read as follows:

7.3.2 Electrical Installations. Electrical equipment and wiring in a Type II drycleaning room shall comply with the provisions of *California Electrical Code*, for use in Class I, Division 2 hazardous locations.

37—~~10~~15	*Installation and Use of Stationary Combustion Engines and Gas Turbines*
51— *13*	Design and Installation of Oxygen-fuel Gas Systems for Welding, Cutting and Allied Processes
51A—12 *~~12~~*	Acetylene Cylinder Charging Plants
52—13 *~~13~~*	Vehicular Gaseous Fuel System Code
54—~~12~~15	*National Fuel Gas Code*
55—13 *~~13~~*	Compressed Gases and Cryogenic Fluids Code
59A—13*~~13~~*	Standard for Production, Storage and Handling of Liquefied Natural Gas (LNG) 5301.1, 5501.1
61—13 *~~13~~*	Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities
72—13 *~~13~~*	National Fire Alarm and Signaling Code: *, as amended** ……..……508.1.5, Table 901.6.1, 903.4.1, 904.3.5, 907.2, 907.2.6, 907.2.9.3, 907.2.11,907.2.13.2, 907.3, 907.3.3, 907.3.4, 907.5.2.1.2, 907.5.2.2, 907.6, 907.6.1, 907.6.2, 907.6.5, 907.7, 907.7.1, 907.7.2, 907.8, 907.8.2, 907.8.5, I101.1

**NFPA 72, Amended Sections as follows:*

10.3.1 Equipment constructed and installed in conformity with this Code shall be listed for the purpose for which it is used. *Fire alarm Systems and components shall be California State Fire Marshal approved and listed in accordance with California Code of Regulations, Title 19, Division 1.*

10.3.3 All devices and appliances that receive their power from the initiating device circuit or signaling line circuit of a control unit shall be *California State Fire Marshal* listed for use with the control unit.

10.7.1 *Where approved by the authority having jurisdiction*, ECS priority signals when evaluated by stakeholders through risk analysis in accordance with 24.3.11 shall be permitted to take precedence over all other signals.

12.3.7 - (4) Where the vertically run conductors are contained in a 2-hour rated cable assembly, or enclosed (installed) in a 2-hour rated enclosure or a listed circuit integrity (C.I.) cable, which meets or exceeds a 2-hour fire resistive rating.

14.4.6.1 Testing. Household fire alarm systems shall be tested in *accordance with the manufacturer's published instructions* according to the methods of Table 14.4.3.2.

17.15 Fire Extinguisher Electronic Monitoring Device. A fire extinguisher electronic monitoring device shall indicate those conditions for a specific fire extinguisher required by *California Code of Regulations, Title 19, Division 1, Chapter 1, Section 574.2 (c) and California Fire Code to a fire alarm control unit.*

21.3.6 Smoke detectors shall not be installed in unsprinklered elevator hoistways unless they are installed to activate the elevator hoistway smoke relief equipment *or where required by Chapter 30 of the California Building Code.*

23.8.5.1.2 - Where connected to a supervising station, fire alarm systems employing automatic fire detectors or waterflow detection devices shall include a manual fire alarm box to initiate a signal to the supervising station.

Exception: Fire alarm systems dedicated to elevator recall control, supervisory service *and fire sprinkler monitoring as permitted in section 21.3 of NFPA 72.*

23.8.5.4.1 Systems equipped with alarm verification features shall be permitted under the following conditions:
(1) The alarm verification feature is not initially enabled unless conditions or occupant activities that are expected to cause nuisance alarms are anticipated in the area that is protected by the smoke detectors. Enabling of the alarm verification feature shall be protected by password or limited access.
(2) A smoke detector that is continuously subjected to a smoke concentration above alarm threshold does not delay the system functions of Sections 10.7 through 10.16, 23.8.1.1, or 21.2.1 by more than . *30 seconds*.
(3) Actuation of an alarm-initiating device other than a smoke detector causes the system functions of sections 10.7 through 10.16, 23.8.1.1, or 21.2.1 without additional delay.
(4) The current status of the alarm verification feature is shown on the record of completion *(see Figure 7.8.2(a), item 4.3)*.
(5) Operation of a patient room smoke detector in I-2 and R-2.1 Occupancies shall not include an alarm verification feature.

29.8.3.4 Specific location requirements. The installation of smoke alarms and smoke detectors shall comply with the following requirements:
(1) Smoke alarms and smoke detectors shall not be located where ambient conditions, including humidity and temperature, are outside the limits specified by the manufacturer's published instructions.
(2) Smoke alarms and smoke detectors shall not be located within unfinished attics or garages or in other spaces where temperatures can fall below 40ºF (4ºC) or exceed 100ºF (38ºC).
(3) Where the mounting surface could become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, smoke alarms and smoke detectors shall be mounted on an inside wall.
(4) Smoke alarms or smoke detectors shall be installed a minimum of 20 feet horizontal distance from a permanently installed cooking appliance.

Exceptions: Ionization smoke alarms with an alarm silencing switch or photoelectric smoke alarms shall be permitted to be installed 10 feet (3 m) or greater from a permanently installed cooking appliance.
Photoelectric smoke alarms shall be permitted to be installed greater than 6 feet (1.8 m) from a permanently installed cooking appliance where the kitchen or cooking area and adjacent spaces have no clear interior partitions and the 10 ft distances would prohibit the placement of a smoke alarm or smoke detector required by other sections of the code.
Smoke alarms listed for use in close proximity to a permanently installed cooking appliance.
(5) Effective January 1, 2016, smoke alarms and smoke detectors used in household fire alarm systems installed between 6 ft (1.8 m) and 20 ft (6.1 m) along a horizontal flow path from a stationary or fixed cooking appliance shall be listed for resistance to common nuisance sources from cooking.

(6) Installation near bathrooms. Smoke alarms shall be installed not less than a 3-foot (0.91 m) horizontal distance 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 other sections of the code.
(7) Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from the supply registers of a forced air heating or cooling system and shall be installed outside of the direct airflow from those registers.
(8) Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from the tip of the blade of a ceiling-suspended (paddle) fan.
(9) Where stairs lead to other occupied levels, a smoke alarm or smoke detector shall be located so that smoke rising in the stairway cannot be prevented from reaching the smoke alarm or smoke detector by an intervening door or obstruction.
(10) For stairways leading up from a basement, smoke alarms or smoke detectors shall be located on the basement ceiling near the entry to the stairs.
(11) For tray-shaped ceilings (coffered ceilings), smoke alarms and smoke detectors shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 in. (300 mm) vertically down from the highest point.
(12) Smoke alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.7.3.2.4 of NFPA 72.
(13) Heat alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.6.3 of NFPA 72.

29.3.1 All devices, combinations of devices, and equipment to be installed in conformity with this chapter shall be approved ~~or~~*and* listed *by the California State Fire Marshal* the for the purposes for which they are intended.

29.5.2.1.1* Smoke and Heat Alarms. Unless exempted by applicable laws, codes, or standards, smoke or heat alarms used to provide a fire-warning function, and when two or more alarms are installed within a dwelling unit, suite of rooms, or similar area, shall be arranged so that the operation of any smoke or heat alarm causes all alarms within these locations to sound.

Exception to 29.5.2.1.1 not adopted by the SFM

29.7.2.1 *The alarm verification feature shall not be used for household fire warning equipment.*

29.7.6.7.1 The alarm verification feature shall not be used for household fire warning equipment.

80—13 ~~*13*~~ Fire Doors and Other Opening Protectives
~~*82—09*~~*14* *Incinerators, Waste and Linen Handling Systems and Equipment* *603.8*

[Editors Note: Repeal CA amendment adopting NFPA 92. The model code now adopts it.]
92—15 Standard for Smoke Control Systems
~~*92—12*~~ ~~*Standard for Smoke Control Systems*~~

99—15~~*12*~~ Health Care Facilities Code
101-15~~*12*~~ Life Safety Code ……*807.4.3.2*, 1028.6.2
105—13 ~~*13*~~ Installation of Smoke Door Assemblies and Other Opening Protectives
110—13 ~~*13*~~ Emergency and Standby Power Systems
111—13 ~~*13*~~ Stored Electrical Energy Emergency and Standby Power Systems
120—15 Fire Prevention and Control in Coal Mines ~~Fire Prevention and Control in Coal Mines~~
170—15 Standard for Fire Safety and Emergency Symbols……907.1.2, 1024.2.6.1
204—15 ~~*12*~~ Standard for Smoke and Heat Venting
211—13~~*13*~~ Chimneys, Fireplaces, Vents and Solid Fuel-burning Appliances
241—13~~*13*~~ Safeguarding Construction, Alteration and Demolition Operations
260—13~~*13*~~ Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture
261—13~~*13*~~ Method of Test for Determining Resistance of Mock-up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes
289—13~~*13*~~ Standard Method of Fire Test for Individual Fuel Packages
318—15~~*13*~~ Standard for the Protection of Semiconductor Fabrication Facilities
385—12 *12* Tank Vehicles for Flammable and Combustible Liquids

[Editors Note: Repeal CA amendment adopting NFPA 400. The model code now adopts it.]

400—13	Hazardous Materials Code
~~*400—13*~~	~~*Hazardous Materials Code*~~
409—11~~*11*~~	Aircraft Hangars
495—13~~*13*~~	Explosive Materials Code
498—13 ~~*13*~~	Safe Havens and Interchange Lots for Vehicles Transporting Explosives
502 – 14	*Standard for Road Tunnels, Bridges, and Other Limited Access Highways*
505—13 ~~*13*~~	Powered Industrial Trucks, Including Type Designations, Areas of Use, Conversions, Maintenance and Operation
654—13 ~~*13*~~	Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids
703—12	Fire Retardant Treated ~~*Treated*~~ Wood and Fire Retardant Coatings for Building Materials
720—15 ~~*12*~~	Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment
1122—13 ~~*13*~~	Model Rocketry
1124—~~*06*~~ *13*	Manufacture, Transportation, Storage and Retail Sales of Fireworks and Pyrotechnic Articles
1127—13 ~~*13*~~	High Power Rocketry
2001 — 15~~*12*~~	Clean Agent Fire Extinguishing Systems *as amended**. . . . . .Table 901.6.1, 904.10

**NFPA 2001, Amended Sections as follows:*

Add Section 4.3.5.1.1 and 4.3.5.2.1 to read as follows:

4.3.5.1.1 Alarms signals from the fire extinguishing system shall not interfere with the building fire alarm signal.

4.3.5.2.1. The lens on visual appliances shall be "red" in color.
Exception: Other lens colors are permitted where approved by the enforcing agency.

SFM

State of California
Department of Forestry and Fire Protection
Office of the State Fire Marshal
P.O. Box 944246
Sacramento, CA 94246-2460

Standard reference number	Title	Referenced in code section number
SFM 12-3	*Releasing Systems for Security Bars in Dwellings*	
SFM 12-7-3	*Fire-testing Furnaces*	
SFM 12-7A-1	*Exterior Wall Siding and Sheathing*	
SFM 12-7A-2	*Exterior Window*	
SFM 12-7A-3	*Under Eave*	
SFM 12-7A-4	*Decking*	
SFM 12-7A-4A	*Decking Alternate Method A*	
SFM 12-7A-5	*Ignition Resistant Building Material*	
SFM 12-8-100	*Room Fire Tests for Wall and Ceiling Materials*	
SFM 12-10-1	*Power Operated Exit Doors*	
SFM 12-10-2	*Single Point Latching or Locking Devices*	
SFM 12-10-3	*Emergency Exit and Panic Hardware*	

(The Office of the State Fire Marshal standards referred to above are found in the California Code of Regulations, Title 24, Part 12.)

UL

Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062-2096

Standard Reference number	Title	Referenced in code section number

13-96	*Power-limited Circuit Cables*
38-99	*Manually Actuated Signaling Boxes—with Revisions through February 2, 2005 as amended.**
	**Amend Section 14.1.5 as follows:* *14.1.5 A signaling box having a glass panel, disc, rod or similar part that must be broken to operate it for a signal or for access to its actuating means shall satisfactorily complete five part-breaking operations using the means provided with the box, without jamming of the mechanism or other interference by broken particles. It shall be practicable to remove and replace the broken parts. A signaling box shall not have a glass panel, disc, rod or similar part requiring a striking action by grasping a tool to operate it for a signal. The force required to activate controls shall be no greater than 5 pounds (22 N) of force.* **Add Appendix B chapter to UL 38 (1999) as follows:* *Appendix B,* *14.1.5 Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist.*
193-04	*Alarm Valves for Fire-Protection Service*
199-95	*Automatic Sprinklers for Fire Protection Service—with Revisions through August 19, 2005*
217-06	Single and Multiple Station Smoke Alarms……907.2.11
228-97	*Door Closers/Holders, with or without Integral Smoke Detectors—with Revisions through January 26, 2006*
260-04	*Dry Pipe and Deluge Valves for Fire Protection Service*
262-04	*Gate Valves for Fire Protection Service*
268A-98	*Smoke Detectors for Duct Application—with Revisions through October 22, 2003*
312-04	*Check Valves for Fire-Protection Service*
346-05	*Waterflow Indicators for Fire Protective Signaling Systems*
464-03	*Audible Signal Appliances—with Revisions through October 10, 2003*
497B-04	*Protectors for Data Communication and Fire Alarm Circuits*
521-99	*Heat Detectors for Fire Protective Signaling Systems—with Revisions through July 20, 2005*
539-00	*Single- and Multiple-Station Heat Detectors—with Revisions through August 15, 2005*
632-00	*Electrically Actuated Transmitters*
753-04	*Alarm Accessories for Automatic Water Supply Valves for Fire Protection Service*
791-06	*Standard for Residential Incinerators ……603.8*
813-96	*Commercial Audio Equipment—with Revisions through December 7, 1999*
864-03	Control Units and Accessories for Fire Alarm Systems—with Revisions through February 2010 . . . . . 909.12, 2311.7.2.1.1, 6004.2.2.10.1 **Amend No. 55.1 as follows:* *RETARD-RESET-RESTART PERIOD – MAXIMUM 30 SECONDS —No alarm obtained from control unit. Maximum permissible time is 30 seconds.* **Amend Section 55.2.2 as follows:* *Where an alarm verification feature is provided, the maximum retard-reset-restart period before an alarm signal can be confirmed* *and indicated at the control unit, including any control unit reset time and the power-up time for the detector to become operational* *for alarm, shall not exceed 30 seconds. (The balance of the section text is to remain unchanged).* *Add Section 55.2.9 as follows: *Smoke detectors connected to an alarm verification feature shall not be used as releasing devices.* *Exception: Smoke detectors which operate their releasing function immediately upon alarm actuation independent of alarm verification feature.* **Amend Section 89.1.10 as follows:* The existing text of this section is to remain as printed with one editorial amendment as follows: *THE TOTAL DELAY (CONTROL UNIT PLUS SMOKE DETECTORS) SHALL NOT EXCEED 30 SECONDS.* (The balance of the section text is to remain unchanged).

APPENDIX CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

SECTION ~~425~~435

SPECIAL PROVISIONS FOR LICENSED 24-HOUR CARE FACILITIES IN A GROUP R-2.1, R-3.1, R-4 [SFM]

***~~425.1~~435.1* Scope**. *The provisions of this section shall apply to 24-hour care facilities in a Group R-2.1, R-3.1, or R-4 occupancy licensed by a governmental agency.*

***~~425.2~~435.2* General.** *The provisions in this section shall apply in addition to general requirements in this code.*

~~425.2.1~~435.2.1 *Restraint shall not be practiced in a Group R-2.1, R-3.1, or R-4 Occupancies.*

Exception: *Occupancies which meet all the requirements for a Group I-3 Occupancy.*

~~425.2.2~~435.2.2 *Pursuant to Health and Safety Code Section 13133, regulations of the state fire marshal pertaining to Occupancies classified as Residential Facilities (RF) and Residential-care Facilities for the Elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is inconsistent with these regulations. A city, county, city and county, including a charter city or charter county may pursuant to Health and Safety Code Section 13143.5, or a fire protection district may pursuant to Health and Safety Code Section 13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological, or topographical conditions relating to roof coverings for Residential-care Facilities for the Elderly.*

Exception: *Local regulations relating to roof coverings in facilities licensed as a Residential Care Facility for the Elderly (RCFE) per Health and Safety Code Section 13133.*

***~~425.3~~435.3* Building height and area provisions.**

~~425.3.1~~435.3.1 *Group R-2.1, R-3.1, and R-4 shall be constructed in accordance with Table 503 of the California Building Code.*

[California Code of Regulations, Title 19, Division 1, §3.26] Operators Statement – Group I, R-2.1, R-3.1 and R-4 Occupancies. *Every person, firm or corporation maintaining or operating any Group I or R-2.1, R-3.1 or R-4 Occupancy shall provide an operators statement in accordance with Section 13132 of the Health and Safety Code which reads as follows:*

"13132. Every person, firm or corporation maintaining or operating any facility for the care of the mentally handicapped shall file a statement with the fire authority having jurisdiction within five days of the admission or readmission of a patient stating that such patient is an ambulatory or a nonambulatory person and enumerating the reasons for such classification. Such a statement shall also be filed for each existing patient within 30 days of the effective date of this section.

Any statement required to be filed pursuant to this section shall be certified as to its correctness by the person attending such patient.

It shall be unlawful for any person, firm, or corporation required to file a statement pursuant to this section to include false statements therein. Any such act shall be in violation of this section and subject to the provisions of Section 13112."

***~~425.3.2~~435.3.2* Limitations six or less clients.** *Group R-3.1 occupancies where nonambulatory clients are housed above the first story, having more than two stories in height or having more than 3,000 square feet (279 m2) of floor area above the first story shall not be of less than one-hour fire-resistance-rated construction throughout.*

In Group R-3.1 Occupancies housing a bedridden client, the client sleeping room shall not be located above or below the first story.

EXCEPTION: *Clients who become bedridden as a result of a temporary illness as defined in Health and Safety Code Sections 1566.45, 1568.0832, and 1569.72. A temporary illness is an illness, which persists for 14 days or less. A bedridden client may be retained in excess of the 14 days upon approval by the Department of Social Services and may continue to be housed on any story in a Group R-3.1 occupancy classified as a licensed residential facility.*

Every licensee admitting or retaining a bedridden resident shall, within 48 hours of the resident's admission or retention in the facility, notify the local fire authority with jurisdiction of the estimated length of time the resident will

retain his or her bedridden status in the facility.

***~~425.3.3~~435.3.3* Limitations seven or more clients.** *Group R-4 occupancies where nonambulatory clients are housed above the first story and there is more than 3,000 square feet (279 m2) of floor area above the first story or housing more than 16 clients above the first story shall be constructed of not less than one-hour fire-resistance-rated construction throughout.*

***~~425.3.4~~435.3.4* Nonambulatory elderly clients.** *Group R-4 occupancies housing nonambulatory elderly clients shall be of not less than one-hour fire-resistance-rated construction throughout.*

***~~425.4~~435.4* Type of construction provisions.**

~~425.4.1~~435.4.1 *Group R-2.1, occupancies are not permitted in non-fire-resistance-rated construction, see Health and Safety Code Section 13131.5.*

***~~425.5~~435.5* Fire-resistance-rated construction provisions.**

***~~425.5.1~~435.5.1* Smoke barriers required.** *Group R-2.1 and R-4 occupancies licensed as a Residential Care Facility (RCF) with individual floor areas over 6000 square feet (557 m^2) per floor, shall be provided with smoke barriers, constructed in accordance with Section 710 of the California Building Code.*

Group R-2.1 occupancies housing bedridden clients shall be provided with smoke barriers constructed in accordance with Section 710 of the California Building Code regardless of the number of clients.

When smoke barriers are required, the area within a smoke compartment shall not exceed 22,500 square feet (2090 m^2) nor shall its travel distance exceed 200 feet (60 960 mm). Such smoke barriers shall divide the floor as equally as possible.

***~~425.5.2~~435.5.2* Smoke partitions.** *Group R-2.1 occupancies where smoke partitions are required, framing shall be covered with noncombustible materials having an approved thermal barrier with an index of not less than 15 in accordance with FM 4880, UL 1040, NFPA 286 or UL 1715.*

***~~425.5.3~~435.5.3* Independent egress.** *At least two means of egress shall be provided from each smoke compartment created by smoke barriers. Means of egress may pass through adjacent compartments provided it does not return through the smoke compartment from which means of egress originated.*

***~~425.6~~435.6* Interior finish provisions.**

***~~425.6.1~~435.6.1* Interior wall and ceiling finish.** *Group R-3.1 occupancies housing a bedridden client shall comply with Interior Wall and Ceiling Finish requirements specified for Group I-2 occupancies in Table 903.3 of the California Building Code.*

***~~425.6.2~~435.6.2* Safety padding.** *Padding material used on walls, floors and ceilings in Group I and R-2.1 occupancies shall be of an approved type tested in accordance with the procedures established by State Fire Marshal Standard 12-8-100, Room Fire Test for Wall and Ceiling Materials, California Code of Regulations, Title 24, Part 12.*

***~~425.7~~435.7* Fire Protection system provisions.**

***~~425.7.1~~435.7.1* Automatic sprinkler systems in Group R-2.1, R-3.1 and R-4 occupancies.** *An automatic sprinkler system shall be installed where required in Section 903.*

***~~425.7.2~~435.7.2* Fire alarm systems in** *Group R-2.1 and* **R-4 occupancies.** *An approved fire alarm system shall be installed where required in Section 907.*

***~~425.7.3~~435.7.3* Smoke alarms in Groups R-2.1, R-3.1, and R-4 occupancies.** *Smoke alarms shall be installed where required in Section 907.2.11.2.*

***~~425.7.4~~435.7.4* Hearing impaired.** *See Section 907.5.2.3.5.*

~~425.8~~435.8 Means of egress provisions.

~~425.8.1~~435.8.1 General. *In addition to the general means of egress requirements of Chapter 10, this section shall apply to*
Group R-2.1, R-3.1, and R-4 occupancies.

~~425.8.2~~435.8.2 Number of exits.

~~425.8.2.1~~435.8.2.1 *Group R-2.1, R-3.1, and R-4 occupancies shall have a minimum of two exits.*
Exception. *Ancillary use areas or occupancies shall have egress as required by Section 1021.*

~~425.8.3~~435.8.3 Egress arrangements.

~~425.8.3.1~~435.8.3.1 *Egress through adjoining dwelling units shall not be permitted.*

~~425.8.3.2~~435.8.3.2 Group R-3.1 occupancies housing nonambulatory clients. *In a Group R-3.1 occupancy, bedrooms used by nonambulatory clients shall have access to at least one of the required exits which shall conform to one of the following:*

1. *Egress through a hallway or area into a bedroom in the immediate area which has an exit directly to the exterior and the corridor/hallway is constructed consistent with the dwelling unit interior walls. The hallway shall be separated from common areas by a solid wood door not less than 1⅜ inch (35 mm) in thickness, maintained self-closing or shall be automatic closing by actuation of a smoke detector installed in accordance with Section 716.5.9 of the California Building Code.*
2. *Egress through a hallway which has an exit directly to the exterior. The hallway shall be separated from the rest of the house by a wall constructed consistent with the dwelling unit interior walls and opening protected by a solid wood door not less than 1⅜ inch (35 mm) in thickness, maintained self-closing or shall be automatic closing by actuation of a smoke detector installed in accordance with Section 716.5.9 of the California Building Code.*
3. *Direct exit from the bedroom to the exterior, such doors shall be of a size as to permit the installation of a door not less than 3 feet (914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed, doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exit way is not less than 32 inches (813 mm).*
4. *Egress through an adjoining bedroom which exits to the exterior.*

~~425.8.3.3~~435.8.3.3 Group R-3.1 occupancies housing only one bedridden client~~s~~. *In Group R-3.1 occupancies housing a bedridden client and not provided with an approved automatic fire sprinkler system, all of the following shall apply:*

1. *In Group R-3.1 Occupancies housing a bedridden client, a direct exit to the exterior of the residence shall be provided from the client sleeping room.*
2. *Doors to a bedridden client's sleeping room shall be of a self-closing, positive latching 1-⅜ inch solid wood door. Such doors shall be provided with a gasket so installed as to provide a seal where the door meets the jam on both sides and across the top. Doors shall be maintained self-closing or shall be automatic closing by actuation of a smoke detector in accordance with California Building Code Section 716.5.9.*
3. *Group R-3.1 Occupancies housing a bedridden client, shall not have a night latch, dead bolt, security chain or any similar locking device installed on any interior door leading from a bedridden client's sleeping room to any interior area such as a corridor, hallway and or general use areas of the residence in accordance with Chapter 10.*
4. *The exterior exit door to a bedridden client's sleeping room shall be operable from both the interior and exterior of the residence.*
5. *Every required exit doorway from a bedridden client sleeping room shall be of a size as to permit the installation of a door not less than 3 feet (914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed in exit doorways, exit doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exit way is not less than 32 inches (813 mm).*

Note: *A sliding glass door can be used as an exterior exit doorway as long as it is operable from the inside and outside and the clear width of the exit way is not less than 32 inches (813mm).*

***~~425.8.3.4~~435.8.3.4* Intervening rooms.** *A means of exit shall not pass through more than one intervening room. A means of egress shall not pass through kitchens, storerooms, closets, garages or spaces used for similar purposes.*

Exception: *Kitchens which do not form separate rooms by construction.*

***~~425.8.4~~435.8.4* Corridors.**

~~425.8.4.1~~435.8.4.1 *Unless specified by Section ~~425.8.4~~435.8.4, corridors serving Group R-2.1 and Group R-4 occupancies shall comply with Section 1018.1.*

~~425.8.4.2~~435.8.4.2 *The minimum clear width of a corridor shall be as follows:*

1. *Group R-2.1 occupancies shall have sixty inches (1524 mm) on floors housing nonambulatory clients and forty-four inches (1118 mm) on floors housing only ambulatory clients.*
2. *Group R-4 occupancies shall have forty-four inches (1118 mm) on floors housing clients.*

Exceptions:
1. *Corridors serving an occupant load of 10 or less shall not be less than 36 inches (914 mm) in width.*
2. *Corridors serving ambulatory persons only and having an occupant load of 49 or less shall not be less than 36 inches (914 mm) in width.*

In Group R-2.1 occupancies provided with fire sprinklers throughout and which are required to have rated corridors, door closers need not be installed on doors to client sleeping rooms.

~~425.8.4.3~~435.8.4.3 *In a Group R-2.1 and Group R-4occupancies having smoke barriers, cross-corridor doors in corridors 6 feet (1829 mm) or less in width shall have, as a minimum, a door 36 inches (914 mm) in width.*

***~~425.8.5~~435.8.5* Changes in level.** *In Group R-3.1 occupancies housing nonambulatory clients interior changes in level up to 0.25 inch (6 mm) may be vertical and without edge treatment. Changes in level between 0.25 inch (6 mm) and 0.5 inch (12.7 mm) shall be beveled with a slope no greater than 1 unit vertical in 2 units horizontal (50% slope). Changes in level greater than 0.5 inch (12.7 mm) shall be accomplished by means of a ramp.*

***~~425.8.6~~435.8.6* Stairways.**

~~425.8.6.1~~435.8.6.1 *Group R-2.1 and Group R-4 occupancies housing more than six non-ambulatory clients above the first floor shall be provided with two vertical exit enclosures. Stairway enclosures shall be in compliance with Section 1022. ~~Exceptions to Section 1022 shall not apply in facilities licensed as a 24-hour care facility.~~*

~~425.8.6.2~~435.8.6.2 *Group R-3.1 occupancies may continue to use existing stairways (except for winding and spiral stairways which are not permitted as a required means of egress) provided the stairs have a maximum rise of 8 inches (203 mm) with a minimum run of 9 inches (229 mm). The minimum stairway width may be 30 inches (762 mm).*

***~~425.8.7.1~~435.8.7.1* Doors within floor separations.** *Doors within such floor separations shall be tight fitting solid wood at least 1 ⅜ inches (35 mm) in thickness. Door glazing shall not exceed 1296 square inches (32 918 mm^2) with no dimension greater than 54 inches (1372 mm). Such doors shall be positive latching, smoke gasketed and shall be automatic-closing by smoke detection.*

***~~425.8.8~~435.8.8* Fences and gates.** *Grounds of a Residential Care for the Elderly facility serving Alzheimer clients may be fenced and gates therein equipped with locks, provided safe dispersal areas are located not less than 50 feet (15 240 mm) from the buildings. Dispersal areas shall be sized to provide an area of not less than 3 square feet (0.28m^2) per occupant. Gates shall not be installed across corridors or passageways leading to such dispersal areas unless they comply with egress requirements.*

***~~425.8.9~~435.8.9* Basement exits.** *One exit is required to grade level when the basement is accessible to clients.*

***~~425.8.10~~435.8.10* Delayed egress locks.** *See Section 1008.1.9.7.*

***~~425.9~~435.9* Request for alternate means of protection for facilities housing bedridden clients**. *Request for alternate means of protection shall apply to Sections ~~425~~435 through ~~425.9~~435.9. Request for approval to use an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment, or means of protection shall be made in writing to the local fire enforcing agency by the facility, client or the client's authorized representative. Sufficient evidence shall be submitted to substantiate the need for an alternate means of protection.*

The facility, client or the client's representative or the local fire enforcing agency may request a written opinion from the State Fire Marshal concerning the interpretation of the regulations promulgated by the State Fire Marshal for a particular factual dispute. The State Fire Marshal shall issue the written opinion within 45 days following the request.

Approval of a request for use of an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment, or means of protection made pursuant to this section shall be limited to Group R, 3.1Occupancies housing a bedridden client.

Approvals made by the local fire enforcing agency and the written opinion by the State Fire Marshal shall be applicable only to the requesting facility and shall not be construed as establishing any precedent for any future request by that facility or any other facility.

***~~425.10~~435.10* Temporarily bedridden clients.** *Clients who become temporarily bedridden as defined in Health and Safety Code Section 1569.72, as enforced by the Department of Social Services, may continue to be housed on any story in Group R-2.1, R-3.1, or R-4 occupancies classified as Residential Care Facilities for the Elderly (RCFE). Every Residential Care Facility for the Elderly (RCFE) admitting or retaining a bedridden resident shall, within 48 hours of the resident's admission or retention in the facility, notify the local fire authority with jurisdiction of the estimated length of time the resident will retain his or her bedridden status in the facility.*

SECTION ~~426~~436
SPECIAL PROVISIONS FOR LICENSED 24-HOUR CARE FACILITIES IN GROUPS I-1, R-3.1, AND R-4

***~~426.1~~436.1* Operators Statement.** *Every person, firm or corporation maintaining or operating any Group I or R-2.1, R-3.1 or R-4 Occupancy shall provide an operators statement in accordance with Section 13132 of the Health and Safety Code which reads as follows:*

"13132. Every person, firm or corporation maintaining or operating any facility for the care of the mentally handicapped shall file a statement with the fire authority having jurisdiction within five days of the admission or readmission of a patient stating that such patient is an ambulatory or a nonambulatory person and enumerating the reasons for such classification. Such a statement shall also be filed for each existing patient within 30 days of the effective date of this section. Any statement required to be filed pursuant to this section shall be certified as to its correctness by the person attending such patient. It shall be unlawful for any person, firm, or corporation required to file a statement pursuant to this section to include false statements therein. Any such act shall be in violation of this section and subject to the provisions of Section 13112."

APPENDIX A
BOARD OF APPEALS

A101.1 Scope. A board of appeals shall be established within the jurisdiction for the purpose of hearing applications for modification of the requirements of the ~~*International*~~*California Fire Code* pursuant to the provisions of Section 108 of the ~~*International*~~*California Fire Code*. The board shall be established and operated in accordance with this section, and shall be authorized to hear evidence from appellants and the fire code official pertaining to the application and intent of this code for the purpose of issuing orders pursuant to these provisions.

APPENDIX B
FIRE-FLOW REQUIREMENTS FOR BUILDINGS

B104.2 Area separation. Portions of buildings which are separated by fire walls without openings, constructed in accordance with the ~~*International*~~*California Building Code*, are allowed to be considered as separate fire-flow

calculation areas.

TABLE B105.1(1)
REQUIRED FIRE-FLOW FOR ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

FIRE-FLOW CALCULATION AREA (square feet)	AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
0-3,600	No automatic sprinkler system	1000	1
3,601 and greater	No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2) at the required fire-flow rate
0-3,600	Section 903.3.1.3 of the ~~*International*~~*California* Fire Code or Section ~~P2904R~~*313.3* of the ~~*International*~~*California* Residential Code	500	½
3,601 and greater	Section 903.3.1.3 of the ~~*International*~~*California* Fire Code or Section ~~P2904R~~*313.3* of the ~~*International*~~*California* Residential Code	1/2 value in Table B105.1(2)	1

For SI: 1 square foot = 0.0929 m2, 1 gallon per minute = 3.785 L/m.

B105.2 Buildings other than one- and two-family dwellings. The minimum fire-flow and flow duration for buildings other than one- and two-family dwellings shall be as specified in Table B105.1.

Exceptions:

1. A reduction in required fire-flow of up to 75 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. The resulting fire-flow shall not be less than 1,500 gallons per minute (5678 L/min) for the prescribed duration as specified in Table B105.1.

2. [SFM] Group B, S-2 and U occupancies having a floor area not exceeding 1,000 square feet, primarily constructed of noncombustible exterior walls with wood or steel roof framing, having a Class A roof assembly, with uses limited to the following or similar uses:

2.1. California State Parks buildings of an accessory nature (restrooms).
2.2. Safety roadside rest areas, (SRRA), public restrooms.
2.3. Truck inspection facilities, (TIF), CHP office space and vehicle inspection bays.
2.4. Sand/salt storage buildings, storage of sand and salt.

TABLE B105.2
REQUIRED FIRE-FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the ~~*International*~~*California Fire Code*	25% of the value in Table B105.1(2)[a]	Duration in Table B105.1(2) at the reduced flow rate
Section 903.3.1.2 of the ~~*International*~~*California Fire Code*	25% of the value in Table B105.1(2)[b]	Duration in Table B105.1(2) at the reduced flow rate

For SI: 1 gallon per minute = 3.785 L/m.
a. The reduced fire-flow shall be not less than 1,000 gallons per minute.
b. The reduced fire-flow shall be not less than 1,500 gallons per minute.

B106
REFERENCED STANDARDS

~~ICC IFC-12~~ ~~International Building Code~~ ~~B104.2, Table B105.4~~

APPENDIX BB [SFM]
FIRE-FLOW REQUIREMENTS FOR BUILDINGS

SECTION BB101
SCOPE

BB101.1*The procedures determining fire-flow requirements for any school buildings or portions of buildings hereafter constructed for which review and approval is required under Subdivision (a) of Section 17280 of the Government Code shall be in accordance with this appendix as amended by the state fire marshal. This appendix does not apply to structures other than buildings.*

SECTION BB102
DEFINITIONS

BB102.1 *For the purpose of Appendix III-A, certain terms are defined as follows:*

FIRE AREA *is the floor area, in square feet, used to determine the required fire flow.*

FIRE FLOW *is the flow rate of a water supply, measured at 20 psi (137.9 kPa) residual pressure, that is available for firefighting.*

SECTION BB103
MODIFICATIONS

BB103.1 *An alternative method of providing water for fire protection or any other alternative in lieu of providing the water may be enforced when deemed appropriate by the fire chief and the state fire marshal.*

SECTION BB104
FIRE AREA

BB104.1 General. *The fire area shall be the total floor area of all floor levels within the exterior walls, and under the horizontal projections of the roof of a building, except as modified in Section 4.*

BB104.2 Area separation. *Portions of buildings which are separated by one or more four-hour area separation walls constructed in accordance with the Building Code, without openings and provided with a 30-inch (762 mm) parapet, are allowed to be considered as separate fire areas.*

BB104.3 Type I and Type IB construction. *The fire area of buildings constructed of Type I and Type IB construction shall be the area of the three largest successive floors.*

SECTION BB105
FIRE-FLOW REQUIREMENTS FOR BUILDINGS

TABLE BB105.1
MINIMUM REQUIRED FIRE-FLOW AND FLOW DURATION FOR BUILDINGS

FIRE AREA (square feet)					FIRE-FLOW (gallons per minute)[b]	FLOW DURATION (hours)
Type IA and IB [a]	Type IIA and IIIA [a]	Type IV and V-A [a]	Type IIB and IIIB [a]	Type V-B [a]		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	

38,701-48,300	*21,801-24,200*	*12,901-17,400*	*9,801-12,600*	*6,201-7,700*	*2,250*	
48,301-59,000	*24,201-33,200*	*17,401-21,300*	*12,601-15,400*	*7,701-9,400*	*2,500*	
59,001-70,900	*33,201-39,700*	*21,301-25,500*	*15,401-18,400*	*9,401-11,300*	*2,750*	
70,901-83,700	*39,701-47,100*	*25,501-30,100*	*18,401-21,800*	*11,301-13,400*	*3,000*	
83,701-97,700	*47,101-54,900*	*30,101-35,200*	*21,801-25,900*	*13,401-15,600*	*3,250*	*3*
97,701-112,700	*54,901-63,400*	*35,201-40,600*	*25,901-29,300*	*15,601-18,000*	*3,500*	
112,701-128,700	*63,401-72,400*	*40,601-46,400*	*29,301-33,500*	*18,001-20,600*	*3,750*	
128,701-145,900	*72,401-82,100*	*46,401-52,500*	*33,501-37,900*	*20,601-23,300*	*4,000*	
145,901-164,200	*82,101-92,400*	*52,501-59,100*	*37,901-42,700*	*23,301-26,300*	*4,250*	
164,201-183,400	*92,401-103,100*	*59,101-66,000*	*42,701-47,700*	*26,301-29,300*	*4,500*	
183,401-203,700	*103,101-114,600*	*66,001-73,300*	*47,701-53,000*	*29,301-32,600*	*4,750*	
203,701-225,200	*114,601-126,700*	*73,301-81,100*	*53,001-58,600*	*32,601-36,000*	*5,000*	
225,201-247,700	*126,701-139,400*	*81,101-89,200*	*58,601-65,400*	*36,001-39,600*	*5,250*	
247,701-271,200	*139,401-152,600*	*89,201-97,700*	*65,401-70,600*	*39,601-43,400*	*5,500*	
271,201-295,900	*152,601-166,500*	*97,701-106,500*	*70,601-77,000*	*43,401-47,400*	*5,750*	
295,901-Greater	*166,501-Greater*	*106,501-115,800*	*77,001-83,700*	*47,401-51,500*	*6,000*	*4*
—	—	*115,801-125,500*	*83,701-90,600*	*51,501-55,700*	*6,250*	
—	—	*125,501-135,500*	*90,601-97,900*	*55,701-60,200*	*6,500*	
—	—	*135,501-145,800*	*97,901-106,800*	*60,201-64,800*	*6,750*	
—	—	*145,801-156,700*	*106,801-113,200*	*64,801-69,600*	*7,000*	
—	—	*156,701-167,900*	*113,201-121,300*	*69,601-74,600*	*7,250*	
—	—	*167,901-179,400*	*121,301-129,600*	*74,601-79,800*	*7,500*	
—	—	*179,401-191,400*	*129,601-138,300*	*79,801-85,100*	*7,750*	
—	—	*191,401-Greater*	*138,301-Greater*	*85,101-Greater*	*8,000*	

For SI: 1 square foot = 0.0929 m2, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895kPa.
a. Types of construction are based on the California Building Code.
b. Measured at 20 psi.

APPENDIX C
FIRE HYDRANT LOCATIONS AND DISTRIBUTION

C101.1 Scope. Fire hydrants shall be provided in accordance with this appendix for the protection of buildings, or portions of buildings, hereafter constructed.

Exception: *[SFM] Group B, S-2 and U occupancies having a floor area not exceeding 1,000 square feet, primarily constructed of noncombustible exterior walls with wood or steel roof framing, having a Class A roof assembly, with uses limited to the following or similar uses:*

1. *California State Parks buildings of an accessory nature (restrooms).*
2. *Safety roadside rest areas, (SRRA), public restrooms.*
3. *Truck inspection facilities, (TIF), CHP office space and vehicle inspection bays.*
4. *Sand/salt storage buildings, storage of sand and salt.*

APPENDIX CC [SFM]
FIRE HYDRANT LOCATIONS AND DISTRIBUTION

SECTION CC101
SCOPE

CC101.1 *Fire hydrants shall be provided in accordance with this appendix for the protection of any school buildings, or portions thereof hereafter constructed for which review and approval are required under Subdivision (a) of Section 17280 of the Government Code.*

SECTION CC102
LOCATION

CC102.1 *Fire hydrants shall be provided along required fire apparatus access roads and adjacent public streets.*

SECTION CC103
NUMBER OF FIRE HYDRANTS

CC103.1 *The minimum number of fire hydrants available to a building shall not be less than that listed in Table CC105.1. The number of fire hydrants available to a complex or subdivision shall not be less than that determined by spacing requirements listed in Table CC105.1 when applied to fire apparatus access roads and perimeter streets from which fire operations could be conducted.*

SECTION CC104
CONSIDERATION OF EXISTING FIRE HYDRANTS

CC104.1 *Existing fire hydrants on public streets are allowed to be considered as available. Existing fire hydrants on adjacent properties shall not be considered available unless fire apparatus access roads extend between properties and easements are established to prevent obstruction of such roads.*

SECTION CC105
DISTRIBUTION OF FIRE HYDRANTS

CC105.1 *The average spacing between fire hydrants shall not exceed that listed in Table CC105.1.*

Exception: *A deficiency of up to 10 percent shall not be allowed when existing fire hydrants provide all or a portion of the required fire hydrant service.*

Regardless of the average spacing, fire hydrants shall be located such that all points on streets and access roads adjacent to a building are within the distances listed in Table CC105.1.

CC105.2 *When public or private water mains are not available to supply fire flow [not within 1,000 feet (304,800 mm) of the pro-posed building], the following alternatives shall be used:*

1. *Building(s) shall be protected by an automatic sprinkler system*

   Exception: *Portable (relocatable) buildings, as defined in California Education Code Section 17742.5(e), which requires that portable buildings be designed and constructed to be relocatable over public streets, shall be designed and constructed for relocation without the separation of the roof or floor from the building and when measured at the most exterior walls, shall have a floor area not in excess of 2,000 square feet*

(186m^2). Such portable buildings shall be separated from other structures in groupings not to exceed 9,100 square feet (845 m^2) in building area (pursuant to Table 503, California Building Code, for Type V-B buildings). Further area increases shall be as approved by the local fire authority having jurisdiction and the state fire marshal.

The water for sprinklers may be supplied by the domestic system, a pressure tank, a gravity tank or other means in accordance with NPFA 13. Water tanks shall be installed in accordance with NFPA 22. (See the California Building Code, Chapter 9.)

2. *When the adequate fire flow is not available and the water for sprinklers is provided from a source other than a public water supply, the amount of water to supply the system shall be calculated using the area/density method or the room design method as delineated in NFPA 13. The calculated duration of water flow to sprinklers shall not be less than 15 minutes to 10 heads.*

3. *The sprinkler system shall have a water flow alarm monitored by an approved central, proprietary or remote station service or a local alarm which will give audible and visual signals at a constant attended location.*

4. *When this alternative is utilized and the calculated water duration to a sprinkler is less than NFPA 13 recommendations, the area increases and fire resistive substitutions allowed in Chapter 5 of the California Building Code shall not be permitted.*

TABLE CC105.1
NUMBER AND DISTRIBUTION OF FIRE HYDRANTS

FIRE-FLOW REQUIREMENT (gpm)	MINIMUM NUMBER OF HYDRANTS	AVERAGE SPACING BETWEEN HYDRANTS[a, b, c] (feet)	MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT[d]
1,750 or less	1	500	250
2,000-2,250	2	450	225
2,500	3	450	225
3,000	3	400	225
3,500-4,000	4	350	210
4,500-5,000	5	300	180
5,500	6	300	180
6,000	6	250	150
6,500-7,000	7	250	150
7,500 or more	8 or more[e]	200	120

For SI: 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m.
a. Reduce by 100 feet for dead-end streets or roads.
b. Where streets are provided with median dividers which can be crossed by fire fighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis up to a fire-flow requirement of 7,000 gallons per minute and 400 feet for higher fire-flow requirements.
c. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.
d. Reduce by 50 feet for dead-end streets or roads.
e. One hydrant for each 1,000 gallons per minute or fraction thereof.

~~APPENDIX H~~
~~HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP) AND~~
~~HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS)~~
~~INSTRUCTIONS~~
(Note: IFC Appendix Chapter H not to be printed in the California Fire Code.)

APPENDIX H
HAZARDOUS MATERIALS MANAGEMENT PLANS AND
HAZARDOUS MATERIALS INVENTORY STATEMENTS
(See Sections 5001.5.1 and 5001.5.2)

SECTION H1
SCOPE

H1.1 Scope. *Hazardous materials inventory statements (HMIS) and hazardous materials management plans (HMMP) which are required by the chief pursuant to Chapter 50 shall be provided for hazardous materials in accordance with Appendix H.*

Exceptions: *1. Materials which have been satisfactorily demonstrated not to present a potential danger to public health, safety or welfare, based upon the quantity or condition of storage, when approved.*
2. Chromium, copper, lead, nickel and silver need not be considered hazardous materials for the purposes of Appendix H unless they are stored in a friable, powered or finely divided state.

Proprietary and trade secret information shall be protected under the laws of the state or jurisdiction having authority.

SECTION H2
HAZARDOUS MATERIALS INVENTORY STATEMENTS (HMIS)

H2.1 When Required. *A separate HMIS shall be provided for each building, including its appurtenant structures, and each exterior facility in which hazardous materials are stored.*

The hazardous materials inventory statement shall list by hazard class all hazardous materials stored. The hazardous materials inventory statement shall include the following information for each hazardous material listed:

1. Hazard class.
2. Common or trade name.
3. Chemical name, major constituents and concentrations if a mixture. If a waste, the waste category.
4. Chemical Abstract Service number (CAS number) found in 29 Code of Federal Regulations (C.F.R.).
5. Whether the material is pure or a mixture, and whether the material is a solid, liquid or gas.
6. Maximum aggregate quantity stored at any one time.
7. Storage conditions related to the storage type, temperature and pressure.

H2.2 Changes to HMIS. *An amended HMIS shall be provided within 30 days of the storage of any hazardous materials which changes or adds a hazard class or which is sufficient in quantity to cause an increase in the quantity which exceeds 5 percent for any hazard class.*

SECTION H3
HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP)

H3.1 General. *Applications for a permit to store hazardous materials shall include an HMMP standard form or short form in accordance with Section H3.3 and shall provide a narrative description of the operations and processes taking place at the facility. See Figure A-H-1.*

H3.2 Information Required. *The HMMP standard form shall include the information detailed in Section H3.2.*

H3.2.1 General Information. *General information, including business name and address, emergency contacts, business activity, business owner or operator, SIC code, number of employees and hours, Dunn and Bradstreet number, and signature of owner, operator or designated representative.*

H3.2.2 General site plan. *A general site plan drawn at a legible scale which shall include, but not be limited to, the location of buildings, exterior storage facilities, permanent access ways, evacuation routes, parking lots, internal roads, chemical loading areas, equipment cleaning areas, storm and sanitary sewer accesses, emergency equipment and adjacent property uses. The exterior storage areas shall be identified with the hazard class and the maximum quantities per hazard class of hazardous materials stored. When required by the chief, information regarding the location of wells, flood plains, earthquake faults, surface water bodies and general land uses within 1 mile (1.609 km) of the facility boundaries shall be included.*

H3.2.3 Building floor plan. *A building floor plan drawn to a legible scale which shall include, but not be limited to, hazardous materials storage areas within the building and shall indicate rooms, doorways, corridors, means of egress and evacuation routes. Each hazardous materials storage facility shall be identified by a map key which lists the individual hazardous materials, their hazard class and quantity present for each area.*

H3.2.4 Hazardous materials handling. *Information showing that activities involving the handling of hazardous materials between the storage areas and manufacturing processes on site are conducted in a manner to prevent the accidental release of such materials.*

H3.2.5 Chemical capability and separation. *Information showing procedures, controls, signs or other methods used to ensure separation and protection of stored materials from factors which could cause accidental ignition or reaction of ignitable, reactive or incompatible materials in each area.*

H3.2.6 Monitoring program. *Information including, but not limited to, the location, type, manufacturer's specifications, if applicable, and suitability of monitoring methods for each storage facility when required.*

H3.2.7 Inspection and recording keeping. *Schedules and procedures for inspecting safety and monitoring and emergency equipment. The permittee shall develop and follow a written inspection procedure acceptable to the chief for inspecting the facility for events or practices which could lead to unauthorized discharges of hazardous materials. Inspections shall be conducted at a frequency appropriate to detect problems prior to a discharge. An inspection check sheet shall be developed to be used in conjunction with routine inspections. The check sheet shall provide for the date, time and location of inspection; note problems and dates and times of corrective actions taken; and include the name of the inspector and the countersignature of the designated safety manager for the facility.*

H3.2.8 Employee training. *A training program appropriate to the types and quantities of materials stored or used shall be conducted to prepare employees to safely handle hazardous materials on a daily basis and during emergencies. The training program shall include:*

1. Instruction in safe storage and handling of hazardous materials, including maintenance of monitoring records.
2. Instruction in emergency procedures for leaks, spills, fires or explosions, including shutdown of operations and evacuation procedures, and 3. Record-keeping procedures for documenting training given to employees.

H3.2.9 Emergency response. *A description of facility emergency procedures is to be provided.*

H3.3 HMMP Short Form—(Minimal Storage Site). *A facility shall qualify as a minimal storage site if the quantity of each hazardous material stored in one or more facilities in an aggregate quantity for the facility is 500 pounds (227 kg) or less for solids, 55 gallons (208.2 L) or less for liquids, or 200 cubic feet (5.7 m3) or less at NTP for compressed gases and does not exceed the threshold planning quantity as listed in 40 C.F.R., Part 355, Sections 302 and 304. The applicant for a permit for a facility which qualifies as a minimal storage site is allowed to file the short form HMMP. Such plan shall include the following components:*

1. General facility information,
2. A simple line drawing of the facility showing the location of storage facilities and indicating the hazard class or classes and physical state of the hazardous materials being stored,
3. Information describing that the hazardous materials will be stored and handled in a safe manner and will be appropriately contained, separated and monitored, and
4. Assurance that security precautions have been taken, employees have been appropriately trained to handle the hazardous materials and react to emergency situations, adequate labeling and warning signs are posted, adequate emergency equipment is maintained, and the disposal of hazardous materials will be in an appropriate manner.

SECTION H4

MAINTENANCE OF RECORDS

H4.1 *Hazardous materials inventory statements and hazardous materials management plans shall be maintained by the permittee for a period of not less than three years after submittal of updated or revised versions. Such records shall be made available to the chief upon request.*

FIGURE A-H-1
SAMPLE FORMAT
HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP) INSTRUCTIONS

SECTION I—FACILITY DESCRIPTION

1.1 Part A
1. Fill out Items 1 through 11 and sign the declaration.
2. Only Part A of this section is required to be updated and submitted annually, or within 30 days of a change.

1. 2 Part B—General Facility Description (Site Plan)
1. Provide a site plan on 8 ½-by 11-inch (215 mm by 279 mm) paper, using letters on the top and bottom margins and numbers on the right and left side margins, showing the location of all buildings, structures, chemical loading areas, parking lots, internal roads, storm and sanitary sewers, wells, and adjacent property uses. Indicate the approximate scale, northern direction and date the drawing was completed.
2. List all special land uses within 1 mile (1.609 km).

1.3 Part C—Facility Storage Map (Confidential Information)
1. Provide a floor plan of each building on 8 ½- by 11-inch (215 mm by 279 mm) paper, using letters on the top and bottom margins and numbers on the right and left side margins, with approximate scale and northern direction, showing the location of each storage area. Mark map clearly "Confidential—Do not disclose" for trade-secret information as specified by federal, state and local laws.
2. Identify each storage area with an identification number, letter, name or symbol.
3. Show the following:

3.1 Accesses to each storage area.
3.2 Location of emergency equipment.
3.3 The general purpose of other areas within the facility.
3.4 Location of all aboveground and underground tanks to include sumps, vaults, below-grade treatment systems, piping, etc.

4. Map key. Provide the following on the map or in a map key or legend for each storage area:

4.1 A list of hazardous materials, including wastes.
4.2 Hazard class of each hazardous waste.
4.3 The maximum quantity for hazardous materials.
4.4 Include the contents and capacity limit of all tanks at each area and indicate whether they are above or below ground.
4.5 List separately any radioactives, cryogens and compressed gases for each facility.
4.6 Trade-secret information shall be listed as specified by federal, state and local laws.

SECTION II—HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS)

2.1 Part A—Declaration
Fill out all appropriate information.

2.2 Part B—Inventory Statement
1. You must complete a separate inventory statement for all waste and nonwaste hazardous materials. List all hazardous materials in alphabetical order by hazard class.
2. ***Inventory Statement Instructions:***

Column ***Information Required***

1 Provide hazard class for each material.
2 Nonwaste. Provide the common or trade name of the regulated material.
Waste. In lieu of trade names, you may provide the waste category.
3 Provide the chemical name and major constituents and concentrations, if a mixture.
4 Enter the chemical abstract service number (CAS number) found in 29 C.F.R. For mixtures, enter the CAS number of the mixture as a whole if it has been assigned a number distinct from its constituents. For a mixture that has no CAS number, leave this item blank or report the CAS numbers of as many constituent chemicals as ossible.
5 Enter the following descriptive codes as they apply to each material. You may list more than one code, if applicable.
P = Pure
M = Mixture
S = Solid
L = Liquid
G = Gas
6. Provide the maximum aggregate quantity of each material handled at any one time by the business. For underground tanks, list the maximum volume [in gallons (liters)] of the tank..
6.1 Enter the estimated average daily amount on site during the past year.
7 Enter the units used in Column 6 as:
LB = Pounds
GA = Gallons
CF = Cubic Feet
8 Enter the number of days that the material was present on site (during the last year).
9 Enter the storage codes below for type, temperature and pressure.

Type

A = Aboveground Tank
B = Belowground Tank
C – Tank inside Building
D = Steel Drum
E = Plastic or Nonmetallic Drum
F = Can
G = Carboy
H = Silo
I = Fiber Drum
J = Bag
K = Box
L = Cylinder
M = Glass Bottle or Jug
N = Plastic Bottles or Jugs
O = Tote Bin
P = Tank Wagon
Q = Rail Car
R = Other

Temperature

4 = Ambient
5 = Greater than Ambient
6 = Less than Ambient,
but not Cryogenic [less than -150°F (-101.1°C)]
7 = Cryogenic conditions [less than -150°F (-101.1°C)]

Pressure

1 = Ambient (Atmospheric)
2 = Greater than Ambient (Atmospheric)
3 = Less than Ambient (Atmospheric)

10 For each material listed, provide the SARA hazard class as listed below. You may list more than one class. These categories are defined in 40 C.F.R. 370.3.

Physical Hazards
F = Fire
P = Sudden Release of Pressure
R = Reactivity

Health Hazards
I = Immediate (Acute)
D = Delayed (Chronic)

11 ***Waste Only.*** *For each waste, provide the total estimated amount of hazardous waste handled throughout the course of the year.*

SECTION III—SEPARATION AND MONITORING

3.1 Part A—Aboveground

Fill out Items 1 through 6, or provide similar information for each storage area shown on the facility map. Use additional sheets as necessary.

3.2 Part B—Underground

1. Complete a separate page for each underground tank, sump, vault, below-grade treatment system, etc.
2. Check the type of tank and method(s) that applies to your tank(s) and piping, and answer the appropriate questions. Provide any additional information in the space provided or on a separate sheet.

SECTION IV—WASTE DISPOSAL

Check all that apply and list the associated wastes for each method checked.

SECTION V—RECORDING KEEPING

Include a brief description of your inspection procedures. You are also required to keep an inspection log and recordable discharge log, which are designed to be used in conjunction with routine inspections for all storage facilities or areas. Place a check in each box that describes your forms. If you do not use the sample forms, provide copies of your forms for review and approval.

SECTION VI—EMERGENCY-RESPONSE PLAN

1. This plan should describe the personnel, procedures and equipment available for responding to a release or threatened release of hazardous materials that are stored, handled or used on site.
2. A check or a response under each item indicates that a specific procedure is followed at the facility, or that the equipment specified is maintained on site.
3. If the facility maintains a more detailed emergency-response plan on site, indicate this in Item 5. This plan shall be made available for review by the inspecting jurisdiction.

SECTION VII—EMERGENCY RESPONSE TRAINING PLAN

1. This plan should describe the basic training plan used at the facility.
2. A check in the appropriate box indicates the training is provided or the records are maintained.
3. If the facility maintains a more detailed emergency-response training plan, indicate this in Item 4. This plan shall be made available for review by the inspecting jurisdiction.

FIGURE A-H-1—(Continued)
HAZARDOUS MATERIALS MANAGEMENT PLAN
SECTION I: FACILITY DESCRIPTION

PART A—GENERAL INFORMATION

1. Business Name:_____Phone:_____
Address:_____
2. Person Responsible for the Business:

Name	***Title***	***Phone***
_____	_____	_____

3. Emergency Contacts:

Name	***Title***	***Home Number***	***Work Number***
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. Person Responsible for the Application/Principal Contact:

Name	***Title***	***Phone***

_____ _____ _____

5. Property Owner:

Name ***Address*** ***Phone***

_____ _____ _____

6. Principal Business Activity: _____

7. Number of Employees: _____

8. Number of Shifts: _____

9. Hours of Operation: _____

10. SIC Code: _____

11. Dunn and Bradstreet Number: _____

12. Declaration

I certify that the information above and on the following parts is true and correct to the best of my knowledge.

Signature:_____Date :_____

Print Name:_____Title:_____

(Must be signed by owner/operator or designated representative)

PART B—GENERAL FACILITY DESCRIPTION/SITE PLAN

(Use grid format on next page.)

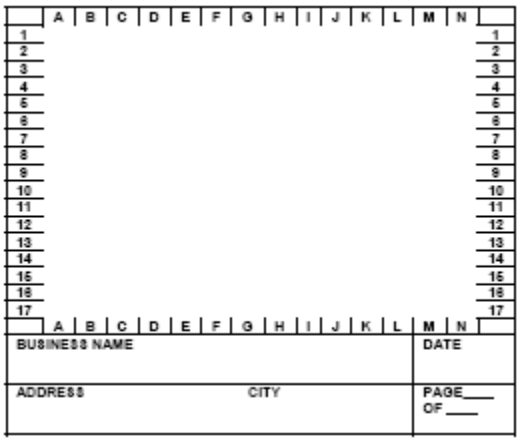
Special land uses within 1 mile (1.609 km):_____

_____

_____

PART C—FACILITY MAP

(Use grid format below.)



SECTION II: HAZARDOUS MATERIALS INVENTORY STATEMENT

PART A—DECLARATION

1. Business Name: _____

2. Address: _____

3. Declaration:

Under penalty of perjury, I declare the above and subsequent information, provided as part of the hazardous materials

inventory statement, is true and correct.

Signature: _____ Date: _____

Print Name: _____ Title: _____

(Must be signed by owner/operator or designated representative)

FIGURE A-II-E-1—(Continued)

PART B—HAZARDOUS MATERIALS INVENTORY STATEMENT

(1) HAZARD CLASS	(2) COMMON/ TRADE NAME	(3) CHEMICAL NAME, COMPONENTS AND CONCENTRATION	(4) CHEMICAL ABSTRACT SERVICE NO.	(5) PHYSICAL STATE	(6) MAXIMUM QUANTITY ON HAND AT ANY TIME	(7) UNITS	(8) DAYS ON SITE	(9) STORAGE CODE (TYPE, PRES., TEMP.)	(10) SARA CLASS	(11) ANNUAL WASTE THROUGHPUT

SECTION III: SEPARATION, SECONDARY CONTAINMENT AND MONITORING
PART A—ABOVEGROUND STORAGE AREAS

Storage Area Identification (as shown on facility map):_____

1. Storage Type:
_____ Original Containers *_____ Safety Cans*
_____ Inside Machinery *_____ Bulk Tank*
_____ 55-gallon (208.2 L) Drums or Storage Shed *_____ Outside Barrels*
_____ Pressurized Vessel
_____ Other: _____
_____

2. Storage Location:
_____ Inside Building *_____ Outside Building*
_____ Secured

3. Separation:
_____ All Materials *_____ One-hour Separation*
_____ Compatible Wall/Partition
_____ Separated by 20 Feet (6096 mm) *_____ Approved Cabinets*
_____ Other: _____
_____

4. Secondary Containment:
_____ Approved Cabinet *_____ Secondary Drums*
_____ Tray *_____ Bermed, Coated Floor*
_____ Vaulted Tank *_____ Double-wall Tank*
_____ Other: _____
_____

5. Monitoring:
_____ Visual *_____ Continuous*
_____Other: _____
Attach specifications if necessary

6. Monitoring Frequency:
_____ Daily _____ Weekly
_____ Other: _____
Attach specifications if necessary

APPENDIX H
FIGURE A-II-E-1—(Continued)

SECTION III: SEPARATION, CONTAINMENT AND MONITORING

PART B—UNDERGROUND

SINGLE-WALL TANKS AND PIPING
Tank Area Identification (as shown on facility map): _____
1. _____ Backfill Vapor Wells—
Model and Manufacturer: _____
_____
Continuous or Monthly Testing: _____

2. _____ Groundwater Monitoring Wells

3. _____ Monthly Precision Tank Test

4. _____ Piping—
Monitoring Method: _____
Frequency: _____

5. _____ Other: _____
_____

DOUBLE-WALL TANKS AND PIPING
Tank Area Identification (as shown on facility map):
1. Method of monitoring the annular space: _____
_____
2. Frequency:
_____ Continuous _____ Daily _____Weekly
_____ Other: _____

3. List the type of secondary containment for piping: _____
_____

4. List the method of monitoring the secondary containment for piping: _____
_____

5. Are there incompatible materials within the same vault?
_____ Yes _____ No

If yes, how is separate secondary containment provided?_____
_____

Note: *If you have continuous monitoring equipment, you shall maintain copies of all service and maintenance work. Such reports shall be made available for review on site, and shall be submitted to the fire prevention bureau upon request.*
Attach additional sheets as necessary.

SECTION IV: WASTE DISPOSAL

_____ Discharge to the Sanitary Sewer—Wastes: _____
_____ _____
_____ _____

_____ Pretreatment—
Wastes: _____

_____ Licensed Waste Hauler—
Wastes: _____
_____ _____
_____ _____

_____ Recycle—
Wastes: _____

_____ Other—
Describe Method: _____
Wastes: _____
_____

_____

_____ *No Waste*

SECTION V: RECORD KEEPING

Description of our inspection program: _____
_____
_____

_____ *We will use the attached sample forms in our inspection program.*
_____ *We will not use the sample forms. We have attached a copy of our own forms.*

SECTION VI: EMERGENCY RESPONSE PLAN

1. In the event of an emergency, the following shall be notified:
A. On-site Responders:

Name	***Title***	***Phone***
_____	_____	_____
_____	_____	_____

B. Method of Notification to Responder:
_____ *Automatic Alarm* _____ *Phone*
_____ *Manual Alarm* _____ *Verbal*
_____ *Other:* _____
_____

C. ***Agency***	***Phone Number***
Fire Department:	
Cal EMA California Emergency Management Agency:	
Other:	
_____	_____
_____	_____

2. Designated Local Emergency Medical Facility:

Name	***Address***	***Phone (24 hours)***
_____	_____	_____

3. Mitigation Equipment:

A. Monitoring Devices:
_____ *Toxic or flammable gas detection*
_____ *Fluid detection*
_____ *Other:* _____
_____

B. Spill Containment:
_____ *Absorbents* _____ *Other:* _____
_____

C. Spill Control and Treatment:
_____ *Vapor Scrubber* _____ *Mechanical Ventilation*
_____ *Pumps/vacuums* _____ *Secondary Containment*
_____ *Neutralizer* _____ *Other:* _____
_____

4. Evacuation:
_____ *Immediate area evacuation routes posted*
_____ *Entire building evacuation procedures developed*
_____ *Assembly areas preplanned*
_____ *Evacuation maps posted*

_____ *Other:* _____
_____

5. Supplemental hazardous materials emergency response plan on site.
*Location:*_____
Responsible Person: _____
*Phone:*_____

SECTION VII: EMERGENCY-RESPONSE TRAINING PLAN

1. Person responsible for the emergency-response training plan:

Name	***Title***	***Phone***
_____	_____	_____

2. Training Requirements:
A. All employees trained in the following as indicated:
_____ *Procedures for internal alarm/notification*
_____ *Procedures for notification of external emergency-response organization*
_____ *Location and content of the emergency-response plan*

B. Chemical handlers are trained in the following as indicated:
_____ *Safe methods for handling and storage of hazardous materials*
_____ *Proper use of personal protective equipment*
_____ *Locations and proper use of fire- and spill-control equipment*
_____ *Specific hazards of each chemical to which they may be exposed*
C. Emergency-response team members are trained in the following:
_____ *Procedures for shutdown of operations*
_____ *Procedures for using, maintaining and replacing facility emergency and monitoring equipment*

3. The following records are maintained for all employees:
_____ *Verification that training was completed by the employee*
_____ *Description of the type and amount of introductory and continuing training*
_____ *Documentation on and description of emergency-response drills conducted at the facility*

4. A more comprehensive and detailed emergency-response training plan is maintained on site.
Location: _____
Responsible Person: _____
Phone: _____

APPENDIX K
TEMPORARY HAUNTED HOUSES, GHOST WALKS, AND SIMILAR AMUSEMENT USES

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION K101
GENERAL

K101.1 Scope. *These regulations shall apply to temporary Haunted Houses, Ghost Walks, or similar amusement uses, where decorative materials and confusing sounds and/or visual effects are present, shall be in accordance with this Appendix.*

K101.2 Permits. *An operational permit shall be required for Haunted Houses, Ghost Walks, or similar amusement uses in accordance with Appendix K101.2.*

K101.2.1 Permit documents. *The permit application shall include a dimensioned site plan and floor plan.*

A site plan showing the following:
1. The proximity of the event building(s) to other structures or hazardous areas.
2. The path of travel from the event building or area to the public way.
3. The location of exterior evacuation assembly points.

A floor plan showing the following:
1. Dimensions of the area being used (include total square footage, width, and types of exits, aisles, or interior exit pathways, etc.).
2. The path of travel shall include the layout of any mazes, mirrors or other display items that may confuse the egress paths.
3. A brief description of what will be depicted in each room or area along the walk or course including the type of special effects to be utilized.
4. Location of exits, exit signs, and emergency lighting.
5. Location of electrical panel(s) and light switches.
6. Identification of what the normal or prior use of the structure(s) being used is (i.e. auditorium, school, church, etc.)
7. Accessible egress routes.
8. When required, areas of refuge.
9. When required by Section ~~318.9~~907.2.12, fire alarm panel location, manual fire alarm boxes, and horn/strobe locations.
10. Portable fire extinguisher locations.
11. The location and fuel capacity of all generators.

SECTION K102
DEFINITIONS

K102.1 DECORATIVE MATERIALS. *All materials used for decorative, acoustical or other effect (such as curtains, draperies, fabrics, streamers, and surface coverings) and all other materials utilized for decorative effect (such as batting, cloth, cotton, hay stalks, straw, vines, leaves, trees, moss and similar items), including foam plastics and other materials containing foam plastics.*

K102.2 HAUNTED HOUSE. *A temporary building or structure, or portion thereof, which contains a system that transports passengers or provides a walkway through a course so arranged that the means of egresses are not apparent due to theatrical distractions, not visible due to low illumination, are disguised or are not readily available due to the method of transportation through the building or structure.*

K102.3 GHOST WALKS. *Similar to Haunted Houses and may include both indoor and outdoor areas where the means of egresses are similarly not readily identifiable.*

SECTION K103
GENERAL REQUIREMENTS

K103.1 Allowable structures. *Haunted Houses, Ghost Walks, and similar amusement uses shall only be located in structures that comply with the provisions for Special Amusement Buildings in accordance with the California Building Code.*

K103.2 Tents or membrane structures. *Tents and membrane structures may be used when in compliance with all applicable requirements of this regulation and when the total floor area of the tent is less than 1,000 square feet and the travel distance to an exit from any location is less than 50 feet.*

K103.3 Fire evacuation plans. *A fire safety and evacuation plan that complies with Section 404 of the California Fire Code shall be submitted.*

Staffing*. The event shall be adequately staffed by qualified person(s) to control the occupant load and assist patrons in exiting should an evacuation become necessary. Staffing level shall be determined upon review of plans and may be increased at the discretion of the Fire Code Official.*

K103.4 Occupant load. *Maximum occupant load shall be in accordance with Chapter 10 Table 1004.1.1. A sign*

stating maximum occupancy shall be posted in a visible location near the entrance. The attendant(s) shall control the flow of patrons so as not to exceed this limit.

K103.5 Exits. *Exiting shall be in accordance with Chapter 10 and this Section.*

1. Two exits shall be provided from each room with an occupant load of 50 or more. Required exit doors shall swing in the direction of egress.
2. Illuminated exit signs shall be provided at each exit serving an occupant load of 50 or more.
3. Exit doors serving an occupant load of 50 or more shall not be provided with a latch or lock unless it is panic hardware.
4. When tents or membrane structures are approved for use, curtains shall not be allowed to cover the exits.
5. Emergency lighting shall be provided in exit pathways.
6. Exhibits and decorative materials shall not obstruct, confuse, or obscure exits, exit pathways, exit signs, or emergency lights.
7. Additional exit pathway markings, such as low level exit signs and directional exit path markings, may be required.

K103.6 Fire protection. *Haunted houses and ghost walks shall be provided with fire protection systems in accordance with Appendix K103.6.*

Exception: *When the total floor area of Haunted Houses or indoor portions of Ghost Walks are less than 1,000 square feet and the travel distance to an exit is less than 50 feet.*

K103.6.1 Fire sprinkler protection. *An automatic fire sprinkler system shall be required for Haunted Houses and indoor portions of Ghost Walks. Fire sprinkler systems shall be in accordance with Section 903.*

K103.6.2 Fire detection systems. A*n approved automatic fire detection system shall be provided in accordance with Section 907.2.12 as required for amusement buildings.*

K103.6.3 Alarm. *Activation of any single smoke detector, the fire sprinkler system, or other automatic fire detection device shall be in accordance with Section 907.2.12.1.*

K103.6.4 Emergency voice alarm. *Provide an emergency voice/alarm communication system in accordance with the Section 907.2.12.3 as required for amusement buildings.*

K103.6.5 Portable fire extinguishers. *Fire extinguishers shall have a minimum 2A-10B:C rating. Fire extinguishers shall be properly mounted and shall be visible and accessible at all times. Clearly identify locations with signs or reflective tape. Fire extinguishers shall be located within 50 feet travel distance from anywhere in the building.*

K103.7 Electrical. *When required, a permit shall be obtained from the local Building Official.*

K103.7.1 Extension cords. *Extension cords shall be UL listed and shall be appropriate for the intended use.*

K103.7.2 Power strips. *Only UL listed power strips with overcurrent protection shall be used when the number of outlets provided is inadequate. Power strips shall be plugged directly into the outlet, and shall not be plugged into one another in series.*

K103.7.3 String lighting. *Manufacturer's installation guidelines shall be followed for the maximum allowable number of string lights that can be connected. When connecting string lights together, the total amperage of all string lights shall be calculated to ensure they do not exceed the amperage for the extension cord and circuit.*

K103.7.4 Protection. *All extension cords and power strips shall be adequately protected from foot traffic.*

K103.7.5 Portable generators. *When portable generators are utilized, they shall be diesel fuel type and located a minimum of 20 feet away from all structures.*

K103.8 Decorative materials. *Interior wall, ceiling, and floor finishes shall be Class A rated in accordance with the California Building Code.*

K103.8.1 Flame retardant. *All decorative materials shall be both inherently flame retardant and labeled as such, or shall be treated with a listed flame retardant material. If the material is treated by the user, a container and receipt will serve as proof.*

K103.8.2 Flame test. *Testing shall be done in accordance with Section 803.5 of the California Fire Code as referenced from the California Code of Regulations, Title 19, Division 1, Article 3, Section 3.21(a) and (b). Proof of testing shall be provided.*

K103.8.3 Placement of decorative materials. *Decorative materials, props and/or performer platforms shall not obstruct, confuse, or obscure exits, exit signs, exit pathways, emergency lighting or any component of fire protection systems and equipment (i.e. fire extinguishers, fire alarm systems, fire sprinklers, etc.) inside or outside the building.*

K103.9 Smoke generators. *Use of smoke-generating equipment may be restricted if determined to be incompatible with smoke alarm(s). Care and consideration shall be used with respect to smoke generator and smoke alarm locations. Smoke generator and smoke alarm locations shall be approved by the Fire Department.*

K103.10 Display of motor vehicles. *Display of motor vehicles shall be in accordance with Section ~~2402.18~~3104.18 of the California Fire Code.*

K103.11 Inspections. *A fire and life safety inspection shall be conducted by the Fire Department prior to the start of the event.*

K103.12 Signs. ***"****NO SMOKING" signs shall be conspicuously posted at the main entrance and throughout the exhibit.*

K103.13 Prohibited areas. *Inside storage or use of flammable and/or combustible liquids, gases, and solids shall be prohibited. Open flames shall be prohibited.*

K103.14 Maintenance. *Good housekeeping shall be maintained throughout exhibit and exit pathways, at all times.*