

BUILDING STANDARDS COMMISSION

2525 Natomas Park Drive, Suite 130
Sacramento, California 95833-2936
(916) 263-0916 FAX (916) 263-0959



February 10, 2011

Patrick J. Dibb, Division Chief/Fire Marshal
Orange City Fire
City of Orange
176 S. Grand Street
Orange, CA 92866-1591

Dear Mr. Dibb:

This letter is to acknowledge receipt on December 9, 2010 of the City of Orange submittal pertaining to Ordinance No. 12-10 with findings and is acceptable for filing. Your filing attests to your understanding that according to Health and Safety Code Section 17958.7 no modification or change to the California Building Standards Code shall become effective or operative for any purpose until the finding and the modification or change have been filed with the California Building Standards Commission (the Commission).

This letter attests only to the filing of these local modifications with the Commission, which is not authorized by law to determine the merit of the filing.

As a reminder, local modifications are specific to a particular edition of the Code. They must be readopted and filed with the Commission in order to remain in effect when the next triennial edition of the Code is published. In addition, should you receive Fire Protection District ordinances for ratification, it is required to submit the ratified ordinances to the Department of Housing and Community Development [H&SC Section 13869.7(c)], attention State Housing Law Program Manager, rather than the Commission.

If you have any questions or need any further information, you may contact me at (916) 263-0916.

Sincerely,


Enrique M. Rodriguez
Associate Construction Analyst

cc: Chron
Local Filings



ORANGE CITY FIRE

FIRE DEPARTMENT

PHONE: (714) 288-2500 • FAX: (714) 744-6035

www.cityoforange.org

November 30, 2010

California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833

Dear Sir,

Enclosed is a copy of our recent 2010 California Fire Code adoption, amendments, findings, and the resolution adopting the findings. I am submitting this to you in compliance with CCR T-24, incorporating the latest editions of the model codes.

This submittal is according to the Building Standards Law which states: "The amendments are neither effective nor operative until copies of both the express findings and the amendments, with the amendments expressly marked and identified as to the applicable findings, have been filed with the California Building Standards Commission".

If you have any questions or require further information, I can be reached at (714) 288-2541 Monday through Thursday 7am - 5pm.

Respectfully,

Patrick J. Dibb
Division Chief/Fire Marshal

PJD:bjm

Enclosures

210 FTG - 9 A 11:18
CALIFORNIA BUILDING
STANDARDS COMMISSION

ORDINANCE 12-10

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ORANGE AMENDING TITLES 2, 8 AND 15 OF THE ORANGE MUNICIPAL CODE, ADOPTING AND AMENDING THE 2010 EDITIONS OF THE CALIFORNIA CODES RELATING TO BUILDING AND FIRE.

WHEREAS, the State of California adopted new International Building Codes in July of this year; and

WHEREAS, these codes are commonly known as the California Building Standards Codes, and published in Title 24 of the California Code of Regulations; and

WHEREAS, the State's Health and Safety Code requires local governments to adopt the most recent editions of the model codes related to construction; and

WHEREAS, State law provides that the model codes may be amended by local governments with respect to local conditions, so long as those changes are not less stringent than the State's minimum requirements; and

WHEREAS, local governments must update their building codes by adopting and amending the State Codes to become effective by January 1, 2011.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ORANGE DOES ORDAIN AS FOLLOWS:

SECTION I – Chapter 2.32 – Department of Fire

Section 2.32.010 of the Orange Municipal Code is hereby amended to read as follows:

2.32.010 – Fire Chief – Duties.

The Fire Chief shall manage the affairs of the Fire Department. The Fire Chief shall be charged with the prevention of fires and the protection of life, property, and environment against fire and shall:

- A.** Report all fire losses to the City Manager;
- B.** Be responsible for the maintenance and care of all property and equipment used by his department.

SECTION II – Chapter 8.08 – Fire Prevention

Title 8 of the Orange Municipal Code is hereby amended to delete Chapter 8.08 in its entirety.

SECTION III – Uniform Building Code

Section 15.04.010 of the Orange Municipal Code is hereby amended to read as follows:

15.04.010 – California Building Code Adopted by Reference.

For the purpose of prescribing regulations for erecting, construction, enlargement, alteration, repair, improving, removal, conversion, demolition, occupancy, equipment use, height, and area of buildings and structures, the following construction code subject to the modifications set forth in this Chapter, is hereby adopted: the California Building Code, 2010 Edition, based on the 2009 International Building Code as published by the International Code Council, *including Division II in Chapter 1.*

Chapter 15.04 of the Orange Municipal Code is hereby amended to add Section 15.04.015, which shall read as follows:

15.04.015 – Amendments to the 2010 California Building Code.

- a) Section 403, first paragraph of section 403.1, and no. 2 definition of section 403.1.1 are amended to define high-rise building at 55 feet instead of 75 feet. The revised sections are to read as follows:

SECTION 403

HIGH-RISE BUILDINGS HAVING OCCUPIED FLOORS LOCATED MORE THAN 55 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS AND GROUP I-2 OCCUPANCIES HAVING OCCUPIED FLOORS LOCATED MORE THAN 75 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS

403.1 Applicability. New high-rise buildings having occupied floors located more than 55 feet above the lowest level of fire department vehicle access and new 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 403.2 through 403.6.

403.1.1 Definitions.

2. “High-rise structure” means every building of any type of construction or occupancy having floor used for human occupancy located above 55 feet above the lowest floor level having building access (see Section 403.1.2), except buildings used as hospitals as defined by the Health and Safety Code Section 1250.

- b) Section 403.4.7.2 and 403.4.8.1 are modified by moving item 2. Ventilation and automatic fire detection equipment for smoke proof enclosures from section 403.4.7.2 Standby Power Loads and placing it in 403.4.8.1 Emergency Power Loads. The revised sections are to read as follows:

403.4.7.2 Standby power loads. The following are classified as standby power loads:

1. Power and lighting for the fire command center required by Section 403.4.5; and
2. Standby power shall be provided for elevators in accordance with Sections 1007.4, 3003, 3007, and 3008.

403.4.8.1 Emergency power loads. The following are classified as emergency power loads:

1. Exit signs and means of egress illumination required by Chapter 10;
2. Elevator car lighting;
3. Emergency voice/alarm communications systems;
4. Automatic fire detection systems;
5. Fire alarm systems;
6. Electrically powered fire pumps; and
7. Ventilation and automatic fire detection equipment for smokeproof enclosures.

- c) Section 412 is amended to require an Emergency Helicopter Landing Facility on high-rise building over 75 feet. The revised sections are to read as follow:

412.1 General. Aircraft-related occupancies, except for Emergency Helicopter Landing Facility, shall comply with Sections 412.1 through 412.7 and the California Fire Code.

Section 412.7.5

Emergency Helicopter Landing Facility (EHLF)

412.2 Definitions is hereby amended by adding the following definitions:

APPROACH-DEPARTURE PATH. The flight path of the helicopter as it approaches or departs from the landing pad.

EMERGENCY HELICOPTER LANDING FACILITY (EHLF). A landing area on the roof of a building that is not intended to function as a heliport or helistop but is capable of accommodating fire or medical helicopters engaged in emergency operations.

SAFETY AREA. A defined area surrounding the landing pad which is free of obstructions.

TAKEOFF AND LANDING AREA. The combination of the landing pad centered within the surrounding safety area.

SECTION 412.7.5. Emergency Helicopter Landing Facility. Emergency Helicopter Landing Facility (EHLF) shall be constructed as specified in Section 412.7.5.1 through 412.7.5.13.

Section 412.7.5.1 General. Every building of any type of construction or occupancy having floors used for human occupancy located more than 75 ft above the lowest level of the fire department vehicle access shall have a rooftop emergency helicopter landing facility (EHLF) in a location approved by the fire code official for only use by fire, police, and emergency medical helicopters.

Section 412.7.5.2 Rooftop Landing Pad. The landing pad shall be 50 ft. x 50 ft. or a 50 ft. diameter circle that is pitched or sloped to provide drainage away from access points and passenger holding areas at a slope of 0.5 percent to 2 percent. The landing pad surface shall be constructed of approved non-combustible, nonporous materials. It shall be capable of supporting a helicopter with a maximum gross weight of 15,000 lbs. For structural design requirements, see California Building Code.

Section 412.7.5.3 Approach-Departure Path. The emergency helicopter landing facility shall have two approach-departure paths separated in plan from each other by at least 90 degrees. No objects shall penetrate above the approach-departure paths. The approach-departure path begins at the edge of the landing pad, with the same width or diameter as the landing pad and is a rising slope extending outward and upward at a ratio of eight feet horizontal distance for every one foot of vertical height.

Section 412.7.5.4 Safety Area. The safety area is a horizontal plane level with the landing pad surface and shall extend 25 ft in all directions from the edge of the landing pad. No objects shall penetrate above the plane of the safety area.

Section 412.7.5.5 Safety Net. If the rooftop landing pad is elevated more than 30 in. (2'-6") above the adjoining surfaces, a 6 ft in wide horizontal safety net capable of supporting 25 lbs/psf shall be provided around the perimeter of the landing pad. The inner edge of the safety net attached to the landing pad shall be slightly dropped (greater than 5 in. but less than 18 in.) below the pad elevation. The safety net shall slope upward but the outer safety net edge shall not be above the elevation of the landing pad.

Section 412.7.5.6 Take-off and Landing Area. The takeoff and landing area shall be free of obstructions and 100 ft x 100 ft. or 100 ft. diameter.

Section 412.7.5.7 Wind Indicating Device. An approved wind indicating device shall be provided but shall not extend into the safety area or the approach-departure paths.

Section 412.7.5.8 Special Markings. The emergency helicopter landing facility shall be marked as indicated in Figure 1108.8.1.

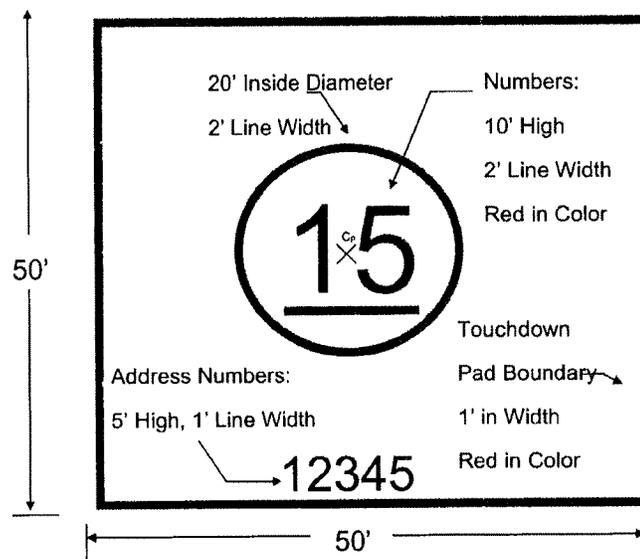
Section 412.7.5.9 EHLF Exits. Two stairway exits shall be provided from the landing platform area to the roof surface. For landing areas less than 2,501 square feet in area, the second exit may be a fire escape or ladder leading to the to the roof surface below. The stairway from the landing facility platform to the floor below shall comply with CFC 1009.4.2 for riser height and tread depth. Handrails shall be provided, but shall not extend above the platform surface.

Section 412.7.5.10 Standpipe systems. The standpipe system shall be extended to the roof level on which the EHLF is located. All portions of the EHLF area shall be within 150 feet of a 2.5-inch outlet on a Class I or III standpipe.

Section 412.7.5.11 Fire extinguishers. A minimum of one portable fire extinguisher having a minimum 80-B:C rating shall be provided and located near the stairways or ramp to the landing pad. The fire extinguisher cabinets shall not penetrate the approach-departure paths, or the safety area. Installation, inspection, and maintenance of extinguishers shall be in accordance with the CFC, Section 906.

Section 412.7.5.13 EHLF. Fueling, maintenance, repairs, or storage of helicopters shall not be permitted.

Figure 1108.8.1 Helicopter Landing Pad Markings



1. The preferred background is white or tan.
2. The circled, red numbers indicate the allowable weight that the facility is capable of supporting in thousands of pounds.
3. The numbers shall be oriented towards the preferred flight (typically facing the prevailing wind).

d) Section 905.4 is hereby amended by adding items 7 and 8 as follows:

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 stairway, a hose connection shall be provided for each floor level above or below grade. Hose connections shall be located at an intermediate floor level landing between floors, unless otherwise approved by the fire code official. See Section 909.20.3.2 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 exit stairway hose connections by 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 exit stairway hose connections 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.

5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a hose connection located either on the roof or at the highest landing of a stairway with stair access to the roof. An additional hose connection shall be provided at the top of the most hydraulically remote standpipe for testing purposes.

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 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 distance from a hose connection shall be measured along the path of travel.

7. The centerline of the 2.5 inches (64 mm) outlet shall be no less than 18 inches (457 mm) above and no more than 24 inches (610 mm) above the finished floor.

8. Every new building with any horizontal dimensions greater than 300 feet (91 440 mm) shall be provided with either access doors or a 2.5 inch (64 mm) outlets so that all portions of the building can be reached with 150 feet (45 720 mm) of hose from an access door or hose outlet. Required access doors shall be located in the exterior of the building and shall be accessible without the use of a ladder. The door dimensions shall be not less than 3 feet (914 mm) in width, and not less than 6 feet 8 inches (2032 mm) in height. These doors are for fire department access only.

e) Section 907.2.13 is hereby revised as follows:

907.2.13 High-rise buildings having occupied floors located more than 55 feet above the lowest level of fire department vehicle access and Group I-2 occupancies having floors located more than 75 feet above the lowest level fire department vehicle access. High-rise buildings having occupied floors located more than 55 feet above the lowest level of fire department vehicle access and Group I-2 occupancies having floors located more than 75 feet above the lowest level fire department vehicle access shall be provided with an automatic smoke detection 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 907.6.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Section 907.2.22 and Section 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special occupancies in accordance with Section 503.1.1.
5. In Group I-2 and R-2.1 occupancies, the alarm shall sound at a constantly attended location and general occupant notification shall be broadcast by the emergency voice/alarm communication system.

f) Section 907.5.2.2 is revised to add items 5 and 6 as follows.

907.5.2.2 Emergency voice/alarm communication system. Emergency voice/alarm communication system required by this code shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler water flow 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 having occupied floors located more than 55 feet above the lowest level of fire department vehicle access, and Group I-2 occupancies having floors located more than 75 feet above the lowest level fire department vehicle access, the system shall operate on a minimum of 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. Exit stairways.
3. Each floor.
4. Areas of refuge as defined in Section 1002.1.
5. Dwelling Units in apartment houses.
6. Hotel guest rooms or suites.

Exception: In Group I-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.

g) Section 907.6.3.2 is hereby revised as follows.

907.6.3.2 High-rise buildings. High-rise buildings having occupied floors located more than 55 feet above the lowest level of fire department vehicle access and Group I-2 occupancies having floors located more than 75 feet above the lowest level fire department vehicle access, a separate zone by floor shall be provided for all 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 detection devices or suppression systems.

h) Section 910.3.2.2 is hereby amended as follows:

910.3.2.2 Sprinkler buildings. Where installed in buildings provided with an approved automatic sprinkler system, smoke and heat vents shall be designed to operate automatically by actuation of a heat-responsive device rated at least 100° F above the operating temperature of the sprinkler, unless otherwise approved.

i) Table 1505.1 is amended, by the deletion of Table 1505.1 and the addition of a new Table 1505.1 thereto, to read as follows:___

TABLE 1505.1^a
MINIMUM ROOF COVERING CLASSIFICATIONS
TYPES OF CONSTRUCTION

IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
A	A	A	A	A	A	A	A	A

For SI: 1 foot = 304.8 mm; 1 square foot = 0.0929 m².

- a. Unless otherwise required in accordance with Chapter 7A.
- j) Section 1505.1.3 is amended, by the deletion of the entire section and the addition of a new section thereto, to read as follows:

1505.1.3 Roof coverings within all other areas. The entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any three-year period, the entire roof covering of every new structure, and any roof covering applied in the alteration, repair or replacement of the roof of every existing structure, shall be a fire-retardant roof covering that is at least Class "A".

k) Section 1505.5 is amended, by the deletion of the entire section.

l) Section 1505.7 is amended, by the deletion of the entire section.

m) Section 3109.4.4 is amended to clarify that pool barriers which are already in the Code are scoped so as to apply on all private swimming pools and is to read as follows:

Amend 3109.4.4.1 by adding the following definition:

PRIVATE POOL, is any constructed pool, permanent or portable, and over 18 inches deep which is intended for non-commercial use as swimming pool by not more than three owner families and their guests.

3109.4.4.2 is modified by deleting the first paragraph in its entirety and a new paragraph is substituted to read as follows:

3109.4.4.2 Construction permit; safety features required. Commencing January 1, 1998, except as provided in Section 3109.4.4.5, whenever a construction permit is issued for construction of a new private pool at a residence, it shall have an enclosure complying with 3109.4.4.3 and, it shall be equipped with at least one of the following safety features:

Section 15.04.030 of the Orange Municipal Code is hereby amended to read as follows:

15.04.030 – Work Exempt from Permit

Section 105.2 of the California Building Code Appendix Chapter 1 is amended by adding the following:

14. TV dishes and flagpoles in connection with a group R, Division 3 occupancy and not exceeding 15 feet in height.

Section 15.04.040 of the Orange Municipal Code is hereby amended to read as follows:

15.04.040 – Chapter 9 Fire Protection Systems, Amended.

For the purpose of this chapter, the Fire Code Official shall be responsible for plan review, and inspection of fire protection systems such as fire sprinklers, fixed systems installed in grease hoods and halon systems and detection systems which sense smoke, fire, heat or products of combustion.

Section 15.04.050 of the Orange Municipal Code is hereby amended to read as follows:

15.04.050 – Imposition of Stricter Standards.

Whenever Chapter 15.32, Orange Fire Code Section 15.32.010 et seq., imposes stricter standards than imposed by this code, Chapter 15.32, Orange Fire Code is to govern.

Section 15.04.060 of the Orange Municipal Code is hereby amended to read as follows:

15.04.060 – California Building (CBC) Appendix.

The City Council adopts by reference the following Appendices of the CBC Appendix, 2010 Edition and said Appendices are adopted in total as the law of the City except as provided for this chapter.

Appendix C (Group U- Agricultural Buildings), Appendix F (Rodent proofing), Appendix G (Flood-Resistant Construction), Appendix H (Signs), Appendix I (Patio Covers), Appendix J (Grading)

SECTION IV - Chapter 15.05 - Uniform Residential Code

Title 15 of the Orange Municipal Code is hereby amended to add Chapter 15.05, Uniform Residential Code, Sections 15.05.010, 15.05.015 and 15.05.020, which shall read as follows:

Chapter 15.05—Uniform Residential Code

Chapter 15.05.010 – California Residential Code Adopted by Reference

For the purpose of prescribing regulations for erecting, construction, enlargement, alteration, repair, improving, removal, conversion, demolition, occupancy, equipment use, height, and area of residential buildings and structures, the following construction code subject to the modifications set forth in this Chapter, is hereby adopted: the California Residential Code, 2010 Edition, based on the 2009 International Residential Code as published by the International Code Council, *including Division II in Chapter 1.*

Sec. 5-1.3 Amendments to the 2010 California Residential Code.

- a) **R105.4 Expiration.** Every permit issued shall become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is authorized to grant, in writing, one extension of time, for periods not more than 180 days. The extension shall be requested in writing and justifiable cause demonstrated. In order to renew action on a permit after expiration, the permittee shall pay a new full permit fee.

- b) **R110.1 Use and occupancy.** No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the building official has issued a certificate of occupancy therefore as provide **herein**. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Certificate presuming to give authority to violate or cancel the provision of this code or other ordinances of jurisdiction shall not be valid.

Exceptions:

- i. Certificates of occupancy are not required for work exempt from permits under Section R105.2.
- ii. Accessory buildings or structures.
- iii. Group R-3 and Group U Occupancies as defined in the California Building Code.

Chapter 15.05.015 – Amendments to the 2010 California Residential Code

- c) Table R301.2(1) is revised to read:

**TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

GROUND SNOW LOAD	WIND DESIGN		SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^e	ICE BARRIER UNDERLAY- MENT REQUIRED ^b	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
	Speed ^d (mph)	Topographic effects ^h		Weathering ^a	Frost line Depth ^b	Termite ^c					
Zero	85	No	D ₂ or E	Negligible	12- 24"	Very Heavy	43	No	See Exhibit B	0	60

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

- a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
- b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
- c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

- e. Temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.
 - f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
 - g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.
 - h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
 - i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99%) value on the National Climatic Data Center data table "Air Freezing Index- USA Method (Base 32°)" at www.ncdc.noaa.gov/fpsf.html.
 - j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)" at www.ncdc.noaa.gov/fpsf.html.
 - k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- d) Section R403.1.3 is modified by deleting the exception for masonry stem walls:

In Seismic Design Categories D₀, D₁ and D₂ masonry stem walls without solid grout and vertical reinforcing are not permitted.

- e) Section R405.1 shall be modified to read as follows:

.....at least one sieve size larger than the tile joint opening or perforation and covered with not less than 6 inches of the same material.

- f) Section R902.1 is amended by revising it to allow only class A roofs as follows:

R902.1 Roofing covering materials. Roofs shall be covered with materials as set forth in Sections R904 and R905. Minimum Class A roofing shall be installed in areas designated by this section. Classes A roofing required by this section to be listed shall be tested in accordance with UL 790 or ASTM E 108.

Exceptions:

1. Class A roof assemblies include those with coverings of brick, masonry and exposed concrete roof deck.
2. Class A roof assemblies also include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile, or slate installed on noncombustible decks.

g) Section R902.1.3 is amended by revising it to require a minimum Class A roof as follows:

R902.1.3 Roof coverings within all other areas. The entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any three year period, the entire roof covering of every new structure, and any roof covering applied in the alteration, repair or replacement of the roof of every existing structure, shall be a fire-retardant roof covering that is at least Class A.

h) Section R902.2, first paragraph is amended by revising it to allow only Class A treated wood roofs as follows:

R902.2 Fire-retardant-treated shingles and shakes. Fire-retardant-treated wood shakes and shingles are wood shakes and shingles complying with UBC Standard 15-3 or 15-4 which are impregnated by the full-cell vacuum-pressure process with fire-retardant chemicals, and which have been qualified by UBC Standard 15-2 for use on Class A roofs. Section 15.05.020 of Chapter 15.05, Title 15, of the Orange Municipal Code is hereby added to read as follows:

Sec. 15.05.020 Violations and Penalties.

- A. Any person, firm or corporation violating any of the provisions of this chapter shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of the provisions of this chapter is committed, continued, or permitted, and each such offense shall be punishable by a fine of not more than one thousand dollars (\$1,000.00), or by imprisonment for not more than six months, or both such fine and imprisonment.
- B. In addition, this code may be enforced by injunction or other appropriate civil remedy.

SECTION V – Chapter 15.12 - Uniform Mechanical Code

Section 15.12.010 of the Orange Municipal Code is deleted in its entirety and replaced with the following section:

15.12.010 – California Mechanical Code Adopted by Reference.

For the purpose of prescribing regulations for mechanical equipment design, construction, installation, quality of materials, location, operation and maintenance of heating, ventilating, cooling, refrigeration systems, incinerators and other miscellaneous heat producing appliances within the city the following construction code subject to the modifications set forth in this

Chapter, is hereby adopted: the California Mechanical Code, 2010 Edition, based on the 2009 Uniform Mechanical Code as published by the International Association of Plumbing and Mechanical Officials.

Section 15.12.020 of the Orange Municipal Code is deleted in its entirety.

Section 15.12.025 of the Orange Municipal Code is deleted in its entirety.

SECTION VI – Chapter 15.16 - Uniform Plumbing Code

Section 15.16.010 of the Orange Municipal Code is deleted in its entirety and replaced with the following section:

15.16.010 – California Plumbing Code Adopted by Reference.

For the purpose of prescribing regulations for plumbing equipment construction, alteration, repair, improving, conversion and demolition, the following construction code subject to the modifications set forth in this Chapter, is hereby adopted: the California Plumbing Code, 2010 Edition, based on the 2009 Uniform Plumbing Code as published by the International Association of Plumbing and Mechanical Officials.

Section 15.16.020 of the Orange Municipal Code is deleted in its entirety.

Section 15.16.025 of the Orange Municipal Code is deleted in its entirety.

SECTION VII - Chapter 15.17 – Green Building Code

Title 15 of the Orange Municipal Code is hereby amended to add Chapter 15.17, Green Building Code, Sections 15.17.010, 15.17.015 and 15.17.020, which shall read as follows:

Section 15.17.10 – California Green Building Code Adopted by Reference

For the purpose of prescribing regulations for Green building erecting, construction, alteration, repair, improving, conversion and demolition, the following construction code subject to the modifications set forth in this Chapter, is hereby adopted: the California Green Building Standards Code (CALGREEN) 2010 Edition. Section 4

Section 15.17.015 Amendments to the 2010 California Green Building Standards Code.

(a) Section 202 is amended to read as follows:

Sustainability. Consideration of present development and construction impacts on the community, the economy, and the environment without compromising the needs of the future.

(b) Section 4.304.1 is amended to read as follows:

Irrigation controllers. Automatic irrigation system controllers for landscaping provided and installed at the time of final inspection and shall comply with the following:

1. Controllers shall be weather- or soil moisture-based irrigation controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.

2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

Sec. 15.17.020 Violations and Penalties.

A. Any person, firm or corporation violating any of the provisions of this chapter shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of the provisions of this chapter is committed, continued, or permitted, and each such offense shall be punishable by a fine of not more than one thousand dollars (\$1,000.00), or by imprisonment for not more than six months, or both such fine and imprisonment.

B. In addition, this code may be enforced by injunction or other appropriate civil remedy.

SECTION VIII - Chapter 15.24 – California Electrical Code

Section 15.24.010 of the Orange Municipal Code is deleted in its entirety and replaced with the following section:

15.24.010 – Adopted by Reference.

For the purpose of prescribing regulations for Electrical equipment construction, alteration, repair, improving, conversion and demolition, the following construction code subject to the modifications set forth in this Chapter, is hereby adopted: the California Electrical Code, 2010 Edition, based on the 2008 National Electrical Code as published by the National Fire Protection Association.

SECTION IX – Chapter 15.32 – City of Orange Fire Code.

Section 15.32.310 of the Orange Municipal Code is hereby amended to read as follows:

15.32.310 – Section 318.2 Added – Where Required.

Development occurring within or adjacent to any climate or topographic Very High Fire Hazard Zone in the City of Orange shall require modification of vegetation at the urban interface. The delineation of the urban interface shall be determined by the fire code official.

Section 15.32.580 of the Orange Municipal Code is hereby amended to read as follows:

15.32.580 Section 903.2 Amended – Where Required.

Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in this section.

Exceptions:

In addition to the requirements of Sections 903.2.1 through 903.2.13, approved automatic sprinkler systems shall be provided throughout in new buildings under the following conditions:

1. Any building of any construction type exceeding 5,000 square feet, or buildings of type V construction exceeding 3,000 square feet.

Exceptions:

1. Buildings may reduce floor areas to less than that requiring automatic fire sprinklers using 3-hour minimum rated fire walls constructed in accordance with the California Building Code Chapter 7.
 2. Buildings housing Group R occupancies shall comply with Section 903.2.8.
 3. Open parking garages, fences, retaining walls, towers classified as Group U occupancies, and tanks are not regulated by this code section.
2. Basements exceeding 1,500 square feet in buildings otherwise not required to be provided with automatic sprinklers.

Exception: Basements of any size shall be provided with approved automatic sprinklers when housing occupancies required to be protected regardless of area.

Approved automatic sprinklers shall be installed in any existing building that meets the conditions for required sprinkler protection for new buildings and meets one or more of the following conditions:

1. An increase in area is made to a building.
2. A change is made to the occupancy classification and use of the building that changes the level of hazard or increases the occupant load.

3. A significant modification is made to the building or a modification impacts the structural system of the building as determined by the fire code official.

Section 15.32.590 of the Orange Municipal Code is deleted in its entirety.

Section 15.32.660 of the Orange Municipal Code is hereby amended to read as follows:

15.32.660 – Section 1908.3 Amended – Size of Piles.

Piles shall not exceed 15 feet (4,572 mm) in height, 50 feet (15,240 mm) in width and 100 feet (30,480 mm) in length.

Exception: The fire code official is authorized to allow the pile size to be increased when additional fire protection is provided in accordance with Chapter 9. The increase shall be based upon the capabilities of the system installed.

Section 15.32.700 of the Orange Municipal Code is deleted in its entirety.

Section 15.32.710 of the Orange Municipal Code is deleted in its entirety.

Section 15.32.720 of the Orange Municipal Code is hereby amended to read as follows:

15.32.720 – Section 2703 Amended – General Requirements.

The storage, use and handling of all hazardous materials shall be in accordance with this section, H&SC Ch. 6.7.

Section 15.32.730 of the Orange Municipal Code is hereby amended to read as follows:

15.32.730 – Section 2704.12 Amended – Flooring.

Except for surfacing, floors of storage areas shall be of noncombustible liquid tight construction.

Section 15.32.740 of the Orange Municipal Code is deleted in its entirety.

SECTION X – Chapter 15.36 – Fire Districts.

Section 15.36.010 of the Orange Municipal Code is deleted in its entirety.

Section 15.36.020 of the Orange Municipal Code is deleted in its entirety.

Section 15.36.030 of the Orange Municipal Code is hereby amended to read as follows:

15.36.030 - Roof Covering Requirements within the City of Orange.

- A. Fire Retardency. Notwithstanding any other requirement of the City of Orange Municipal Code, and except as otherwise provided in this Section, roof coverings shall be fire retardant U.L. listed Class A.
 - 1. General Prohibition: All coverings installed on any new or existing building or structure, shall be fire retardant U.L. listed Class A.
 - 2. Re-roofing over Wood Shakes or Wood Shingles shall be prohibited: No roof covering shall be applied over existing wood shakes or wood shingles. When a roof has two or more built-up layers of roof covering, any layer of which is wood shake or wood shingle, all built-up roof covering shall be completely removed before applying a new roof covering.

- B. Other roof covering requirements:
 - 1. The roof covering on any structure regulated by this code shall be as specified in Table, 1505.1 and as classified in Section 1505 of the California Building Code, as adopted and amended by the City.
 - 2. The roof-covering assembly shall also be U.L. listed Class "A" rated and includes the roofdeck, underlayment, interlayment, insulation and covering which is assigned a roofcovering classification.

SECTION XI - Chapter 15.55 – International Property Maintenance Code

Title 15 of the Orange Municipal Code is hereby amended to delete Chapter 15.55 in its entirety and add Chapter 15.55, International Property Maintenance Code, Section 15.55.010, which shall read as follows:

15.55.010 – International Property Maintenance code Adopted by Reference

For the purpose of prescribing regulations for building maintenance and seismic strengthening, the following construction code subject to the modifications set forth in this Chapter, is hereby adopted: the International Property Maintenance Code, 2006 Edition, as published by the International Code Council.

One (1) copy of all the above codes and standards therefore are on file in the office of the Chief Building Official pursuant to Health and Safety Code Section 18942 (d) (1) and are made available for public inspection.

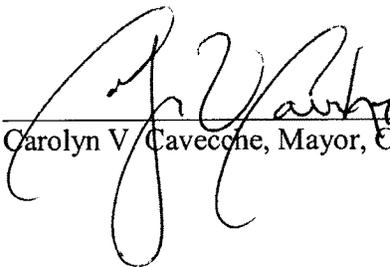
SECTION XII:

Should any section, subsection, subparagraph, clause, or provision of this Ordinance for any reason be held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity or constitutionality of the remaining portions of this Ordinance; it being hereby expressly declared that this Ordinance, and each section, subsection, subparagraph, sentence, clause and phrase hereof would have been prepared, proposed, approved and ratified irrespective of the fact that any one or more sections, subsections, subparagraphs, sentences, clauses or phrases be declared invalid or unconstitutional.

SECTION XIII:

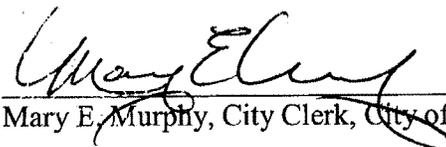
A summary of this Ordinance shall be published and a certified copy of the full text of this Ordinance shall be posted in the Office of the City Clerk at least five (5) days prior to the City Council meeting at which this Ordinance is to be adopted. A summary of this Ordinance shall also be published once within fifteen (15) days after this Ordinance's passage in a newspaper of general circulation, published, and circulated in the City of Orange. The City Clerk shall post in the Office of the City Clerk a certified copy of the full text of such adopted Ordinance along with the names of those City Council members voting for and against the Ordinance in accordance with Government Code Section 36933. This Ordinance shall take effect thirty (30) days from and after the date of its final passage.

ADOPTED this 23rd day of November, 2010.



Carolyn V. Cavecone, Mayor, City of Orange

ATTEST:

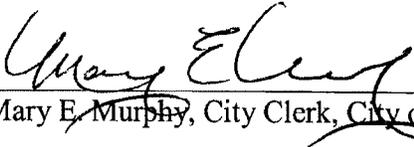


Mary E. Murphy, City Clerk, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF ORANGE)

I, MARY E. MURPHY, City Clerk of the City of Orange, California, do hereby certify that the foregoing Ordinance was introduced at the regular meeting of the City Council held on the 9th day of November, 2010, and thereafter at the regular meeting of said City Council duly held on the 23rd day of November, 2010, was duly passed and adopted by the following vote, to wit:

AYES: COUNCILMEMBERS: SMITH, MURPHY, CAVECCHIE, BILODEAU
NOES: COUNCILMEMBERS: NONE
ABSENT: COUNCILMEMBERS: DUMITRU
ABSTAIN: COUNCILMEMBERS: NONE



Mary E. Murphy, City Clerk, City of Orange

RESOLUTION NO. 10520

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE SETTING FORTH FINDINGS WITH RESPECT TO LOCAL CONDITIONS WITHIN THE CITY OF ORANGE WHICH MAKE CERTAIN MODIFICATIONS AND CHANGES TO THE CALIFORNIA FIRE CODE.

WHEREAS, Health & Safety Code Section 17958 mandates that the City of Orange shall adopt ordinances or regulations imposing the same requirements as are contained in the uniform code regulations adopted by the State of California pursuant to Health & Safety Code Section 17922; and

WHEREAS, the State is mandated by Health & Safety Code Section 17922 to impose the same requirements contained in the uniform codes, including the 2010 California Fire Code, hereinafter referred to collectively as the Fire Code; and

WHEREAS, Health & Safety Code Section 17958.7 permits the City to make such changes or modifications to the uniform code regulations as are reasonably necessary because of local conditions; and

WHEREAS, Health & Safety Code Section 17958.7 requires that the City Council, before making any changes or modifications pursuant to Section 17958.5, make express findings that such changes or modifications are needed due to climatic, geographic, or topographic conditions; and

WHEREAS, the Fire Chief has recommended that amendments to the 2010 California Fire Code are reasonably necessary due to the following local climatic, geographical and topographical conditions:

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Orange as follows:

SECTION 1. Changes and modifications to the 2010 Edition of the California Fire Code are recommended by the Fire Chief and are hereby found to be reasonably necessary due to the following local conditions:

FINDINGS.

I. Climatic Conditions

- A. The jurisdiction of Orange is located in a semi-arid Mediterranean type climate. It annually experiences extended periods of high temperatures with little or no precipitation. Hot, dry (Santa Ana) winds, which may reach speeds of 70 M.P.H. or greater, are also common to the area. These climatic conditions cause extreme drying of vegetation and common building materials. Frequent periods of drought and low humidity add to the fire danger. This predisposes the area to large destructive fires (conflagration). In addition to directly damaging or destroying buildings, these fires are also prone to disrupt utility services throughout the City. Obstacles generated by a strong wind, such as fallen trees, street lights and utility poles, and the requirement to climb 75 feet vertically up flights of stairs will greatly impact the response time to reach an incident scene. Additionally, there is a significant increase in the amount of wind force at 60 feet above the ground. Use of aerial type fire fighting apparatus above this height would place rescue personnel at increased risk of injury.
- B. The climate alternates between extended periods of drought and brief flooding conditions. Flood conditions may affect the Orange City Fire Department's ability to respond to a fire or emergency condition. Floods also disrupt utility services to buildings and facilities within the City.
- C. Water demand in this densely populated area far exceeds the quantity supplied by natural precipitation; and although the population continues to grow, the already-taxed water supply does not. California is projected to increase in population by nearly 10 million over the next quarter of a century with 50 percent of that growth centered in Southern California. Due to storage capacities and consumption, and a limited amount of rainfall future water allocation is not fully dependable. This necessitates the need for additional and on-site fire protection features. It would also leave tall buildings vulnerable to uncontrolled fires due to a lack of available water and an inability to pump sufficient quantities of available water to floors in a fire.
- D. These dry climatic conditions and winds contribute to the rapid spread of even small fires originating in high-density housing or vegetation. These fires spread very quickly and create a need for increased levels of fire protection. The added protection of fire sprinkler systems and other fire protection features will supplement normal fire department response by providing immediate protection for the building occupants and by containing and controlling the fire spread to the area of origin. Fire sprinkler systems will also reduce the use of water for firefighting by as much as 50 to 75 percent.

II. Topographical conditions

- A. Natural; slopes of 15 percent or greater generally occur throughout the foothills of the city of Orange. The elevation change caused by the hills creates the geological foundation on which the community of Orange is built and will continue to build. With much of the populated flatlands already built upon, future growth will occur on steeper slopes and greater constraints in terrain.
- B. Traffic and circulation congestion is an artificially created, obstructive topographical condition, which is common throughout Orange.
- C. These topographical conditions combine to create a situation, which places fire department response time to fire occurrences at risk, and makes it necessary to provide automatic on-site fire-extinguishing systems and other protection measures to protect occupants and property.

III. Geological Conditions

The city of Orange, in the Orange County region, is a densely populated area that has buildings constructed over and near a vast and complex network of faults that are believed to be capable of producing future earthquakes similar or greater in size than the 1994 Northridge and the 1971 Sylmar earthquakes. Earthquake faults run along the northern, eastern and central areas of the City. The Newport-Inglewood Fault, located within Orange County was the source of the destructive 1933 Long Beach earthquake (6.3 magnitude) which took 120 lives and damaged buildings in an area from Laguna Beach to Marina Del Rey to Whittier. In December 1989, another earthquake occurred in the jurisdiction of Orange at an unknown fault line. Regional planning for reoccurrence of earthquakes is recommended by the state of California, Department of Conservation.

- A. Previous earthquakes have been accompanied by disruption of traffic flow and fires. A severe seismic event has the potential to negatively impact any rescue or fire suppression activities because it is likely to create obstacles similar to those indicated under the high wind section above. With the probability of strong aftershocks there exists a need to provide increased protection for anyone on upper floors of buildings. The October 17, 1989, Santa Cruz earthquake resulted in one major fire in the Marina District (San Francisco). When combined with the 34 other fires locally and over 500 responses, the department was taxed to its fullest capabilities. The Marina Fire was difficult to contain because mains supplying water to the district burst during the earthquake. This situation creates the need for both additional fire protection and automatic on-site fire protection for building occupants. State Department of Conservation noted in their 1988 report (Planning Scenario on a Major Earthquake on

the Newport-Inglewood Fault Zone, page 59), “unfortunately, barely meeting the minimum earthquake standards of building codes places a building on the verge of being legally unsafe.”

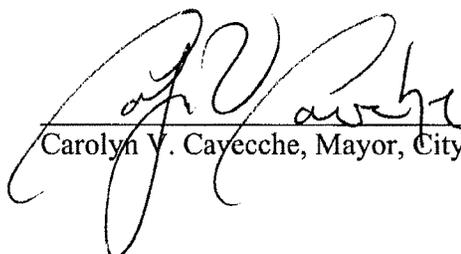
- B. Road circulation features located throughout Orange also make amendments reasonably necessary. Located within the City are major roadways, highways and flood control channels that create barriers and slow response times. Hills, slopes, street and storm drain design accompanied with occasional heavy rainfall, cause roadway flooding and landslides and at times may make an emergency access route impassable. There are areas in Orange that naturally have extended emergency response times that exceed the 5 minute goal.
- C. Soils throughout the City possess corrosive properties that reduce the expected usable life of water services when metallic pipes in contact with soils are utilized.
- D. Portions so of the City contain active or former flammable gas and/or liquid production fields. These areas contain a variety of naturally occurring gasses, liquids and vapors. These compounds present toxicity or flammability hazards to building occupants. Evaluation of these hazards and the risks they pose to development is necessary implement appropriate mitigation.

IV. Summary.

Due to the topographical conditions of sprawling development separated by waterways and narrow and congested streets and the expected infrastructure damage inherent in seismic zone described above, it is prudent to rely on automatic fire sprinkler systems to mitigate extended fire department response time and keep fires manageable with reduced fire flow (water) requirements for a given structures. Additional fire protection is also justified to match the current resources of firefighting equipment and personnel within the Orange City Fire Department.

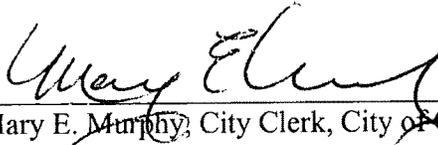
SECTION 2. The City Council of the City of Orange hereby adopts the 2010 California Fire Code in its entirety, subject to following local amendments attached hereto in “Exhibit A”, as though fully set forth herein.

ADOPTED this 9th day of November, 2010



Carolyn V. Cayecche, Mayor, City of Orange

ATTEST:



Mary E. Murphy, City Clerk, City of Orange

I, MARY E. MURPHY, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the 9th day of November, 2010, by the following vote:

AYES: COUNCILMEMBERS: Smith, Murphy, Cavecche, Bilodeau
NOES: COUNCILMEMBERS: None
ABSENT: COUNCILMEMBERS: Dumitru
ABSTAIN: COUNCILMEMBERS: None



Mary E. Murphy, City Clerk, City of Orange

2010

California Fire
Code

Amendment
Package

Chapter 1 Scope and Administration

Chapter 1 Scope and Administration is adopted in its entirety with the following amendments:

Section 105.6.29 Miscellaneous combustible storage is hereby revised as follows:

105.6.29. Miscellaneous combustible storage. An operational permit is required to store in any building or upon any premises in excess of 2500 cubic feet (71 m³) gross volume of combustible empty packing cases, boxes, barrels or similar containers, rubber tires, rubber, cork, green waste, composting, yard waste, or similar combustible material.

Section 109.3 Violation penalties is hereby revised as follows: Infraction, Misdemeanor, as follows:

109.3 Violation penalties. Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of either a misdemeanor, infraction or both as prescribed in Section 109.3.2 and 109.3.3 Penalties shall be as prescribed in local ordinance Each day that a violation continues after due notice has been served shall be deemed a separate offense.

Sections 109.3.2 Infraction is hereby added as follows:

109.3.2 Infraction. Except as provided in Section 109.3.2, persons operating or maintaining any occupancy, premises or vehicle subject to this code that shall permit any fire or life safety hazard to exist on premises under their control shall be guilty of an infraction.

Sections 109.3.3 Misdemeanor is hereby added as follows:

109.3.3 Misdemeanor. Persons who fail to take immediate action to abate a fire or life safety hazard when ordered or notified to do so by the chief or a duly authorized representative, or who violate the following sections of this code, shall be guilty of a misdemeanor:

104.11.2 Obstructing operations

104.11.3 Systems and Devices

107.6 Overcrowding

109.2.2 Compliance with Orders and Notices

111.4 Failure to comply

305.4 Deliberate or negligent burning
308.1.2 Throwing or placing sources of ignition
310.7 Burning Objects
2404.7 Open or exposed flames

Chapter 2 Definitions

Chapter 2 Definitions is adopted in its entirety with the following amendments:

Sections 202 General Definitions is hereby revised by adding "Flow-line" and "Hazardous Fire Area" as follows:

202 General Definitions

FLOW-LINE. is the lowest continuous elevation on a rolled curb defined by the path traced by a particle in a moving body of water at the bottom of the rolled curb.

HAZARDOUS FIRE AREA. Includes all areas identified within Section 4906.2 and other areas as determined by the Fire Code Official due to the presence of combustible vegetation, or the proximity of the property to an area that contains combustible vegetation.

Chapter 3 General Precautions Against Fire

Chapter 3 General Precautions Against Fire is adopted in its entirety with the following amendments:

Section 305.5 Chimney spark arrestors is hereby added as follows:

305.5 Chimney spark arrestors. All chimneys attached to any appliance or fireplace that burns solid fuel shall be equipped with an approved spark arrestor, the spark arrester shall meet all of the following requirements:

1. The net free area of the spark arrester shall not be less than four times the net area of the outlet of the chimney.
2. The spark arrester screen shall have heat or corrosion resistance equivalent to 12 gage steel wire, 19 gage galvanized wire or 24 gage stainless steel.
3. Openings shall not permit the passage of spheres having a diameter larger than ½ inch and shall not block the passage of spheres having a diameter of less than 3/8 inch.
4. The spark arrester shall be accessible for cleaning and the screen or chimney cap shall be removable to allow for cleaning of the chimney flue.

Section 318 Development On Or Near Land Containing Or Emitting Toxic, Combustible or Flammable Liquids, Gases or Vapors, is hereby added as follows:

318 Development On Or Near Land Containing Or Emitting Toxic, Combustible or Flammable Liquids, Gases or Vapors. The fire code official may require the submittal for approval of geological studies, evaluations, reports, remedial recommendations and/or similar documentation from a state-licensed and department-approved individual or firm, on any parcel of land to be developed which has, or is adjacent to, or within 1,000 feet (304.8 m) of a parcel of land that has an active, inactive, or abandoned oil or gas well operation, petroleum or chemical refining facility, petroleum or chemical storage, or may contain or give off toxic, combustible or flammable liquids, gases or vapors.

Section 319 Fuel Modification Requirements for New Construction is hereby added as follows:

319 Fuel Modification Requirements for New Construction. All new buildings to be built or installed in areas containing combustible vegetation shall comply with the following:

1. Preliminary fuel modification plans shall be submitted to and approved by the fire code official concurrent with the submittal for approval of any tentative map.
2. Final fuel modification plans shall be submitted to and approved by the fire code official prior to the issuance of a grading permit.
3. The fuel modification plans shall meet the criteria set forth in the City of Orange Fuel Modification Guideline.
4. The fuel modification plan may be altered if conditions change. Any alterations to the fuel modification areas shall have prior approval by the fire code official.
5. All elements of the fuel modification plan shall be maintained in accordance with the approved plan and are subject to the enforcement process outlined in the Fire Code.

Section 320 Clearance of brush or vegetation growth from roadways is hereby added as follows:

320 Clearance of brush or vegetation growth from roadways. The fire code official is authorized to cause areas within 10 feet (3048 mm) on each side of portions of highways and private streets which are improved, designed or ordinarily used for vehicular traffic, to be cleared of flammable vegetation and other combustible growth. Measurement shall be from the flow-line or the end of the improved edge of the roadway surfaces .

Exception: Single specimens of trees, ornamental shrubbery or cultivated ground cover such as green grass, ivy, succulents or similar plants used as ground covers, provided that they do not form a means of readily transmitting fire.

Section 321 Unusual Circumstances is hereby added as follows:

321 Unusual circumstances. The fire code official may suspend enforcement of the vegetation management requirements and require reasonable alternative measures designed to advance the purpose of this code if determined that in any specific case that any of the following conditions exist:

- 1 Difficult terrain.
- 2 Danger of erosion.
- 3 Presence of plants included in any state and federal resources agencies, California Native Plant Society and county-approved list of wildlife, plants, rare, endangered and/or threatened species.
- 4 Stands or groves of trees or heritage trees.
- 5 Other unusual circumstances that make strict compliance with the clearance of vegetation provisions undesirable or impractical.

Section 322 Use of Equipment is hereby added as follows:

322 Use of equipment. Except as otherwise provided in this section, no person shall use, operate, or cause to be operated, in, upon or adjoining any hazardous fire area any internal combustion engine which uses hydrocarbon fuels, unless the engine is equipped with a spark arrester as defined in Section 322.1 maintained in effective working order, or the engine is constructed, equipped and maintained for the prevention of fire.

Exception:

1. Engines used to provide motor power for trucks, truck tractors, buses, and passenger vehicles, except motorcycles, are not subject to this section if the exhaust system is equipped with a muffler as defined in the Vehicle Code of the State of California.
2. Turbocharged engines are not subject to this section if all exhausted gases pass through the rotating turbine wheel, there is no exhaust bypass to the atmosphere, and the turbocharger is in good mechanical condition

Section 322.1 Spark Arrestors is hereby added as follows:

322.1 Spark arrestors. Spark arrestors shall comply with the following:

1. A spark arrester is a device constructed of nonflammable material specifically for the purpose of removing and retaining carbon and other flammable particles over 0.0232 of an inch (0.58 mm) in size from the exhaust flow of an internal combustion engine that uses hydrocarbon fuels or which is qualified and rated by the United States Forest Service.

2. Spark arresters affixed to the exhaust system of engines or vehicles subject to Section 322 shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material.

Section 325 Outdoor fires is hereby added as follows:

325 Outdoor fires. Outdoor fires shall not be built, ignited or maintained in or upon hazardous fire areas, except by permit from the fire code official.

Exception: Outdoor fires within habited premises or designated campsites where such fires are built in a permanent barbecue, portable barbecue, outdoor fireplace, incinerator or grill and are a minimum of 30 feet (9144 mm) from a grass, grain, brush, or forest-covered area. Permanent barbecues, portable barbecues, outdoor fireplaces or grills shall not be used for the disposal of rubbish, trash or combustible waste material.

Section 325.1 Outdoor fire permits is hereby added as follows:

325.1 Outdoor fire permits. Outdoor fire permits shall incorporate such terms and conditions which will reasonably safeguard public safety and property. Outdoor fires shall not be built, ignited or maintained in or upon hazardous fire areas under the following conditions:

1. When predicted sustained winds exceed 20 MPH at the ground level, or a red flag condition has been declared,
2. When a person age 17 or over is not present at all times to watch and tend such fire, or
3. When a public announcement is made that open burning is prohibited.

Chapter 4 Emergency Planning and Preparedness

Chapter 4: Emergency Planning and Preparedness Adopt only the Sections listed below:

1. **Section 401**
2. **Section 402**
3. **Section 403**
4. **Section 407**

Chapter 5 Fire Service Features

Chapter 5 Fire Service Features is adopted in its entirety with the following amendments

SECTION 503.1.1 Buildings and facilities is revised by adding exception 4 as follows:

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.

Exception: The fire code official is authorized to increase the dimension of 150 feet (45 720 mm) where:

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.
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.
3. There are not more than two Group R-3 or Group U occupancies.
4. 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 or 903.3.1.2, or 903.3.1.3 the fire apparatus access road shall comply with the requirements of this section and shall extend to within 300 feet (91 m) of the main entry door to the building.

SECTION 503.2.1 Dimensions is revised as follows:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for approved gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm). Street widths are to be measured from top face of curb to top face of curb, on streets with curb and gutter, and from flow-line to flow-line on streets with rolled curbs.

SECTION 503.2.1.1 Hazardous Areas is added as follows:

503.2.1.1 Hazardous Areas. In areas defined as State Responsibility Area: Very High Fire Hazard Severity Zones, and Local Responsibility Area: Very High Fire Hazard Severity Zones Area as adopted by the local agencies, the minimum fire apparatus road width shall be 28 feet (8.53 m).

Exception: When the road serves no more than 3 dwelling units and the road does not exceed 150 feet (45.7 m) in length, the road width may be 24 feet 7.3 m).

SECTION 503.6 Security gates is revised as follows:

503.6 Security gates. The installation of security gates across a fire apparatus access road shall be approved by the fire chief. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200. Vehicle access gates or barriers shall be in accordance with the City of Orange Fire Master Plan Guidelines. All electrically operated vehicle access gates shall be equipped with an automatic opening device in addition to a key opening switch.

Section 505.1 Address Identification is revised as follows:

505.1 Address identification. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 4 inches (101.6 mm) high with a minimum stroke width of 0.5 inch (12.7 mm) for R-3 occupancies, for all other occupancies the numbers shall be a minimum of 6 inches high with a minimum stroke width of 1 inch. Where access is by a private road and the building cannot be viewed from the *public way*, a monument, pole or other sign or means shall be used to identify the structure.

SECTION 507.5.1 Where required is revised as follows:

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 allowed in APPENDIX C – Fire hydrant locations and distribution 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.

Exception:

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 or 903.3.1.2, or 903.3.1.3, the distance requirement shall be not more than 600 feet (183 m).

Section 510.1 Emergency responder radio coverage in buildings is revised as follows:

510.1 Emergency responder radio coverage in buildings. Buildings shall have radio coverage complying with Section 510.1.1 for essential public safety emergency communication.

Section 510.1.1 Emergency responder radio coverage intent and purpose is added as follows:

510.1.1 Emergency responder radio coverage intent and purpose. The intent of this section is to provide a regulatory framework for the purpose of providing effective 800 MHz Countywide Coordinated Communication System coverage throughout the City of Orange for fire, police, and emergency services.

Section 510.1.2 Definitions.

510.1.2 Definitions. The following words, terms, and phrases when used in this chapter will have the meanings ascribed to them in this section, except where the context clearly indicates a differing meaning.

City of Orange Public Safety Radio System Coverage Specifications: Those specifications designed to provide optimum coverage and radio effectiveness within buildings and structures under the Countywide Coordinated Communication System.

Countywide Coordinated Communication System: That radio system used by local fire, law enforcement, lifeguard, and public works departments within the County of Orange for emergency and non-emergency radio communication on the 800 MHz radio band.

FCC- Certified Technician: An individual who is qualified with a General Radiotelephone Operator License (GROL/PG), or equivalent, to review design plans and perform tests in affected structures to measure City of Orange Public Safety Radio System Coverage Specifications.

Public Safety: The City of Orange Fire Department (OFD) and The City of Orange Police Department (OPD) who provide safety and security to the community of Orange.

Local Fire Department: The fire agency that provides fire protection and rescue/paramedic services for the City of Orange. (OFD)

Local Police Department: The police agency that provided police services to the City of Orange. (OPD)

Special Inspector: An FCC- certified technician who is approved by the City of Orange.

Section 510.1.3 Use and Occupancy.

Except as otherwise provided, no person shall own, erect, construct, or occupy, any building or structure, or any part thereof, or cause the same to be done, which fails to support adequate radio coverage for City emergency service workers operating on the 800 MHz Countywide Coordinated Communication System. Further, owners must maintain a reasonable standard of reliable communication within their buildings and structures once a Certificate of Occupancy is issued. For the purposes of this section, adequate radio coverage shall include those specifications in the City of Orange Public Safety *Radio* System Coverage Specifications, attached and incorporated herein as Exhibit A. (see end of this Chapter)

Section 510.1.4 Testing Procedures

Test of radio coverage will be conducted pursuant to those specifications in the City of Orange Public Safety *Radio* System Coverage Specifications, attached and incorporated herein as Exhibit A.

A. *Initial tests.* Initial tests will be performed by FCC- certified technicians or other designated persons in accordance with test standard as listed in the City of Orange Public Safety *Radio* Coverage specifications, attached and incorporated as Exhibit A. A Certificate of Occupancy shall not be issued if said structure, or any part thereof, fails to comply with the test standards.

B. *Annual tests.* Annual tests will be conducted by the OFD,OPD inspector or appointed agent in accordance with the test standards as listed in the City of Orange Safety *Radio* System coverage Specifications, Exhibit A.

Section 510.1.5 Amplification systems allowed.

Buildings and structures that cannot support the required level of radio coverage shall be equipped with amplification systems as specified in the City of Orange Public Safety *Radio* System Coverage Specifications, attached and incorporated herein as Exhibit A, or any other system approved by the City of Orange, in writing.

Exceptions.

This chapter shall not apply to the following:

- (1) Existing buildings or structures;
- (2) Elevators; and
- (3) Any building or structure where coverage consistent with the minimum level of service set forth in the Specifications already exist without need for further improvements.

(4) Any remodel, renovation, alteration or improvement of any commercial building or structure of less than thirty percent (30%) of the original building or structure accumulated during five contiguous years.

These exceptions do not apply to any building where, as determined by the Orange Fire and/or Police Department, compliance with the Specifications is required to protect the health and safety of the public.

510.1.6 Costs.

The FCC-certified technician is the special inspector who shall be employed by the owner, the engineer or architect of record, or agent of the owner, but not the contractor or any other person responsible for the building or structure construction.

510.1.7 Noncompliance.

After discovery of noncompliance, the building owner is provided 14 days to remedy the deficiency and gain compliance or be guilty of an infraction.

510.1.8 Penalty.

It shall be unlawful for any person, firm or corporation to violate and provision or fail to comply with any of the requirements of this ordinance. Any person, firm or corporation violating any provision of this ordinance or failing to comply with any of its requirements shall be deemed guilty of an infraction, punishable as provided for by city ordinance.

EXHIBIT A. CITY OF ORANGE PUBLIC SAFETY RADIO SYSTEM COVERAGE SPECIFICATIONS

1. *Performance.* Specifications are provided to assist property owners in satisfying a delivered audio quality (DAQ) of three with a 90 percent reliability factor for emergency personnel using radio communication in their buildings and structures. Property owners who can demonstrate full compliance with the reliability factor without adhering to all of the following specifications may be excused from all or part of these provisions. Property owners who adhere to all of the specifications and fail to reach the reliability factor must employ all resources necessary to ensure full compliance. Performance and compliance will be inspected annually as part of the Orange Fire Department's Fire Inspection.

2. *Signal strength, signal rejection, modulation compatibility, and delivered audio quality.* The following defines the minimum required level of radio signal strength:

- A minimum signal strength of (-95dBm) in 90 percent of the area of each floor of the building from both the 800 MHz Countywide Communications Systems and from within the building is required.

- The frequency range supported *from* the 800 MHz Countywide Communications System shall be 851 - 869 MHz (base transmitter frequencies).
- The frequency range supported *to* the 800 MHz Countywide Communications System shall be 806 - 824 MHz (*Radio* field transmit frequencies).
- The system shall be rebandable to allow for any future changes in frequency ranges.
- A public safety radio amplification system shall include filters to reject frequencies below 851 MHz and frequencies above 869 MHz by a minimum of 35 dB.
- All system components must be 100 percent compatible with analog and digital modulations after installation without additional adjustments or modifications. The systems must be capable of encompassing the frequencies stated herein and capable of future modifications to a frequency range subsequently established by the City of Orange. If the system is not capable of modification to future frequencies, then a new system will need to be installed to accommodate the new frequency band.
- Active devices shall have a minimum of -50 dB 3rd order intermodulation protection.
- All active in-building coverage devices shall be FCC Part 90 Type Certified.
- UL listing is required for any AC operated power supplies.
- Active devices shall include a minimum of 12 hours of battery backup power.
- Any in-building coverage system shall be installed by a City approved, manufacturer-trained and certified installer.

The delivered audio quality is defined below:

TABLE INSET:

DAQ Delivered Audio Quality	Subjective Performance Description
1	Unusable, speech present but unreadable.
2	Understandable with considerable effort. Frequent repetition due to noise/distortion.
3	Speech understandable with slight effort. Occasional repetition required due to noise/distortion.
3.5	Speech understandable with repetition only rarely required. Some noise/distortion.
4	Speech easily understood. Occasional noise/distortion.
4.5	Speech easily understood. Infrequent noise/distortion.
5	Speech easily understood.

3. *Remedies to achieve compliance (acceptable amplification systems).* If needed to ensure compliance with the 90 percent reliability factor, the property owner must install each of the following:

- An in-building coverage system composed of a radiating cable system or an internal multiple antenna system with FCC-certified bi-directional 800 MHz amplifier(s), distribution system, and subcomponents.
- Any active devices (e.g. signal booster(s)) must be encased in a NEMA 4 (or equivalent) dust/waterproof case and clearly labeled "City of Orange Public Safety Radio."
- Multi-band pass filters as required.

In the event of a power outage, all electrical components must be equipped with independent auxiliary battery power or generators to function at full capacity for at least 12 hours. Once a system is installed, a Spectrum Analyzer will be used to evaluate the system for harmful interference to the 800 MHz Countywide Coordinated Communications System backbone initially, and annually thereafter by an OCSD/Communications Division FCC-certified technician. Any interference must be identified and removed before the system can be accepted.

4. *Applicable Federal Communications Commission rule compliance.* All active devices used to provide extended coverage must be FCC-certificated.

A. *Test standards.* Design review and certification.

1. Prior to issuance of a building permit, the applicant shall:

i. Retain an FCC-certified technician who will review construction plans in order to ensure that such plans meet aforementioned radio communication criteria, and recommend, if needed, an in-building solution for reliable radio communication;

ii. Submit copies of plans certified with the signature of the technician to the Chief Building Official of the City of Orange, OFD and OPD;

2. Prior to issuance of a Certificate of Occupancy, the applicant shall:

i. Retain an FCC-certified technician who will test all areas of the building or structure, verify installation and operation of in-building solutions, if needed, and certify all of the findings stated herein on the date of inspection with his/her signature. A passing test is one that demonstrates DAQ 3 with a 90 percent reliability factor on each floor. Owners of buildings or structures that fail to meet this standard will not be in compliance with this ordinance.

ii. The building owner must retain all records of initial and annual inspections and submit copies to the Chief Building Official of the City of Orange, OFD, and OPD.

B. *Initial test procedure.* For purposes of testing, each floor of the building shall be divided into a grid of approximately 20 equal areas. A maximum of two nonadjacent areas will be permitted to fail the test. In the event that three of the areas fail the test, and to provide greater statistical accuracy, the floor may be divided into 40 equal areas. In such an event, a maximum of four nonadjacent areas will be permitted to fail the test. As specified by the authority having jurisdiction, the test shall be conducted by using a Motorola XTS 3000/XTS 5000 or equivalent portable radio talking through the 800 MHz Countywide Coordinated Communications System. A spot located approximately in the center of a grid area will be selected for the test. The radio will then be keyed to verify two-way communication to and from the outside of the building through the 800 MHz Countywide Communications System. Once the spot has been selected, prospecting for a better spot within the grid area will not be permitted.

All auxiliary power systems shall be tested under load for a period of one hour to verify that the system will operate properly in the event of a power outage. The testing technician reserves the discretion to determine whether or not the battery exhibits symptoms of failure. The FCC-certified technician will ultimately decide if the auxiliary system needs to be replaced or upgraded.

C. *Annual test procedure.* After a Certificate of Occupancy is issued, the OFD/OPD Inspector or appointed agent will annually test the in-building system components to determine general functional operability. If noncompliance is found, an approved FCC-technician will reassess the improvement upon scheduling by the building owner.

D. Every two years battery back-up systems shall be replaced per manufacturer's specifications.

5. *Additional equipment feature requirements.* Active devices shall be alarmed. A phone line (plain old telephone service or POTS) will provide dial tone to an alarm device. The alarm device will be programmed to activate a pager on the County of Orange's 900 MHz paging system. Access to the active components of the in-building coverage system (if any) is required 24 hours a day by County technicians/engineers. The minimum alarms will indicate loss of AC failure and operational failure. The device shall also have modem access to allow remote monitoring.

6. *New building construction.* All new building construction shall have a two-inch conduit installed between the first and bottom subterranean floor and said conduit shall extend along the center of the building to the roof. At each floor and the roof, an opening shall be made to afford easy access to the conduit from the ceiling. Access in either the form of drop ceiling or conduit shall be made available along hallways and through firewalls. All subterranean parking garages shall have a similar conduit installation.

Chapter 6 Building Services and Systems

Chapter 6 Building Service and Systems is adopted in its entirety with the following amendments

Section 604.2.15.1.1 CFC Standby power loads, is here amended as follows:

[B] 604.2.15.1.1 Standby power loads. The following loads are classified as standby power loads:

1. Smoke control system.
2. Fire pumps.
3. Standby power shall be provided for elevators in accordance with Section 3003 of the California Building Code.

Section 604.2.15.2.1 CFC (Section 403.1.1 CBC) Emergency power loads, is hereby amended by adding item 6 as follows:

[B] 604.2.15.2.1 Emergency power loads. The following loads are classified as emergency power loads:

1. Emergency voice/alarm communication systems.
2. Fire alarm systems.
3. Automatic fire detection systems.
4. Elevator car lighting.
5. Means of egress lighting and exit sign illumination as required by Chapter 10.
6. Ventilation and automatic fire detection equipment for smokeproof enclosures.

Section 606.8 Refrigerant Detector is hereby amended as follows:

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 California Mechanical Code for the refrigerant classification. Detectors and alarms shall be placed in approved locations. *Emergency shutoff shall also be automatically activated when the concentration of refrigerant vapor exceeds 25 percent of LFL.* The detector shall transmit a signal to an approved location.

Section 606.10.1.2 Manual Operation is hereby amended as follows:

606.10.2 Manual operation. When required by the fire code official, automatic crossover valves shall be capable of manual operation. The manual valves shall be located in an approved location immediately outside of the machinery room, in a secure metal box or equivalent and marked as Emergency Controls.

Section 608.1 Scope is hereby amended as follows:

608.1 Scope. Stationary storage battery systems having an electrolyte capacity of more than 50 gallons (189 L) for flooded lead acid, nickel cadmium (Ni-Cd) and valve-regulated lead acid (VRLA), or 1,000 pounds (454 kg) for lithium-ion and lithium metal polymer, used for facility standby power, emergency power or, uninterrupted power supplies, shall comply with this section and Table 608.1. Indoor charging of electric carts/cars with more than 50 gallons (189 L) shall comply with Section 608.10,

Section 608.10 Indoor charging of electric carts/cars is hereby added as follows:

608.10 Indoor charging of electric carts/cars. Indoor charging of electric carts/cars where the combined volume of all electric/cars battery electrolyte exceeds 50 gallons shall comply with following:

1. Spill control and neutralization shall be provided and comply with Section 608.5.
2. Room ventilation shall be provided and comply with Section 608.6.1
3. Signage shall be provided and comply with Section 608.7
4. Smoke detection shall be provided and comply with Section 907.2

Section 610 Photovoltaic Systems is hereby added as follows:

SECTION 610
PHOTOVOLTAIC SYSTEMS

Section 610.1 General is hereby added as follows:

610.1 Manual operation. Photovoltaic systems shall comply with Orange County Fire Chief's Association Guideline for Fire Safety Elements of Solar Photovoltaic Systems. The provision of this section may be applied by either the fire code official or the building code official.

Chapter 7
Fire-Resistive-Rated Construction

Chapter 7 Fire-Resistive-Rated Construction is adopted in its entirety without amendments.

Chapter 8 Interior Finish, Decorative Materials and Furnishings

Chapter 8 Interior Finish, Decorative Materials and Furnishings adopt only the Sections and Subsections listed below:

1. **Section 801**
2. **Section 802**
3. **Section 803**
4. **Section 804**
5. **Subsection 806.2**
6. **Subsection 807.1**
7. **Subsection 807.1.2**
8. **Subsection 807.4.5.1**
9. **Subsection 807.4.2.4.1**
10. **Subsection 807.4.5**
11. **Subsection 807.4.2.4**
12. **Table 803.3**

Chapter 9 Fire Protection Systems

Adopt Chapter 9 Fire Protection Systems is adopted in its entirety with the following amendments:

Section 903.2.8 Group R is hereby revised as follows:

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 as follows:

1. **New Buildings:** An automatic sprinkler system shall be installed throughout all new buildings.
2. **Existing Buildings:** An automatic sprinkler system shall be installed throughout when:
 - a. An addition when the existing building is already provided with automatic sprinklers; or.
 - b. When an existing Group R Occupancy is being substantially renovated, and where the scope of the renovation is such that the Building Code Official determines that the complexity of installing a sprinkler system would be similar as in a new building.
 - c. The building area exceeds 5,000 square feet (464 m²)

Section 903.3.1.1.1 Exempt locations is hereby amended by revising exception 4 as follows:

Exception:

4. When approved by the fire code official 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 fire barriers consisting of not less than 1-hour fire barriers constructed in accordance with Section 707 or not less than 2-hour horizontal assemblies constructed in accordance with Section 712, or both..

Section 903.4 Sprinkler system supervision and alarms is hereby revised by modifying item 1, deleting item 3 and 5, and renumbering the Exceptions as follows:

1. Automatic sprinkler systems protecting one- and two-family dwellings.
2. Limited area systems serving fewer than 20 sprinklers.
3. Jockey pump control valves that are sealed or locked in the open position.
4. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position.
5. Trim valves to pressure switches in dry, preaction and deluge sprinkler systems that are sealed or locked in the open position.

Section 904.3.5 Monitoring is hereby revised as follows:

904.3.5 Monitoring. Where a building fire alarm or monitoring system is installed, automatic fire-extinguishing systems shall be monitored by the building fire alarm or monitoring system in accordance with NFPA 72.

Section 905.4 Location of Class I standpipe hose connections is hereby amended by adding items 7 and 8 as follows:

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 stairway, a hose connection shall be provided for each floor level above or below grade. Hose connections shall be located at an intermediate floor level landing between floors, unless otherwise approved by the fire code official. See Section 909.20.3.2 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 exit stairway hose connections by 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 exit stairway hose connections 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.

5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3 percent slope), each standpipe shall be provided with a hose connection located either on the roof or at the highest landing of a stairway with stair access to the roof. An additional hose connection shall be provided at the top of the most hydraulically remote standpipe for testing purposes.

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 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 distance from a hose connection shall be measured along the path of travel.

7. The centerline of the 2.5 inches (63.5 mm) outlet shall be no less than 18 inches (457.2 mm) above and no more than 24 inches above the finished floor.

8. Every new building with any horizontal dimensions greater than 300 feet (91,440 mm) shall be provided with either access doors or a 2.5 inches outlets so that all portions of the building can be reached with 150 feet (46 m)) of hose from an access door or hose outlet. Required access doors shall be located in the exterior of the building and shall be accessible without the use of a ladder. The door dimensions shall be not less than 3 feet (914 mm) in width, and not less than 6 feet 8 inches (2032 mm) in height. These doors are for fire department access only.

Section 907.2.11.2 Groups R-2, R-2.1, R-3, R-3.1 and R-4, is adopted in its entirety with the following amendment to the first paragraph:

907.2.11.2 Groups R-2, R-2.1, R-3, R-3.1 and R-4, Single or multiple-station *photoelectric* smoke alarms shall be installed and maintained in Groups R-2, R-21, R-3, R-3.1, and R-4 regardless of occupant load at all of the following locations:

Section 907.2.13 High-rise buildings is hereby revised as follows:

907.2.13 High-rise buildings HAVING OCCUPIED FLOORS LOCATED MORE THAN 55 FEET (16 769 mm) ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS and Group I-2 occupancies having floors located more than 75 feet (22 860 mm) above the lowest level fire department vehicle access. High-rise buildings having occupied floors located more than 55 feet (16 769 mm) above the lowest level of fire department vehicle access and Group I-2 occupancies having floors located more than 75 feet (22 860 mm) above the lowest level fire department vehicle access shall be provided with an automatic smoke detection 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 907.6.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Section 907.2.22 and Section 412 of the California Building Code.
2. Open parking garages in accordance with Section 406.3 of the California Building Code.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the California Building Code.
4. Low-hazard special occupancies in accordance with Section 503.1.1 of the California Building Code.
5. In Group I-2 and R-2.1 occupancies, the alarm shall sound at a constantly attended location and general occupant notification shall be broadcast by the emergency voice/alarm communication system

Section 907.4.1 Duct smoke detectors is hereby amended as follows:

907.4.1 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 installed. 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 California Mechanical Code. Duct smoke detectors shall not be used as a substitute for required open area detection.

Exception:

1. 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.

Section 907.6.2.2 Emergency voice/alarm communication system is revised as follows.

907.6.2.2 Emergency voice/alarm communication system. 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 water-flow 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 plans required by Section 404. In high-rise buildings having occupied floors located more than 55 feet, and Group I-2 occupancies having floors located more than 75 feet (22 860 mm) above the lowest level fire department vehicle access, the system shall operate on a minimum of 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. Exit stairways.
3. Each floor.
4. Areas of refuge as defined in Section 1002.1.
5. Dwelling Units in apartment houses.
6. Hotel guest rooms or suites.

Exception: In Group I-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.

Section 907.7.3.2 High-rise buildings is revised as follows.

907.7.3.2 High-rise buildings. High-rise buildings having occupied floors located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access and Group I-2 occupancies having occupied floors located more than 75 feet (22 860 mm) above the lowest level fire department vehicle access, a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes
4. Other approved types of automatic detection devices or suppression systems.

Section 910.3.2.2 Sprinklered buildings is hereby amended as follows:

910.3.2.2 Sprinklered Buildings. Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed to operate automatically by actuation of a heat-responsive device rated at least 100° F above the operating temperature of the sprinkler, unless otherwise approved.

Chapter 10 Means of Egress

Chapter 10 Means of Egress is adopted in its entirety without amendments

Chapter 11 Aviation Facilities

Chapter 11 Aviation Facilities is adopted in its entirety without amendments

Chapter 12 Dry Cleaning

Chapter 12 Dry Cleaning is adopted in its entirety without amendments.

Chapter 13 Combustible Dust-Producing Operations

Chapter 13 Combustible Dust-Producing Operations is adopted in its entirety without amendments.

Chapter 14 Fire Safety During Construction and Demolition

Chapter 14 Fire Safety During Construction and Demolition is adopted in its entirety without amendments.

**Chapter 15
Flammable Finishes**

Chapter 15 Flammable Finishes is adopted in its entirety without amendments.

**Chapter 16
Fruit and Crop Ripening**

Chapter 16 Fruit and Crop Ripening is adopted in its entirety without amendments.

**Chapter 17
Fumigation and Thermal Insecticidal Fogging**

Chapter 17 Fumigation and Thermal Insecticidal Fogging is adopted in its entirety without amendments.

**Chapter 18
Semiconductor Fabrication Facilities**

Chapter 18 Semiconductor Fabrication Facilities is adopted in its entirety without amendments.

**Chapter 19
Lumber Yards and Woodworking Facilities**

Chapter 19 Lumber Yards and Woodworking Facilities is adopted in its entirety with the following amendments:

Section 1901.2 Permit is hereby revised by adding the following statement to the last sentence:

1901.2 Permit. Permits shall be required as set forth in Section 105.6. For Miscellaneous Combustible Storage Permit, see Section 105.6.29.

Section 1908.1 General is hereby revised as follows:

1908.1 General. The storage and processing of more than 400 cubic feet of wood chips, hogged materials, fines, compost, green waste, and raw product produced from yard waste, debris and recycling facilities shall comply with Sections 1908.2 through 1908.10.

Section 1908.2 Storage site, is hereby revised as follows:

1908.2 Storage site. Storage sites shall be level and on solid ground or other all-weather surface. Sites shall be thoroughly cleaned and approval from fire code official is obtained before transferring products to the site.

Section 1908.3 Size of piles is hereby revised as follows:

1908.3 Size of piles. Piles shall not exceed 15 feet (4572 mm) in height, 50 feet (15 240 mm) in width and 100 feet (30 480 mm) in length.

Section 1908.7 Pile fire protection is hereby revised by adding the following statement to the last sentence:

1908.7 Pile fire protection. Automatic sprinkler protection shall be provided in conveyor tunnels and combustible enclosures that pass under a pile. Combustible conveyor systems and enclosed conveyor systems shall be equipped with an approved automatic sprinkler system. Oscillating sprinklers with a sufficient projectile reach are required to maintain a 40% to 60% moisture content and wet down burning/smoldering areas.

Section 1908.9 Material-handling equipment, is hereby revised by adding the following sentence at the beginning of the section:

1908.9 Material-handling equipment. All material handling equipment operated by an internal combustion engine shall be provided and maintained with an approved spark arrester. Approved material-handling equipment shall be available for moving wood chips, hogged material, wood fines and raw product during fire-fighting operations.

Chapter 20 Manufacture of Organic Coatings

Chapter 20 Manufacture of Organic Coatings is adopted in its entirety without amendments.

Chapter 21 Industrial Ovens

Chapter 21 Industrial Ovens is adopted in its entirety without amendments.

Chapter 22 Motor Fuel-Dispensing Facilities and Repair Garages

Chapter 22 Motor Fuel-Dispensing Facilities and Repair Garages is adopted in its entirety without amendments.

Chapter 23 High-Piled Combustible Storage

Chapter 23 High-Piled Combustible Storage shall be adopted in its entirety with the following amendments.

Section 2308.3 Flue spaces is hereby amended by adding the following statement to the last sentence:

2308.3 Flue spaces. Flue spaces shall be provided in accordance with Table 2308.3. Required flue spaces shall be maintained. In double-row racks a pallet/commodity stop shall be provided along the longitudinal flue space at each level. The stop shall be steel or other ferrous material ¼ inch thick and in the mounted position shall extend a minimum of 4 inches above the shelf or cross member, or other method approved by fire code official. In double row racks and where products are hand-stacked chain link shall be securely attached to the rear of both racks. Chain link shall be a minimum of 12 gauge. Attachment method shall be in compliance with Figure 2308.3 or other methods as approved by the fire code official.

Table 2308.3 Required Flue Spaces for Rack Storage is hereby revised as follows:

TABLE 2308.3: REQUIRED FLUE SPACES FOR RACK STORAGE

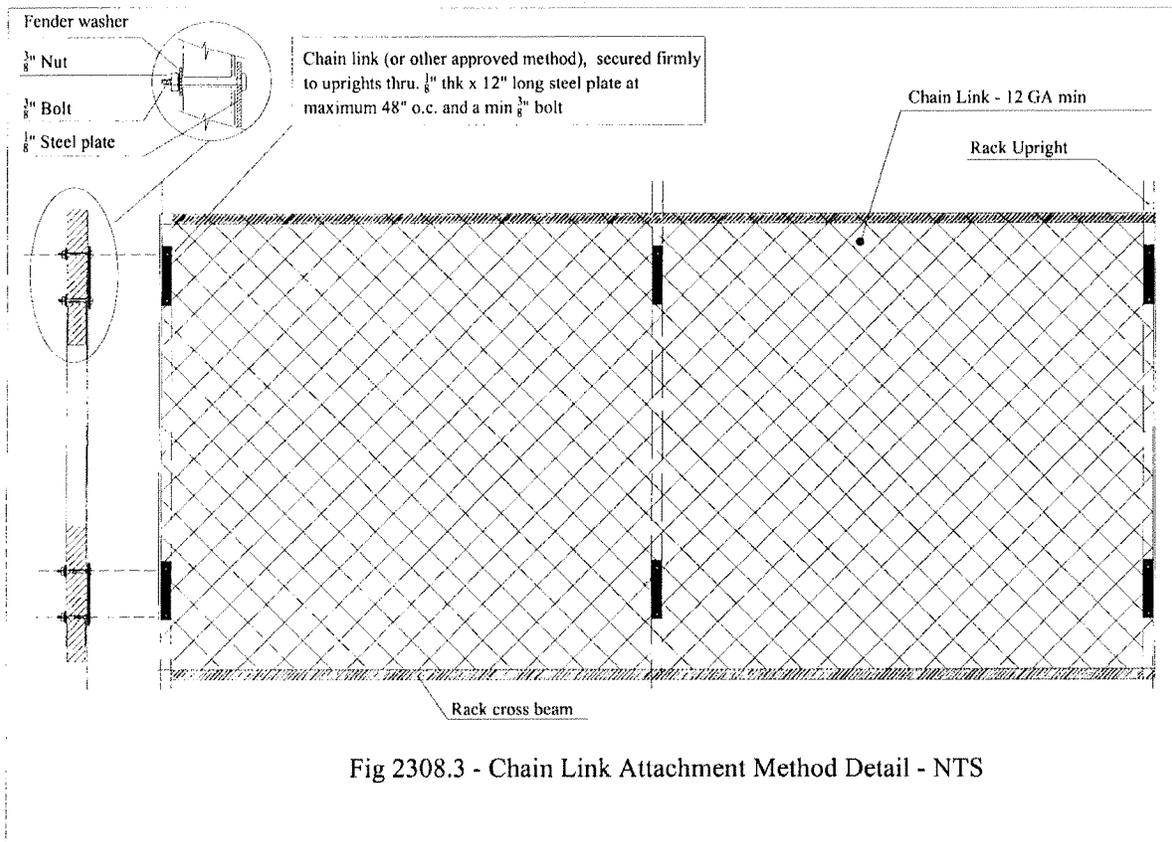
RACK CONFIGURATION	FIRE SPRINKLER PROTECTION Storage Height		SPRINKLER AT THE CEILING WITH OR WITHOUT MINIMUM IN- RACK SPRINKLERS		IN-RACK SPRINKLERS AT EVERY TIER	NON- SPRINKLERED
			≤ 25 feet			
			Option 1	Option 2	Any Height	Any Height
Single-row Rack	Transverse Flue Space	Size ^b	3 inch	NA	3 inch	NR
		Vertically Aligned	NR	NA	Yes	NA
	Longitudinal Flue Space		NR	NA	NR	NR
Double-row Rack	Transverse Flue Space	Size ^b	6 inch ^{a, c}	3 inch	3 inch	NR
		Vertically Aligned	NR	NR	Yes	NA
	Longitudinal Flue Space		NR	6 inch	6 inch	NR
Multi-row Rack	Transverse Flue Space	Size ^b	6 inch ^c	NA	6 inch	NR
		Vertically Aligned	NR	NA	Yes	NA
	Longitudinal Flue Space		NR	NA	NR	NR

NR = "not required." NA means "not applicable."

^a Three-inch transverse flue spaces shall be provided at least every 10 feet where ESFR sprinkler protection is provided.

^b Random variations are allowed, provided that the configuration does not obstruct water penetration.

^c Transverse flue space shall be maintained by mechanical means as approved.



Chapter 24
Tents, Canopies, and Other Membrane Structures

Chapter 24 Tents, Canopies, and Other Membrane Structures is adopted in its entirety without amendments.

Chapter 25
Tire Rebuilding & Tire Storage

Chapter 25 Tire Rebuilding & Tire Storage is adopted in its entirety without amendments.

Chapter 26
Welding and Other Hot Works

Chapter 26 Welding and Other Hot Works is adopted in its entirety without amendments.

Chapter 27
Hazardous Materials – General Provisions

Chapter 27 Hazardous Materials – General Provisions is adopted in its entirety with the following amendments.

Section 2701.5.2 Hazardous Materials Inventory Statement (HMIS), is hereby amended by modifying the starting paragraph as follows:

2701.5.2 Hazardous Materials Inventory Statement (HMIS). When required by the *fire code official*, an application for a permit shall include City of Orange Hazardous Materials Inventory Statement /Chemical Description Packet which shall be completed and approved prior to approval of plans, and/or the storage, use or handling of chemicals on the premises. 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.

Table 2703.1.1(1) Maximum Allowable Quantity per Control Area is hereby amended by deleting Footnote K without replacement as follows:

Section 2703.1.1.1 Extremely Hazardous Substances is hereby added as follows:

2703.1.1.1 Extremely Hazardous Substances. No person shall use or store any amount of extremely hazardous substances (EHS) in excess of the disclosable amounts (see Health and Safety Code Section 25500 et al) in a residential zoned or any residentially developed property.

Section 2704.12 Noncombustible floor: is hereby amended by modifying the standard as follows:

2704.12 Noncombustible floor: Except for surfacing, floors of storage areas shall be of noncombustible, liquid tight construction.

Chapter 28
Aerosols

Chapter 28 Aerosols is adopted in its entirety without amendments.

**Chapter 29
Combustible Fibers**

Chapter 29 Combustible Fibers is adopted in its entirety without amendments.

**Chapter 30
Compressed Gases**

Chapter 30 Compressed Gases is adopted in its entirety without amendments.

**Chapter 31
Corrosive Materials**

Chapter 21 Corrosive materials is adopted in its entirety without amendments.

**Chapter 32
Cryogenic Fluids**

Chapter 32 Cryogenic Fluids is adopted in its entirety without amendments.

**Chapter 33
Explosives and Fireworks**

Chapter 33 Explosives and Fireworks California Fire Code Chapter 33 is adopted in its entirety with the following amendments

Section 3301.2 Retail Fireworks is hereby added as follows:

33101.2 Retail Fireworks. The storage, use, sale, possession, and handling of fireworks 1.4G (commonly referred to as Safe & Sane) and fireworks 1.3G is prohibited.

Exception – Fireworks 1.4G and fireworks 1.3G may be part of an electrically fired public display when permitted and conducted by a licensed pyrotechnic operator

Section 3301.3 Seizure of Fireworks is hereby added as follows:

3301.3 Seizure of Fireworks. The fire code official shall have the authority to seize, take, remove all fireworks stored, sold, offered for sale, used or handled in violation of the provisions of Title 19 CCR, Chapter 6. Any seizure or removal pursuant to this section shall be in compliance with all applicable statutory, constitutional, and decisional law.

Section 3308.1 General is hereby revised as follows:

3308.1 GENERAL. Outdoor fireworks displays, use of pyrotechnics before proximity audience and pyrotechnic special effects in theatrical, and group entertainment productions, shall comply with California Code of Regulations, Title 19 , Division 1, Chapter 6 – Fireworks, and with the conditions of the permit as approved by the fire code official.

Section 3308.2 Firing is hereby added as follows:

3308.2 Firing. All fireworks displays shall be electrically fired.

**Chapter 34
Flammable and Combustible Liquids**

Chapter 34 Flammable and Combustible Liquids is adopted in its entirety without amendments.

**Chapter 35
Flammable Gases**

Chapter 35 Flammable Gases is adopted in its entirety without amendments.

**Chapter 36
Flammable Solids**

Chapter 36 Flammable Solids is adopted in its entirety without amendments.

**Chapter 37
Highly Toxic and Toxic Materials**

Chapter 37 Highly Toxic and Toxic Materials is adopted in its entirety with the following amendments.

Section 3704.2.2.7 Treatment system is hereby amending the exception as follows:

Exception:

1. Toxic gases – storage/use. Treatment systems are not required for toxic gases supplied by cylinders or portable tanks not exceeding 1,700 pounds (772 Kg) water capacity when the following are provided:

1.1 A listed or approved gas detection system with a sensing interval not exceeding 5 minutes.

1.2 For storage, valve outlets are equipped with gas-tight outlet plugs or caps.

1.3 For use, an approved 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 3704.2.2.10.

**Chapter 38
Liquefied Petroleum Gases**

Chapter 38 Liquefied Petroleum Gases is adopted in its entirety without amendments.

**Chapter 39
Organic Peroxides**

Chapter 39 Organic Peroxides is adopted in its entirety without amendments.

**Chapter 40
Oxidizers**

Chapter 40 Oxidizers is adopted in its entirety without amendments.

**Chapter 41
Pyrophoric Materials**

Chapter 41 Pyrophoric Materials is adopted in its entirety without amendments.

**Chapter 42
Pyroxylin Plastics**

Chapter 42 Pyroxylin Plastics is adopted in its entirety without amendments.

**Chapter 43
Unstable (Reactive) Materials**

Chapter 43 Unstable (Reactive) Materials is adopted in its entirety without amendments.

**Chapter 44
Water-Reactive Solids and Liquids**

Chapter 44 Water-Reactive Solids and Liquids is adopted in its entirety without amendments.

**Chapter 45
Marinas**

Chapter 45 Marinas is adopted in its entirety without amendments.

Chapter 46 Construction Requirements for Existing Buildings

Chapter 46 Construction Requirements for Existing Buildings is adopted by only those Sections and Subsections listed below:

1. **Section 4606**
2. **Subsection 4603.6**
3. **Subsection 4603.6.3**
4. **Subsection 4603.6.3.1**
5. **Subsection 4603.6.8 through 4603.6.8.2**
6. **Subsection 4603.6.9 through 4603.6.9.10**
7. **Subsection 4603.7 through 4603.7.5.3**

Chapter 47 Referenced Standards

Chapter 47 Referenced Standards is adopted in its entirety with the following amendments:

NFPA 13, 2010 Edition, Installation of Sprinkler Systems is hereby amended as follows:

Section 11.1.1.2 is hereby modified as follows:

11.1.1.2 When fire sprinkler systems are required in buildings of undetermined use other than warehouses with the potential of rack storage commodities, they shall be designed and installed to have a fire sprinkler density of not less than that required for an Ordinary Hazard Group 2 use, with no reduction/s in density or design area. Warehouses with the potential of rack storage commodities fire sprinkler systems shall be designed to Figure 16.2.1.3.2 (d) curve "G". Use is considered undetermined if a specific tenant/occupant is not identified at the time the permit is issued. Where a subsequent occupancy requires a system with greater capability, it shall be the responsibility of the occupant to upgrade the system to the required density for the new occupancy.

NFPA 13D 2010 Edition Installation of Sprinkler Systems in One and Two-Family Dwellings and Manufactured Homes is hereby amended as follows:

Section 4.1.5 is hereby added as follows:

4.1.5 Stock of Spare Sprinklers

Section 4.1.5.1 is hereby added as follows:

4.1.5.1. A supply of at least two sprinklers for each type shall be maintained on the premises so that any sprinklers that have operated or been damaged in any way can be promptly replaced.

Section 4.1.5.2 is hereby added as follows:

4.1.5.2 The sprinklers shall correspond to the types and temperature ratings of the sprinklers in the property.

Section 4.1.5.3 is hereby added as follows:

4.1.5.3 The sprinklers shall be kept in a cabinet located where the temperature to which they are subjected will at no time exceed 100 °F (38°C).

Section 4.1.5.4 is hereby added as follows:

4.1.5.4 A special sprinkler wrench shall be provided and kept in the cabinet to be used in the removal and installation of sprinklers. One sprinkler wrench shall be provided for each type of sprinkler installed.

Section 7.3 Pressure Gauges is hereby deleted and substituted with the following:

Section 7.3.1 is hereby deleted in its entirety and replaced as follows:

7.3. At least one water pressure gauge shall be installed on the riser assembly.

Section 7.6 is hereby deleted in its entirety and replaced as follows:

Chapter 48

Motion Picture and Television Production Studio Sound Stages, Approved Production Facilities, and Production Locations

Chapter 48 Motion Picture and Television Production Studio Sound Stages, Approved Production Facilities, and Production Locations is adopted in its entirety without amendments.

Chapter 49

Requirements for Wildland-Urban Interface Fire Areas

Chapter 49 Requirements for Wildland-Urban Interface Fire Areas is adopted in its entirety with the following amendments:

Section 4908 Fuel Modification Requirements for New Construction is hereby added as follows:

4908 Fuel Modification Requirements for New Construction. All new buildings to be built or installed in hazardous fire areas shall comply with the following:

1. Preliminary fuel modification plans shall be submitted to and approved by the fire code official concurrent with the submittal for approval of any tentative map.
2. Final fuel modification plans shall be submitted to and approved by the fire code official prior to the issuance of a grading permit.
3. The fuel modification plans shall meet the criteria set forth in the City of Orange Fuel Modification Guidelines.
4. The fuel modification plan may be altered if conditions change. Any alterations to the fuel modification areas shall have prior approved by the fire code official.
5. All elements of the fuel modification plan shall be maintained in accordance with the approved plan and are subject to the enforcement process outlined in the Fire Code.

Section 4909 Explosives and Blasting is hereby added as follows:

4909 Explosives and Blasting. Explosives shall not be possessed, kept, stored, sold, offered for sale, given away, used, discharged, transported or disposed of within wildland-urban interface areas, or hazardous fire areas except by permit from the fire code official.

Appendix B is adopted in its entirety with the following amendment:

Section B105.1 One- and two-family dwellings is hereby added as follows:

B105.1 One- and two-family dwellings. The minimum fire-flow and flow duration requirements for one- and two-family dwellings having a fire-flow calculation area that does not exceed 3,600 square feet (344.5m²) shall be 1,000 gallons per minute (3785.4 L/min) for 1 hour. Fire-flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5m²) shall not be less than that specified in Table B105.1.

Exception: When the building is equipped with an approved automatic sprinkler system, the fire flow requirements of Table B105.1 are reduced by 50%, provided that the resulting fire flow is not less than 1,000 gallons per minute (3785.4 L/min) for 1 hour.

Appendix BB is adopted in its entirety without amendments:

Appendix C is adopted in its entirety without amendments:

Appendix CC is adopted in its entirety without amendments:

Appendix BB, Appendix C, and Appendix CC can be found
in the back of this book on file with the Fire Department.

CALIFORNIA 2010 FIRE CODE

California Code of Regulations Title 24, Part 9

California Building Standards Commission
Based on the 2009 International Fire Code®



Effective Date: January 1, 2011
(For Errata and Supplements, see History Note Appendix)

