

**PLEASE NOTE:**

This copy of Ordinance No. 113.25 is a “redlined” version for your convenience. Text additions are designated by an underline and text deletions are designated with a strikethrough.

**REGULAR**

**NUMBER: 113.25**

**TITLE: AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MILPITAS REPEALING AND REPLACING CHAPTER 300 OF TITLE V OF THE MILPITAS MUNICIPAL CODE AND ADOPTING BY REFERENCE THE 2019 EDITION OF THE CALIFORNIA FIRE CODE WITH SPECIFIED LOCAL AMENDMENTS**

**HISTORY:** This Ordinance was introduced (first reading) by the City Council at its meeting of November 5, 2019, upon motion by Councilmember Nuñez, and was adopted (second reading) by the City Council at its meeting of \_\_\_\_\_ upon motion by Councilmember \_\_\_\_\_. The Ordinance was duly passed and ordered published in accordance with law by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

APPROVED:

\_\_\_\_\_  
Mary Lavelle, City Clerk

\_\_\_\_\_  
Rich Tran, Mayor

APPROVED AS TO FORM:

\_\_\_\_\_  
Christopher J. Diaz, City Attorney

**RECITALS AND FINDINGS:**

**WHEREAS**, the City Council of the City of Milpitas intends to adopt by reference into the Milpitas Municipal Code the 2019 California Fire Code; and

**WHEREAS**, in doing so, the City Council wishes to amend portions of the California Fire Code to better address local concerns and to be consistent with amendments made by the other cities and counties in the San Francisco East Bay, San Francisco Peninsula and Monterey Bay areas; and

**WHEREAS**, Health and Safety Code Sections 17958.5, 17958.7, and 18941.5 require such amendments to be reasonably necessary because of local climatic, geological or topographical conditions; and

**WHEREAS**, the City Council hereby makes the following findings with respect to the amendments to the 2019 California Fire Code:

A. The local climatic conditions of the City of Milpitas can affect the acceleration, intensity, and size of fires. Average annual rainfall for the City of Milpitas (approximately 14.9 inches per year), and drought conditions in the State of California require water-use restrictions and may also limit access to water during emergencies. Prevailing winds from the Northwest have velocities ranging from 5-mph to 15-mph, but the region has experienced extreme winds up to 60 mph. Times of little rainfall and high winds can exacerbate and spread fires.

B. The local geological and topographical conditions of the City of Milpitas can affect the response time of emergency service providers. The San Francisco Bay area region is densely populated and located in an area of high seismic activities. In particular, the City of Milpitas is located near the San Andreas Fault zone, which is capable of producing major earthquakes. Should a significant seismic event occur, hazardous materials and gases may be leaked and expose members of the public to significant health risks. Severe seismic events could disrupt communications, damage gas mains, and cause extensive electrical hazards that may exacerbate the size and number of emergencies, and consequently hinder the Fire Department’s ability to respond to emergencies effectively and in a timely manner.

**NOW, THEREFORE**, the City Council of the City of Milpitas does ordain as follows:

**SECTION 1. RECORD AND BASIS FOR ACTION**

The City Council has duly considered the full record before it, which may include but is not limited to such things as the City staff report, testimony by staff and the public, and other materials and evidence submitted or provided to the City Council. Furthermore, the recitals set forth above are found to be true and correct and are incorporated herein by reference.

The City Council finds that the above-listed findings correspond with the following amendments to the 2019 California Fire Code:

<b>Amendment</b>	<b>Finding(s)</b>
101.1	Administrative
102.3	Administrative
102.4	Administrative
102.5	Administrative
103.2	Administrative
104.10	Administrative
105.1	Administrative
105.2	Administrative
105.4.2.2	Administrative
105.6-105.6.62	Administrative
105.7-105.7.26	Administrative
106.2	Administrative
107.1-107.7	Administrative

109.1-109.3	Administrative
110.1.1-110.1.8	Administrative
202	Findings A & B
311.5	Finding A
315.8-315.8.10	Finding A
316.7	Finding A
321-321.3.13	Finding A
503-503.1	Finding A
503.2.1	Finding A
503.7	Finding A
504.3.1	Finding A
504.5	Finding A
504.6	Finding A
505.3	Finding A
507.5.1.1	Finding A
507.5.7	Finding A
508.1-508.1.2	Finding A
508.1.6	Finding A
510.1	Finding B
510.1.1	Finding B
510.2	Finding B
510.3-510.3.1	Finding B
510.4	Finding B
510.4.1.1-510.4.1.2	Finding B
510.4.2.5-510.4.2.5.1	Finding B
605.18	Findings A & B
606.1.1	Findings A & B
903.1.2	Findings A & B
903.2	Findings A & B
903.3.1.1	Findings A & B
903.3.1.4	Findings A & B
903.3.5.3-903.3.5.7	Findings A & B
907.2.9.1	Findings A & B
913.7	Findings A & B
914.2.1	Findings A & B
914.3.1	Findings A & B
914.3.9-914.3.10	Findings A & B
914.4.1	Findings A & B
914.6.1	Findings A & B
914.12	Findings A & B
916.8	Findings A & B
1103.2	Findings A & B
1206.2.1	Administrative
1206.2.11.3	Findings A & B
1206.2.11.5	Findings A & B
1206.2.12.1-1206.2.12.2	Findings A & B
1206.2.12.5	Findings A & B
1206.2.12.6	Findings A & B
2807.6	Findings A & B
2808.11	Findings A & B

3103.2	Findings A & B
3304.8	Findings A & B
3311.1-3311.1.1	Findings A & B
5001.2.2.2	Finding B
5001.5.1-5001.5.1.1	Finding B
5003.1.3.1	Finding B
5003.1.5	Finding B
5003.1.6	Finding B
5003.2.2.1-5003.2.2.2	Finding B
5003.3.1	Finding B
5003.5.2-5003.5.3	Finding B
5003.9.8	Finding B
5003.9.11	Finding B
5003.10.4.3	Finding B
5004.2.1	Findings A & B
5004.2.2	Findings A & B
5004.2.2.2	Findings A & B
5004.2.2.5	Findings A & B
5004.2.3	Findings A & B
5005.4.4	Findings A & B
5303.5.3	Finding B
5601.1.3	Findings A & B
5704.2.7.5.8-5704.2.7.5.9	Finding B
5707	Finding B
5707	Finding B
5707.3.3	Finding B
5707.3-5707.4	Finding B
5707.5.5	Finding B
5707.6.4-5707.6.7	Finding B
5809.3.4	Finding B
6004-6004.1.1.14	Finding B
6004.2-6004.2.2.104	Finding B
6004.3-6004.3.3	Finding B
6405.3.1	Finding B
D103.1	Finding A
D104.1-D104.2	Finding A
D105.2	Finding A
D106.1	Findings A & B
D106.2	Findings A & B
D107.1	Findings A & B
H103, Appendix H	Finding B
H3, Appendix H	Finding B

## SECTION 2. CALIFORNIA ENVIRONMENTAL QUALITY ACT

The City Council hereby finds and determines that this Ordinance has been assessed in accordance with the California Environmental Quality Act (Cal. Pub. Res. Code, § 21000 et seq.) (“CEQA”) and the State CEQA Guidelines (14 Cal. Code Regs. § 15000 et seq.) and is categorically exempt from CEQA under CEQA Guidelines, § 15061(b)(3), which exempts from CEQA any project where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment. Adoption of the proposed Ordinance would not be an activity with potential to cause significant effect on the environment because the changes made to the California Building Standard Code within are enacted to mitigate the threats posed to public peace, health and safety from earthquakes, high winds and fire, and therefore is exempt from CEQA. Therefore, it can be seen with certainty that there is no possibility that the Ordinance in question

may have a significant effect on the environment; accordingly, the Ordinance is categorically exempt from CEQA.

### SECTION 3. AMENDMENT OF MILPITAS MUNICIPAL CODE TITLE V, CHAPTER 300

Chapter 300 of Title V of the Milpitas Municipal Code is hereby repealed in its entirety and replaced with the text below to read as follows:

#### Chapter 300

#### FIRE CODE

##### Sections:

V-300-1 Adoption of the California Fire Code, ~~2016~~2019 Edition

V-300-2 Amendments to the ~~2016~~2019 California Fire Code

##### Section 1 Adoption of the California Fire Code, ~~2016~~2019 Edition

###### V-300-1.01

An Ordinance of the City of Milpitas adopting the ~~2016~~2019 edition of the *California Fire Code*, regulating and governing the safeguarding of life and property from fire and explosion hazards arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises in the ~~city~~City of Milpitas providing for the issuance of permits and collection of fees. That a certain document, except as herein amended, one (1) copy of which is on file in the office of the City Clerk, known as the California Fire Code, including ~~Appendix Chapters~~Chapter 1, and ~~Appendices~~ Chapter 4, B, BB, C, CC, D, ~~H~~ and K ~~with California State amendments~~ as published by the International Code Council ~~being particularly, based on the 2016 edition~~International Fire Code, 2018 Edition, is hereby adopted by reference as the Fire Code for the City of Milpitas in the State of California regulating and governing the safeguarding of life and property from fire and explosion hazards arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises as herein provided; providing for the issuance of permits and collection of fees therefore; and each and all of the regulations, provisions penalties, conditions and terms of said Fire Code on file in the office of the City Clerk are hereby referred to, adopted, and made a part hereof, as if fully set out in this Ordinance, with the additions, insertions, deletions and changes, if any, prescribed in Section 2 of this Ordinance.

##### Section 2 Amendments to the ~~2016~~2019 California Fire Code

###### V-300-2.01

Chapter 1, Scope and Administration, ~~International of the California~~ Fire Code, ~~2015~~2019 Edition, ~~with California State amendments~~ is hereby adopted and amended as follows:

###### V-300-2.02

Section 101.1 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is amended to read in its entirety as follows:

**101.1 Title.** These regulations shall be known as the Fire Code of the City of Milpitas, herein referred to as ‘this ~~code~~Code.’

###### V-300-2.03

Section 102.3 of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

**102.3 Changes in use or occupancy.** No change shall be made in the use or occupancy of any structure that would place the structure in a different division of the same group or occupancy or in a different group of occupancies, unless such structure is made to comply with the requirements of this ~~code~~Code and the City of Milpitas ~~building codes~~Building Codes adopted under ~~Title II of the Milpitas, California, Code of Ordinances, Title II Municipal Code.~~ Subject to the approval of the fire code official, the use or occupancy of an existing structure shall be allowed to be changed and the structure is allowed to be occupied for purposes in other groups without conforming to all of the requirements of

this ~~code~~Code and the City of Milpitas Building Codes for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

#### V-300-2.04

Section 102.4 of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

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

#### V-300-2.05

Section 102.5 of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

**102.5 Application of ~~residential code~~Residential Code.** Where structures are designed and constructed in accordance with the City of Milpitas Building Codes adopted under ~~Title II of the Milpitas, California, Municipal Code of Ordinances, Title II~~, the provisions of this ~~code~~Code shall apply as follows:

1. Construction and design provisions: Provisions of this ~~code~~Code pertaining to the exterior of the structure shall apply, including, but not limited to premises identification, fire apparatus access and water supplies. Where interior or exterior systems or devise are installed, construction permits required by Section 105.7 of this ~~code~~Code shall also apply.
2. Administrative, operational and maintenance provisions: All such provision of this ~~code~~Code shall apply.

#### V-300-2.06

Section 103.2 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is deleted in its entirety.

#### V-300-2.07

Section 104.10 of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

**104.10 Fire Investigations.** The fire code official, the fire department or other responsible authority shall have the authority to investigate the cause, origin and circumstances of any fire, explosion or other hazardous condition. Information that could be related to trade secrets or processes shall not be made part of the public record except as directed by a court of law.

The fire code official and authorized members of the fire department shall have the powers of a peace officer pursuant to Penal Code Section 830.37. Other members of the fire department, as designated by the Fire Chief, may issue citations for violations of fire-related laws and ordinances pursuant to Penal Code Section 836.5.

#### V-300-2.08

Section 105.1 of the California Fire Code ~~2016, 2019~~ Edition, is amended to read in its entirety as follows:

**105.1 General.** Permits shall be in accordance with Sections 105.1.1 through 105.7.~~2026~~.

#### V-300-2.09

Section 105.~~1.4 is hereby added to~~2 of the California Fire Code, ~~2016 Edition, to read as follows:~~

~~**105.1.4 Permits required.** The fee for each permit shall be as set forth by resolution of the City of Milpitas City Council. The City Council may establish fees sufficient to recover its costs in administering this code and no permit shall be issued until such fees have been paid. For work not disclosed in the fee schedule set by Council, the fire code official has the right to assess the necessary fees to recover the Fire Department's cost.~~

~~**Operational Permits.** All fees for annual operational fire permits under the provision of Section 105.6 of this Chapter shall be due and payable at the time of commencement of occupancy and said permit shall expire by December 31 of the~~

~~same year. Fees for the renewal of such permit(s) shall be due and payable upon the expiration of the prior permit. No permit fee hereunder shall be refundable by reason of the cessation of occupancy during the permit period. Every annual permit fee that is not paid within a period of thirty (30) days from the time the same become due is hereby declared to be delinquent, and a penalty of 100% shall be added to said fee.~~

2019

~~V-300-2.10~~

—Section 105.2 of the California Fire Code, 2016 Edition, is amended to read in its entirety as follows:

**105.2 Application.** Applications for a permit required by this ~~code~~Code shall be made to the fire code official in such form and detail as prescribed by the fire code official. Applications for permits shall be accompanied by such plans as prescribed by the fire code official. Said application shall be accompanied by a fee in the amount set by Section ~~105.1.4~~106.2 of this Code.

V-300-2.110

Section 105.4.2.2 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**105.4.2.2 Electronic documents.** The fire code official may require electronic base documents for all construction documents ~~and~~, operational permits, and/or modified drawings for the need of Fire Department inspections and/or operations. The fire code official shall designate the software base format for the electronic documents.

~~V-300-2.12~~

V-300-2.11

Section 105.6 of the California Fire Code ~~2016, 2019~~ Edition, is amended to read in its entirety as follows:

**105.6 Required operational permits.** The fire code official is authorized to issue operational permits for the operations set forth in Sections 105.6.1 through 105.6.~~5462~~.

V-300-2.12

~~V-300-2.13~~

Table 105.6.~~98~~ of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

**TABLE 105.6.98  
PERMIT AMOUNTS FOR COMPRESSED GASES<sup>1</sup>**

TYPE OF GAS	AMOUNT (cubic feet) <sup>2</sup>
	X 0.0283 for m <sup>3</sup>
Corrosive	200
Flammable (except cryogenic and liquefied petroleum gases)	200
Highly toxic	Any amount
Inert and simple asphyxiant <sup>3</sup>	200
Irritant	200
Moderately toxic	20
Other health hazards	200
Oxidizing (including oxygen)	200
Pyrophoric	Any amount
Radioactive	Any amount
Sensitizer	200
Toxic	Any Amount
Unstable (reactive)	Any amount

For SI: 1 cubic foot = 0.02832m<sup>3</sup>.

- 1 Refer to Chapters 27, 30, 32, 35, 37, 40 and 41 for additional requirements and exceptions.
- 2 Cubic feet measured at normal temperature and pressure.
- 3 For Carbon dioxide systems used in beverages dispensing see Section 105.6.4.



**V-300-2.1413**

Table 105.6.1410 of the California Fire Code, 20162019 Edition, is amended to read in its entirety as follows:

**TABLE 105.6.1410  
PERMIT AMOUNTS FOR CRYOGENIC FLUIDS**

<b>TYPE OF CRYOGENIC FLUID</b>	<b>INSIDE BUILDING (gallons)</b>	<b>OUTSIDE BUILDING (gallons)</b>
Flammable	More than 1	55
Inert	55	55
Oxidizing (includes oxygen)	10	50
Physical or health hazard not indicated above	Any Amount	Any Amount

For SI: 1 gallon = 3.785 L

**V-300-2.1514**

Section 105.6.1716, subsections (3.), (10.) and (11.) of the ~~International~~California Fire Code, 20152019 Edition, are amended to read as follows:

3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95L) in a building or in excess of 55 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.
10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or to engage in on-demand mobile fueling operations in accordance with Section 5707.
11. To utilize a site for the dispensing of liquid fuels from tank vehicle into the fuel tanks of motor vehicles, marine craft and other special equipment at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or to utilize a site for on-demand mobile fueling operations in accordance with Section 5707.

**V-300-2.1615**

Table 105.6.2420 of the California Fire Code, 20162019 Edition, is amended to read in its entirety as follows:

**TABLE 105.6.2420  
PERMIT AMOUNTS FOR HAZARDOUS MATERIALS<sup>1</sup>**

<b>TYPE OF MATERIAL</b>	<b>AMOUNT</b>
Carcinogens	10 pounds
Combustible liquids	
Inside	25 gallons
Outside	55 gallons
Corrosive materials:	
Gases	See Table 105.6.8
Liquids	55 gallons
Solids	500 pounds
Cryogenics	See Table 105.6.10
Explosive materials	Any Amount
Flammable materials:	
Gases	See Table 105.6.8
Liquids	See Section 105.6.16
Solids	10 pounds
Highly toxic materials:	
Gases	Any amount
Liquids	Any amount
Solids	Any amount

TYPE OF MATERIAL	AMOUNT
Moderately toxic gas	20 cubic feet
Organic peroxides: Liquids: Class I-II Liquids: Class III Liquids: Class IV Liquids: Class V Solids: Class I-II Solids: Class III Solids: Class IV Solids: Class V	Any Amount 1 gallon 2 gallons No Permit Required Any Amount 10 pounds 20 pounds No Permit Required
Oxidizing materials: Gases Liquids: Class 4 Liquids: Class 3 Liquids: Class 2 Liquids: Class 1 Solids: Class 4 Solids: Class 3 Solids: Class 2 Solids: Class 1	See Table 105.6.8 Any amount 1 gallon 10 gallons 55 gallons Any amount 10 pounds 100 pounds 500 pounds
Other health hazards: Liquids Solids	55 gallons 500 pounds
Pyrophoric materials: Gases Liquids Solids	Any amount Any amount Any amount
Radioactive materials: Gases Liquids Solids	Any Amount See Section 105.6.48 See Section 105.6.48
Toxic materials: Gases  Liquids Solids	<del>See Table 105.6.8</del> <u>Any amount</u> 10 gallons 100 pounds
Unstable (reactive) materials: Liquids Class 4 & 3 Class 2 Class 1 Solids Class 4 & 3 Class 2 Class 1	Any Amount 5 gallons 10 gallons  Any Amount 50 pounds 100 pounds
Water-reactive materials: Liquids Class 3 Class 2 Class 1 Solids Class 3 Class 2 Class 1	Any amount 5 gallons 55 gallons  Any Amount 50 pounds 500 pounds

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

**V-300-2.1716**

Section 105.6.4547 of the California Fire Code, 20162019 Edition, is amended to read in its entirety as follows:

**105.6.4547 Temporary membrane structures, tents and canopies.** An operational permit is required to operate an air-supported temporary membrane structure or a tent having an area in excess of 200 square feet (19 m<sup>2</sup>), or a canopy in excess of 400 square feet (37 m<sup>2</sup>). Smaller tents or canopies set side by side are considered as one, unless separated from each other by 10 feet on all sides.

**Exceptions:**

1. Tents used exclusively for recreational camping purposes.

**V-300-2.1817**

Section 105.6.5052 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**105.6.5052 Radioactive Materials.** To store or handle at any installation more than one microcurie (37,000 becquerel) of radioactive material not contained in a sealed source or more than 1 millicurie (37,000,000 becquerel) of radioactive material in a sealed source or sources, or any amount of radioactive material for which a specific license(s) from the Nuclear Regulatory Commission is required.

**V-300-2.1918**

Section 105.6.5153 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**105.6.5153 Day care facility.** An operational permit is required to operate a large family day care home facility-, a Group E day care facility or a Group I-4 day care facility.

**V-300-2.2019**

Section 105.6.5254 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**105.6.5254 Emergency responders radio coverage system.** An operational permit is required to operate an emergency responders radio coverage system in accordance with Section 510.

**V-300-2.2120**

Section 105.6.5355 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**105.6.5355 Woodworking.** An operational permit is required to conduct woodworking operations involving mass production or involving more than one of each type of machine, or where machines are used continuously (as opposed to intermittently) or substantial products of sawdust may be a problem.

**V-300-2.2221**

Section 105.6.5456 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**105.6.54—Outdoors sales.56 Private school.** An operational permit is required to operate a private school Group E or a heritage school (CA Education Code Section 33195.4).

**V-300-2.22**

Section 105.6.57 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

**105.6.57 Additive manufacturing.** An operational permit is required to conduct ~~outdoors sales for commercial establishments~~additive manufacturing operations as covered in Section 321.3.

**V-300-2.23**

Section 105.6.58 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

105.6.58 **Battery systems.** An operational permit is required to operate stationary storage battery systems regulated by Section 1206.2.

**V-300-2.24**

Section 105.6.59 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

105.6.59 **Lithium batteries.** An operational permit is required to handle or store more than 1,000 pounds (454 kg) of lithium batteries not otherwise covered by Section 105.6.58.

**V-300-2.25**

Section 105.6.60 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

105.6.60 **B Occupancy restaurants.** An operational permit is required to operate a B Occupancy restaurant.

**V-300-2.26**

Section 105.6.61 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

105.6.61 **Water base fire protection systems.** An operational permit is required to conduct inspections, testing and maintenance of a water base fire protection system in conformance with the CA Code of Regulations, Title 19, Division 1, Chapter 5.

**V-300-2.27**

Section 105.6.62 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

105.6.62 **On-demand mobile fueling operations.** An operational permit is required to conduct on-demand mobile fueling operations. An independent permit is required for the site and the vendor/mobile fuel operator.

**V-300-2.28**

Section 105.7 of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

**105.7** **Required construction permits.** The fire code official is authorized to issue construction permits for work as set forth in Sections 105.7.1 through 105.7.~~2026~~.

**V-300-2.~~242~~.29**

Section 105.7.~~485~~ of the California Fire Code, 2019 Edition, is amended to read as follows:

105.7.5 **Cryogenic fluids.** A construction permit is required for the installation of or alteration to stationary cryogenic fluid storage systems where the system capacity exceeds the amounts listed in Table 105.6.10. Maintenance performed in accordance with this Code is not considered to be an alteration and does not require a construction permit.

**V-300-2.30**

~~2046~~ Section 105.7.25 of the California Fire Code, 2019 Edition, is amended to read in its entirety as follows:

**105.7.~~1825~~** **Temporary membrane structures, tents and canopies.** A construction permit is required to erect an air-supported temporary membrane structure or a tent having an area in excess of 200 square feet (19 m<sup>2</sup>), or a canopy in excess of 400 square feet (37 m<sup>2</sup>). Smaller tents or canopies set side by side are considered as one, unless separated from each other by 10 feet on all sides.

**Exceptions:**

1. Tents used exclusively for recreational camping purposes

**V-300-2.~~2531~~**

Section 105.7.~~4926~~ is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

~~105.7.19~~ ~~Cryogenic Fluids.~~ Except where federal or state regulations apply and except for fuel systems of the vehicle, to produce, store or handle cryogenics in excess of the amounts listed in Table 105.6.10, to install a cryogenic vessel or piping system for the storage or distribution of cryogenics 105.7.2626

~~Section 105.7.20 is hereby added to the California Fire Code, 2016 Edition, to read as follows:~~

~~105.7.20~~ **Other building permits.** The Building Department shall transmit to the Fire Department a copy of each plan submitted for construction, alteration, or change of use or occupancy for all occupancy classifications for review and approval for conformance to the fire code of the City of Milpitas. The fee for each permit shall be as set by Section ~~105.1.4106.2~~ of this Code.

V-300-2.32

~~V-300-2.27~~

~~Section 106.12 of the InternationalCalifornia Fire Code, 20152019 Edition, is amended to read in its entirety as follows:~~

106.2 Schedule of permit fees. The fee for each permit shall be as set forth by resolution of the City of Milpitas City Council. The City Council may establish fees sufficient to recover its costs in administering this Code and no permit shall be issued until such fees have been paid. For work not disclosed in the fee schedule set by Council, the fire code official has the right to assess the necessary fees to recover the Fire Department's cost.

Operational Permits. All fees for annual operational fire permits under the provision of Section 105.6 of this Chapter shall be due and payable at the time of commencement of occupancy and said permit shall expire by December 31 of the same year. Fees for the renewal of such permit(s) shall be due and payable upon the expiration of the prior permit. No permit fee hereunder shall be refundable by reason of the cessation of occupancy during the permit period. Every annual permit fee that is not paid within a period of thirty (30) days from the time the same become due is hereby declared to be delinquent, and a penalty of 100% shall be added to say fee.

V-300-2.33

~~Section 107.1 of the California Fire Code, 2019 Edition, is amended to read in its entirety as follows:~~

107.1 Inspection Authorityauthority. The fire code official is authorized to inspect, as often as necessary, buildings and premises, including such other hazards or appliances designated by the fire code official for the purposes of ascertaining and causing to be corrected any conditions which would reasonably tend to cause fire or contribute to its spread, result in an unauthorized discharge of hazardous materials, or any violation of this ~~codeCode~~ or any other law or standard affecting fire and life safety. The fee for each inspection shall be as set forth by resolution of the City Council. The City may establish fees sufficient to recover its costs in administering this Chapter.

V-300-2.2834

~~Section 106107.5 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:~~

106107.5 Documents. Any person or party who prevents or attempts to prevent any fire code official from examining any relevant books or records in the conduct of his or her official duties under this ~~codeCode~~ shall be in violation of this ~~codeCode~~.

V-300-2.2935

~~Section 106107.6 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:~~

106107.6 Evidence. Any person or party who prevents or interferes with the preservation of evidence of any violation of any of the provisions of this ~~codeCode~~ or of the rules and regulations promulgated pursuant to this ~~codeCode~~ or any other Federal, State, or local law, rule, or regulation shall be in violation of this ~~codeCode~~.

V-300-2.36

~~V-300-2.30~~

Section ~~106107~~.7 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**~~106107.7~~** **Interference.** Any person or party who willfully prevents, interferes with, or attempts to hinder in any way the work of the fire code official in the lawful enforcement of any provision of this ~~code~~Code, or fails to promptly permit entry for the purpose of inspection and examination pursuant to this ~~code~~Code shall be in violation of this ~~code~~Code.

**~~V-300-2.3137~~**

Section ~~108109~~.1 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is amended to read in its entirety as follows:

**~~108109.1~~** **Appeals.** Whenever the Fire Chief or his or her designee disapproves an application or refuses to grant a permit applied for, or when it is claimed that the provisions of this Code do not apply or that the true intent and meaning of this Code have been misconstrued or wrongly interpreted, the applicant may appeal from the decision of the Fire Chief to the City ~~Manager~~Council or designee within ten (10) calendar days from the date of the decision appealed. Appeals shall be carried out pursuant to the provisions of Section 5 ~~Appeals to Council~~ of ~~the~~Chapter 20 Standard Procedures ~~Chapter of Title I~~ of the Milpitas Municipal Code. An appeal shall stay all proceedings in furtherance of the act or decision appealed unless the Fire Chief or his or her designee whose act is appealed shall certify in writing that a stay would, in his or her opinion, cause peril to life or property. Said certificate shall contain a detailed statement of the facts of which said peril arises and of the reasons for said opinion. The decision of the City ~~Manager~~Council or designee shall be final.

**~~V-300-2.38~~**

**~~V-300-2.32~~**

Section ~~108109~~.2 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is amended to read in its entirety as follows:

**~~108109.2~~** **Limitations on authority.** An application for appeal shall be based on a claim that the intent of this ~~code~~Code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this ~~code~~Code do not fully apply, or an equivalent method of protection or safety is proposed.

**~~V-300-2.39~~**

**~~V-300-2.33~~**

Section ~~108109~~.3 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is deleted in its entirety.

**~~108109.3~~** **Qualifications.** This section is deleted.

**~~V-300-2.40~~**

**~~V-300-2.34~~**

Section ~~109110~~.1.1 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**~~109110.1.1~~** **Abatement Of Fire And Life Safety Hazards By Fire Code Official**~~of fire and life safety hazards by fire code official~~. If any person fails to comply with the orders of the fire code official, or if the fire code official is unable to locate the owner, operator, occupant or other person responsible within a reasonable time, the fire code official or any authorized representative may take such steps as are necessary to abate the hazard for the protection of the public safety. In no event is notice necessary before abatement, when the hazard is a clear and present danger to the public welfare. All costs related to such abatement shall become a lien or special assessment on the subject property.

**~~V-300-2.3541~~**

Section ~~109110~~.1.2 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**~~109110.1.2~~** **Criminal Or Civil Penalty For Violation; Payment Of Funds To Account**~~or civil penalty for violation; payment of funds to account~~. Pursuant to the City's prosecutorial discretion, the City may enforce violations of the provisions of this ~~code~~Code in any manner authorized by this section or by any other law, including but not limited to

issuance of criminal citations, referral to the District Attorney, referral to the City Attorney, referral to other appropriate agencies, administrative actions and civil actions.

V-300-2.42

~~V-300-2.36~~

Section 409110.1.3 hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**409110.1.3 Misdemeanors – ~~Continuing Violations~~containing violations.** Any person who violates any of the provisions of this ~~codeCode~~, any of the provisions of any written authority of the City Manager or his or her duly authorized agents and representatives or any provision of any permit issued pursuant to this ~~codeCode~~ shall be guilty of an infraction/misdemeanor. Each and every day, or any part thereof, during which any such violation is committed, continued or allowed shall be a separate offense. Penalties for violations shall be as set forth by resolution of the City Council.

V-300-2.3743

Section 409110.1.4 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**409110.1.4 Prosecution.** Every violation of this ~~codeCode~~ shall be a misdemeanor; provided, however, that where the City Attorney or his or her duly authorized agents has determined that such action would be in the best interest of justice, the City Attorney may specify in the accusatory pleading, citation or amendment thereto that the violation shall be prosecuted as an infraction.

V-300-2.44

~~V-300-2.38~~

Section 409110.1.5 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**409110.1.5 Penalty ~~For Infraction~~for infraction.** Each and every violation of this ~~codeCode~~, which is deemed an infraction, is punishable by:

- (1) A fine not exceeding one hundred dollars (\$100.00) for the first violation;
- (2) A fine not exceeding two hundred dollars (\$200.00) for the second violation of the same ~~or similar~~ provision within one-year period; or,
- (3) A fine not exceeding five hundred dollars (\$500.00) for each additional violation, after the second, of the same ~~or similar~~ provision of this Chapter within a one-year period of the first violation.

~~V-300-2.39~~

V-300-2.45

Section 409110.1.6 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**409110.1.6 Penalty ~~For Misdemeanor~~for misdemeanor.** Each and every violation of this ~~codeCode~~, which is deemed a misdemeanor, is punishable by a penalty of not more than one thousand dollars (\$1,000.00) or by imprisonment in the City or County jail for a period not exceeding six (6) months, or, by both penalty and imprisonment.

~~V-300-2.40~~

V-300-2.46

Section 409110.1.7 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**409110.1.7 Enforcement ~~Authority~~authority.** The following designated employee positions may enforce the provisions of this ~~codeCode~~ by issuance of citations. Peace officers and persons employed in such positions are authorized to exercise the authority provided in Penal Code Section 836.5 and are authorized to issue citations for violations of this ~~codeCode~~. The designated employee positions are: the City Manager or his or her duly authorized agents and representatives.

V-300-2.4147



Section ~~409110~~.1.8 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**~~409110~~.1.8 Civil Penaltiespenalties.** Any person who intentionally, accidentally or negligently violates any provision of this ~~codeCode~~, any written authority of the City Manager or his or her duly authorized agents and representatives, or any provision of any permit issued pursuant to this ~~codeCode~~ may be civilly liable to the City in the sum of not less than one hundred dollars (\$100.00) but not to exceed one thousand dollars (\$1,000.00) per day for each day in which such violation occurs or continues. The City may petition the municipal or superior court to impose, assess, and recover such sums. The civil penalty provided in this Section excludes inspection costs and abatement costs, is cumulative and not exclusive, and shall be in addition to all other remedies available to the City under state and federal law and local ordinances. Funds collected pursuant to this Section shall be paid to ~~the~~ City's Fire ~~Code TrainingPrevention~~ account, which shall be a holding account to be used solely for Fire ~~codeCode~~ enforcement, fire prevention and hazardous materials training, and for the purchase of equipment as needed for the performance of the fire code official duties.

~~V-300-2.42~~

**V-300-2.48**

Section 202 of the California Fire Code, ~~2016~~2019 Edition, is amended by adding the following definitions:

**CARCINOGEN** is a substance that causes the development of cancerous growths in living tissue. A chemical is considered a carcinogen if:

1. It has been evaluated by the International Agency for Research on Cancer and found to be a carcinogen or potential carcinogen, ~~or~~
2. It is listed as a carcinogen or potential carcinogen in the latest edition of the Annual Report on Carcinogens published by the National Toxicology program, or
3. It is regulated by OSHA as a carcinogen.

~~—CONTINUOUS GAS DETECTION SYSTEM. A gas detection system where the analytical instrument is maintained in continuous operation and sampling is performed without interruption. Analysis is allowed to be performed on a cyclical basis at intervals not to exceed 30 minutes. In occupied areas where air is re-circulated and not exhausted to a treatment system (e.g. breathing zone), the fire code official may require a cyclical basis at intervals not to exceed 5 minutes. The gas detection system shall be able to detect the presence of a gas at or below the permissible exposure limit in occupiable areas and at or below 1/2 IDLH (or 0.05 LC 50 if no established IDLH) in unoccupiable areas.~~

**CORROSIVE LIQUID.** Corrosive liquid is:

1. any liquid which, when in contact with living tissue, will cause destruction or irreversible alteration of such tissue by chemical action; ~~or~~
2. any liquid having a -pH of 2 or less or 12.5 or more; ~~or~~
3. any liquid classified as corrosive by the U.S. Department of Transportation; or
4. any material exhibiting the characteristics of corrosivity in accordance with Title 22, California Code of Regulations §66261.22.

**DEVICE** is an appliance or piece of equipment that plays an active part in the proper functioning of the regulated systems. Examples include, but are not limited to the following: smoke detectors, heat detectors, flame detectors, manual pull stations, horns, alarms, bells, warning lights, hydrants, risers, FDCs, standpipes, strobes, control panels, transponders, and other such equipment used to detect, transmit, initiate, annunciate, alarm, or respond according to the system design criteria.

**MAXIMUM THRESHOLD QUANTITY (MAX TQ).** Maximum Threshold Quantity (Max TQ) is the maximum quantity of a moderately toxic or toxic gas, which may be stored in a single vessel before a more stringent category of regulation is applied.

**MINIMUM THRESHOLD QUANTITY.** Minimum threshold quantity is the aggregate quantity of highly toxic, toxic or moderately toxic gas in a control area which, due to the minimum aggregate quantities, need only comply with the requirements set forth in Section 6004.1.



**MODERATELY TOXIC GAS.** A chemical or substance that has a median lethal concentration (LC50) in air more than 2000 parts per million but not more than 5000 parts per million by volume of gas or vapor, when administered by continuous inhalation for an hour, or less if death occurs within one hour, to albino rats weighing between 200 and 300 grams each.

**OTHER HEALTH HAZARD MATERIAL** is a ~~hazardous material which is an irritant, sensitizer, or carcinogen or a~~ material which affects target organs of the body, including but not limited to, those materials which produce liver damage, kidney damage, damage to the nervous system, act on the blood to decrease hemoglobin function, deprive the body tissue of oxygen or affect reproductive capabilities, including mutations (chromosomal damage) or teratogens (effect on fetuses).

**SECONDARY CONTAINMENT.** Secondary containment is that level of containment that is external to and separate from primary containment and is capable of safely and securely containing the material, without discharge, for a period of time reasonably necessary to ensure detection and remedy of the primary containment failure.

**SENSITIZER** is a chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.

**SPILL CONTROL.** That level of containment that is external to and separate from the primary containment and is capable of safely and securely containing the contents of the largest container and prevents the materials from spreading to other parts of the room.

**TEMPORARY** shall not exceed one year.

**WORKSTATION** is a defined space or independent principal piece of equipment using hazardous materials with a hazard rating of 3 or ~~higher as ranked by~~ 4 in accordance with NFPA 704 where a specific function, laboratory procedure or research activity occurs. Approved or listed hazardous materials storage cabinets, flammable liquid storage cabinets or gas cabinets serving a workstation are included as part of the workstation. A workstation is allowed to contain ventilation equipment, fire protection devices, electrical devices, and other processing and scientific equipment.

**V-300-2.4349**

Chapter 3, General Requirements, of the ~~International California~~ Fire Code, ~~20152019~~ Edition, ~~with California State amendments~~ is hereby adopted and amended as follows:

~~V-300-2.44~~

**V-300-2.50**

Section ~~3.11311.5~~ of the ~~International California~~ Fire Code, ~~20152019~~ Edition, is hereby amended as follows:

The following sections are deleted:

Section 311.5 Placards.

Section 311.5.1 Placard Location.

Section 311.5.2 Placard Size And Color.

Section 311.5.3 Placard Date.

Section 311.5.4 Placard Symbols.

Section 311.5.5 Informational Use.

**V-300-2.4551**

Sections 315.8 to 315.8.10 are hereby added to the California Fire Code, 2019 Edition, as follows:

**315.8 Lithium battery storage and handling.** The storage and handling of lithium ion and lithium metal batteries or cells in quantities exceeding 1,000 pounds (4086 kg) shall comply with Section 315.8.1 through 315.8.10, and Chapter 32 where applicable.

**315.8.1 Permits.** Permits shall be required as set forth in Section 105.6.59.

**315.8.2 Maximum quantity in a fire area.** The aggregate amount of lithium batteries stored and handled in a single fire area shall not exceed 9,000 pounds (4086 kg).

**315.8.3 Construction requirements.** Fire areas shall be separated from each other by fire barriers having not less than 2-hour fire resistance rating constructed in accordance with Section 707 of the Building Code and horizontal assemblies constructed in accordance with Section 711 of the Building Code.

**315.8.4 Number of fire areas.** The maximum number of fire areas within a building shall be four.

**315.8.5 Group H, Division 2 occupancy.** Storage and handling of more than 9,000 pounds of lithium batteries per fire area shall be in an approved Group H, Division 2 occupancy constructed in accordance with the Building Code and provided throughout with approved automatic smoke detection and radiant-energy detection systems.

**315.8.6 Automatic sprinkler system.** Buildings containing fire areas used for lithium battery storage or handling shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. The design of the sprinkler system within each fire area shall not be less than that required for Extra Hazard Group 2 with a minimum design area of 2,500 square feet. Where the storage arrangement is required by other provisions of this code to be provided with a higher level of sprinkler system protection, the higher level of sprinkler system protection shall be provided.

**315.8.7 Automatic smoke detection system.** An approved automatic smoke detection system that activates an approved occupant notification system shall be provided throughout each fire area in accordance with Section 907.

**315.8.8 Radiant energy detection.** An approved radiant-energy detection system that activates an approved occupant notification system shall be installed throughout each fire area in accordance with Section 907.

**315.8.9 Collection containers.** Containers used to collect, or store lithium batteries shall be noncombustible and shall not have an individual capacity exceeding 30 gallons (113.6 L) or be approved for transportation in accordance with the Department of Transportation (DOTn).

**315.8.10 Storage configuration.** Lithium batteries shall be considered a high-hazard commodity in accordance with Chapter 32 and where applicable, lithium battery storage shall comply with Chapter 32 in addition to Section 315.8.

**V-300-2.52**

Section 316.7 is hereby added to the California Fire Code, ~~2016~~2019 Edition, ~~to read~~ as follows:

**316.7 Roof ~~Guardrails At Interior Courts~~guardrails at interior courts.** Roof openings into interior courts that are bounded on all sides by building walls shall be protected with guardrails. The top of the guardrail shall not be less than 42 inches in height above the adjacent roof surface that can be walked on. Intermediate rails shall be designed and spaced such that a 12-inch diameter sphere cannot pass through.

**Exception:** Where the roof opening is greater than 600 square feet in area.

**V-300-2.4653**

~~Section 503.1 of the~~ Sections 321 to 321.3.4 are hereby added to the California Fire Code, 2019 Edition, as follows:

**SECTION 321 Additive manufacturing.**

**321.1 General.** Additive manufacturing equipment and operations shall comply with Section 321.

**321.1.1 Scope.** Additive manufacturing shall comply with one of the following:

1. Non-industrial additive manufacturing shall comply with Section 321.2.
2. Industrial additive manufacturing shall comply with Section 321.3.

**321.1.2 Installation, operation and maintenance.** 3D printers and associated additive manufacturing equipment shall be installed, operated and maintained in accordance with this Code, the listing and the manufacturer's instructions.

**321.1.3 Production materials.** Only the production materials listed for use with the equipment and included in the manufacturer's instructions shall be used.

**321.2 Non-industrial additive manufacturing.** Non-industrial additive manufacturing equipment and operations shall comply with Section 321.2.1 through 321.2.4. Additive manufacturing equipment and operations that do not comply with Section 321.2 shall comply with Section 321.3.

**321.2.1 Listing.** 3D printers used in non-industrial additive manufacturing shall be listed and labeled in accordance with UL 60950-1, UL 62368-1 or UL 2011. The listing shall also verify:

1. The 3D printers are self-contained and utilize maximum 30-liter pre-packaged production materials.
2. The operation of the 3D printers shall not create a hazardous (classified) electrical area outside of the unit.
3. If any hazardous (classified) electrical area or zone exists inside of the unit's outer enclosure, the area shall be protected by intrinsically safe electrical construction or other acceptable protection methods.
4. The 3D printers shall not utilize inert gas or an external combustible dust collection.

**321.2.2 Occupancies.** Non-industrial additive manufacturing shall be permitted in all occupancy groups.

**321.3 Industrial additive manufacturing.** Industrial additive manufacturing equipment and operations shall comply with Section 321.3.1 through 321.3.13.

**321.3.1 Permits required.** Permits shall be obtained from the fire code official in accordance with Section 105.6 prior to engaging in industrial additive manufacturing operations.

**321.3.2 Listing.** 3D printers used in industrial additive manufacturing shall be listed and labeled in accordance with UL 2011 or approved for the application based on a field evaluation conducted by an approved agency.

**321.3.3 Combustible dusts and metals.** Industrial additive manufacturing operations that store, use or produce combustible dust, combustible particulate solids or combustible metals shall comply with Chapter 22 and this code.

**321.3.4 Powder evaluation.** Printing powders used in industrial additive manufacturing operations shall be tested for combustibility in accordance with NFPA 484 or NFPA 652 as applicable. A copy of test reports shall be provided to the fire code official upon request.

#### **V-300-2.201654**

Section 503 of the California Fire Code, 2019 Edition is adopted and Section 503.1 of the California Fire Code, 2019 Edition, is amended to read in its entirety as follows:

**503.1 Where required.** Fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.67, Appendix D of this ~~code~~Code, and or as directed by the fire code official.

#### **V-300-2.4755**

Section 503.2.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

**503.2.1 Dimensions.** Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm) or as required by Appendix D, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of 13 feet 6 inches (4115 mm).

**Exception:** When there are not more than two Group R, Division 3 or Group U occupancies less than 3 stories, the access road width may be modified by the fire code official.

#### **V-300-2.4856**

Section 503.7 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**503.7 Adjacent ~~Aeeess~~access.** No source of access from lands adjoining a property to be developed shall be considered fire apparatus access roads, unless there is obtained the irrevocable and unobstructed rights and recorded as an ingress/egress access easement with the Country of Santa Clara.

**V-300-2.4957**

Section 504.3.1 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**504.3.1 Number of stairways.** The fire code official shall determine the required number and location of stairway(s) to the roof.

**V-300-2.5058**

Section 504.5 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**504.5 Enclosed courts.** Buildings with enclosed courts shall be provided with readily accessible access for fire department personnel to bring in a 36 feet long ground ladder into the court. The access height and width shall be large enough to accommodate the ladder and the personnel carrying the ladder.

**V-300-2.5159**

Section 504.6 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**504.6 Access Control Devices.** When access control devices including bars, grates, gates, electric or magnetic locks or similar devices, which would inhibit rapid fire department emergency access to the building, are installed, such devices shall be approved by the fire code official. All access control devices shall be provided with an approved means for deactivation or unlocking by the fire department. Access control devices shall also comply with Chapter 10 Egress.

**V-300-2.5260**

Section 505.3 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**505.3 Address illumination.** All required address numbers shall be provided with illumination.

**V-300-2.53—61**

Section 507.5.1.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

**507.5.1.1 Hydrant for automatic fire sprinkler and or standpipe systems.** Buildings equipped with an automatic fire sprinkler system and or a standpipe system installed in accordance with Sections 903 and or 905 shall have a fire hydrant within 50 feet of the fire department connections.

**Exception:** The distance shall be permitted to exceed 50 feet (30 m) where approved by the fire code official.

**V-300-2.5462**

Section 507.5.7 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**507.5.7 Private hydrants.** Private hydrants shall have the bottom 6 inches of the hydrant painted, with a weather resistive paint, white in color.

**V-300-2.5563**

Section 508.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to read as follows:

**508.1 General.** Where required by other sections of this ~~code~~Code and in all R-1 buildings with more than 200 rooms, R-2 buildings with more than 100 dwellings, and buildings classified as high-rise buildings by the California Building Code and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access, a fire command center for fire department operations shall be provided and shall comply with Sections 508.1.1 through 508.1.7.

**V-300-2.5664**

Section 508.1.2 of the California Fire Code, 2019 Edition, is amended to read as follows:

**508.1.2 Separation.** The fire command center shall be separated from the remainder of the building by not less than a 2-hour fire barrier constructed in accordance with Section 707 of the California Building Code or horizontal assembly constructed in accordance with Section 711 of the California Building Code, or both.

**V-300-2.65**

Section 508.1.6 of the California Fire Code, ~~2016~~2019 Edition, is amended by adding the following:

20. A locking key box, approved by the fire code official, large enough for ten (10) sets of master keys.
21. Ten (10) sets of master keys for the building.
22. A complete set of architectural, electrical, mechanical and plumbing plans for the building.

**V-300-2.57 — ~~66~~**

Section 510.1 of the California Fire Code, ~~2013~~2019 Edition, is amended to read as follows:

**~~510~~ — ~~EMERGENCY RESPONDER RADIO COVERAGE~~**

**510.1 Emergency responder radio coverage in new buildings.** Approved radio coverage for emergency responders shall be provided within all buildings meeting any one of the following conditions:

1. There are more than 3 stories above grade plane (as defined by the Building Code Section 202);
2. The total building area is 30,000 square feet or more;
3. The total basement area is 5,000 square feet or more;
4. Where required by the fire code official and radio coverage signal strength levels are not consistent with the minimum levels set forth in Section 510.4.1

**Exceptions:**

1. Where approved by the fire code official, a wired communication system in accordance with Section 907.2. ~~13~~12.2 shall be permitted to be installed or maintained in lieu of an approved radio coverage system.
2. Where it is determined by the fire code official that the radio coverage system is not needed.
3. In facilities where emergency responder radio coverage is required and such systems, components or equipment required could have a negative impact on the normal operations of that facility, the fire code official shall have the authority to accept an automatically activated emergency responder radio coverage system.
- 4.- Buildings and areas of buildings that have minimum radio coverage signal strength levels of the Silicon Valley Regional Interoperability Authority (SVRIA) P25 Phase 2 700 MHz Digital Trunked Radio System within the building in accordance with Section 510.4.1 without the use of an indoor radio coverage system.

The radio coverage system shall be installed and maintained in accordance with Sections 510.4 through 510. ~~76~~4 of this ~~code~~Code and with the applicable provisions of NFPA 1221, Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems.

The coverage shall be based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.

**V-300-2.67**

Section 510.1.1 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

**510.1.1 Obstruction by new buildings.** No obstruction of the public safety system backhaul shall be allowed without an approved mitigating plan.

~~510.2 Emergency responder radio coverage in existing buildings. Existing buildings shall be provided with approved radio coverage for emergency responders as required in Chapter 11.~~

**V-300-2.68**

Section 510.2 of the California Fire Code, 2019 Edition, is deleted.

**V-300-2.69**

Section 510.3 of the California Fire Code, 2019 Edition, is amended to read as follows:

**510.3 Permit required.** A construction permit for the installation of or modification to emergency responder radio coverage systems and related equipment is required as specified in Section 105.7.56. Maintenance performed in accordance with this ~~code~~Code is not considered a modification and does not require a permit. A frequency change made to an existing system is considered to be new construction and will require a construction permit.

An operational permit may be required by the authority having jurisdiction to maintain an emergency responder radio coverage system.

**V-300-2.70**

Section 510.3.1 ~~SVRIA system registration. Prioris hereby added~~ to issuance of a construction permit, systems must be the California Fire Code, 2019 Edition, to read as follows:

~~501.3.1 California registered with the SVRIA professional. The plans and proof of registrations specifications shall be submitted to wet stamped and signed by a California professional engineer or architect per the fire code official upon plan submittal. California Business and Professional Code Sections 5538 and 6745, in addition to a valid California FCC registered licensee.~~

**V-300-2.71**

Section 510.4 of the California Fire Code, 2019 Edition, is amended to read as follows:

**510.4 Technical requirements.** Systems, components, and equipment required to provide emergency responder radio coverage systems shall comply with ~~Section 510.4.1 through 510.4.2.5~~the current Emergency Responders Radio Coverage Systems Standard Details and Specifications enforced by the Milpitas Fire Department.

**V-300-2.72**

Section 510.4.1.1 of the California Fire Code, 2019 Edition, is amended to read as follows:

~~510.4.1.1 Minimum signal strength into the building. 510.4.1 Radio~~ A minimum inbound signal strength. The building shall be considered sufficient to have acceptable emergency responder radio provide usable voice communications throughout the coverage when signal strength measurements in 90 percent of all areas on each floor of the building meet the signal strength requirements in Sections 510.4.1.1 and 510.4.1.2.

~~Exception: Critical areas, such as the fire command center(s), the fire pump room(s), interior exit stairways, exit passageways, elevator lobbies, standpipe cabinets, rescue air filling stations, sprinkler sectional valve locations, and other areas required area as specified by the fire code official. The inbound signal level shall be provided with 99 percent floor~~



area radio coverage sufficient to provide not less than a Delivered Audio Quality (DAQ) of 3.0 for analog communications and DAQ of 3.4 for digital communications systems or an equivalent Signal-to-Interference-Plus-Noise Ratio (SINR) applicable to the technology.

~~510.4.1.1 Minimum signal strength into the building. A minimum signal strength of 95 dBm shall be receivable in 90% of the area of each floor within the building when transmitted from the Silicon Valley Regional Interoperability Authority (SVRIA) P25 Phase 2 700 MHz Digital Trunked Radio System.~~

### **V-300-2.73**

Section 510.4.1.2 of the California Fire Code, 2019 Edition, is amended to read as follows:

**510.4.1.2 ~~Maximum~~Minimum signal strength out of the building.** ~~A maximum signal strength of 95 dBm shall be received by the Silicon Valley Regional Interoperability Authority (SVRIA) P25 Phase 2 700 MHz Digital Trunked Radio. The minimum outbound signal strength shall be sufficient to provide usable voice communications throughout the coverage area as specified by the fire code official. The outbound signal level shall be sufficient to provide not less than a DAQ of 3.0 for analog communications and DAQ of 3.4 for digital communications systems or an equivalent SINR applicable to the technology.~~

### **V-300-2.74**

Section 510.4.2.5 of the California Fire Code, 2019 Edition, is amended to read as follows:

**501.4.2.5 System monitoring.** The emergency responder radio enhancement system shall be monitored as required below:

1. By a listed fire alarm control unit installed with the protected building. Automatic supervisory signals to the fire alarm shall include all the following:
  - 1.1. Loss of normal AC power supply.
  - 1.2. System at battery charger(s) failure.
  - ~~1.1.3. Malfunction of the donor site when transmitted from 90% of the area of each floor within the building.~~  
1.1.3. Malfunction of antenna(s).
  - ~~1.4. 510.4.1.3 Signal strength differential. The system shall be designed to ensure that there is a minimum 15 dBm difference.~~  
Malfunction of area antenna(s).
  - 1.5. Failure of active RF-emitting device(s).
  - 1.6. Low-battery capacity at 70-percent reduction of operating capacity.
  - 1.7. Failure of critical system components.

The communications link between the interior and exterior signal strength.

~~510.4.1.4 Delivered audio quality. The radio coverage fire alarm system shall provide a minimum delivered audio quality of level 3.4 (DAQ "3.4") on each floor of and the building or structure. DAQ 3.4 constitutes audio quality that makes speech understandable with repetition only rarely required with some noise and distortion.~~

~~510.4.1.5 Building conduit and pathway survivability. All new buildings shall be constructed with not less than a two inch (2") conduit having a minimum two hour fire resistive rating installed between the first floor or the bottom subterranean floor to the roof.~~

~~Installed riser cable shall be protected by a 2-hour rated enclosure.~~

~~Exception~~ ~~In existing buildings, riser cable mechanically protected by metal conduit can be routed through a sprinkler-protected, 1-hour rated enclosure, including the door.~~

~~All feeder cable shall be either protected by an automatic sprinkler system in accordance with NFPA 13 or installed within approved metal raceway.~~

~~All radio cable (riser and feeder) is required to be plenum rated. Cable other than radio cable is allowed to comeingle with the radio cable in the conduit provided it is listed, shielded cable that will not interfere with the radio cable.~~

~~At each floor and the roof, an opening shall be made to allow easy access to the conduit from the ceiling.~~

~~Access in either the form of a drop ceiling or access panel shall be made along hallways and through firewalls.~~

~~All floors of the subterranean parking garages shall have a similar conduit installation and access.~~

~~1.2.1.8. 510.4.2 System design.~~ The emergency responder radio coverage system shall be designed in accordance with Sections 510.4.2.1 through 510.4.2.5 enhancement system.

~~510.4.2.1 Amplification systems allowed.~~ Buildings and structures that cannot support the required level of radio coverage shall be equipped with a radiating cable system, a distributed antenna system with Federal Communications Commission (FCC) certified, Class A channelized (spectrum agile) public safety grade signal boosters (amplifiers) designed for the frequencies specified by the fire code official, in order to achieve the required adequate radio coverage.

~~510.4.2.2 Technical criteria.~~ The fire code official shall provide the various frequencies required, the location of radio sites, effective radiated power of radio sites, and other supporting technical information upon request by the building owner or owner's representative.

2. ~~510.4.2.2.1~~ System performance shall be continuously monitored by an approved third-party monitoring company capable of monitoring the performance of the ERRC system and initiating an appropriate response if the system begins to operate outside of the established system parameters.

## V-300-2.75

Section 510.4.2.5.1 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

~~510.4.2.5.1 Remote off-switch.~~ The Public Safety radio system, extending from the head end amplifier to the distributed antennas shall not be combined with other DAS systems installed in the building.

~~510.4.2.2.2~~ A single antenna system is allowed provided the antennas are capable of passively distributing all frequencies between 698MHz and 2.7GHz and the hardware for both Public Safety and wireless carrier frequencies are completely separate with necessary filters. The single antenna system must also be tested and certified by a qualified contractor.

~~510.4.2.2.3~~ Where fiber distribution systems are used to extend the Public Safety radio system throughout the building or to other buildings, the horizontal fiber runs shall be enclosed in conduit meeting at least the building conduit requirements in Section 510.4.1.5.

~~510.4.2.3~~ **Power supply sources.** Emergency responder radio coverage systems shall be provided with at least two independent and reliable power supply sources conforming to NFPA 72 and the Electrical Code, one primary and one secondary. The standby power supply shall be an approved UPS system capable of operating the emergency responder radio coverage system for shall be equipped with a duration remote off-switch that can be initiated by the third-party monitoring company with approval of not less than 24 hours. When primary power is lost, the power supply the fire department if the system begins to operate outside of established system parameters.



**V-300-2.76**

Section 510.5 of the California Fire Code, 2019 Edition, is amended to read as follows:

~~**510.5 Installation requirements.** The installation of the emergency responder radio coverage system shall automatically transfer to the standby power supply be in accordance with NFPA 1221 and the current Emergency Responder Radio Coverage Systems Standard Details and Specification enforced by the Milpitas Fire Department.~~

~~— **510.4.2.3.1 Emergency power off (EPO).** The UPS system shall be equipped with an emergency power off (EPO) switch in a location approved by the fire code official. The EPO shall disconnect both the circuit breaker and secondary power supply simultaneously.~~

~~— **510.4.2.4 Signal booster requirements.** If used, signal boosters shall meet the following requirements:~~

- ~~1. All signal booster components shall be contained in a National Electrical Manufacturer’s Association (NEMA) 4-type waterproof cabinet.~~
- ~~2. Battery systems used for the emergency power source shall be contained in a NEMA 4 type waterproof cabinet.~~
- ~~3. The signal booster system and power supply(ies) shall be electrically supervised and monitored in accordance with NFPA 1221. For buildings without a fire alarm system, a dedicated monitoring panel in accordance with NFPA 72 shall be provided to annunciate automatic supervisory and trouble signals for the signal booster system and power supply(ies) and sound an audible signal at a constantly attended location.~~
- ~~4. Equipment shall have FCC certification prior to installation.~~

~~— **510.4.2.5 Additional frequencies and change of frequencies.** The emergency responder radio coverage system shall be capable of modification or expansion in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC.~~

~~**510.5 Installation requirements.** The installation of the public safety radio coverage system shall be in accordance with Sections 510.5.1 through 510.5.6.~~

**V-300-2.77**

Section 510.5.1 of the California Fire Code, 2019 Edition, is amended to read as follows:

**510.5.1 Approval prior to installation.** Amplification systems capable of operating on frequencies licensed to any public safety agency by the FCC or other radio licensing authority shall not be installed without prior coordination and approval of the fire code official and the agency FCC license holder or systems administrator.

~~— **510.5.2 Minimum qualifications of personnel.** The minimum qualifications of the system designer, lead installation personnel and personnel conducting radio system testing shall include possession of both of the following:~~

- ~~1. A valid FCC issued general radio operators license; and~~
- ~~2. Certification of in-building system training issued by one of the following:
  - ~~a. Associated Public Safety Communications Officials (APCO);~~
  - ~~b. National Association of Business Education Radio (NABER);~~
  - ~~c. Personal Communications Industry Association (PCIA) or;~~
  - ~~d. the manufacturer of the equipment being installed.~~~~

~~All design documents and all tests shall be documented and signed by a person meeting the minimum qualification noted in this section.~~

**V-300-2.78**

Section 510.5.3 first paragraph of the California Fire Code, 2019 Edition, is amended to read as follows:

**510.5.3 Acceptance test procedure and system certification.** ~~When~~Where an emergency responder radio coverage system is required, and upon completion of installation, the building owner shall have the radio system tested to verify that two-way coverage on each floor of the building is ~~in accordance with Section 510.4.1 not less than 95 percent.~~ Final system acceptance will require ERRCS power level and DAQ testing with agency FCC license holder, systems administrators, or designee. The test procedure shall be conducted as follows:

**V-300-2.79**

- ~~1. Talk back testing from a site to the Silicon Valley Regional Interoperability Authority (SVRIA) P25 Phase 2 700 MHz Digital Trunked Radio System shall use Milpitas Fire and Police Departments Public Safety radio(s) on the designated control channel and may be witnessed by representatives of the Milpitas Fire and Police Departments Public Safety.~~
- ~~2. Each floor of the building shall be divided into a grid of 20 approximately equal test areas.~~
- ~~3. The test shall be conducted using a calibrated portable radio of the latest brand and model used by the agency talking through the agency's radio communications system.~~
- ~~4. In the event that three of the test areas on a floor fail the talk back test, in order to be more statistically accurate, the floor shall be permitted to be divided into 40 equal test areas. If the system fails the 90% coverage requirement for the 40 area test, the emergency responder radio system shall be altered to meet the 90 percent coverage requirement.~~  
~~—Exception: Critical areas shall be provided with 99 percent floor area coverage.~~
- ~~5. A test location approximately in the center of each test area shall be selected for the test, with the radio enabled to verify two way communications to and from the outside of the building through the Silicon Valley Regional Interoperability Authority (SVRIA) P25 Phase 2 700 MHz Digital Trunked Radio System. Once the test location has been selected that location shall represent the entire test area. Failure in the selected test location shall be considered failure of that test area.~~
- ~~6. The test for emergency responder radio coverage will be considered passed when 90% of the test locations on each floor are able to pass two way communications to and from the outside of the building.~~  
~~—Exception: Critical areas shall be provided with 99 percent floor area radio coverage.~~
- ~~7. The gain values/output levels of all amplifiers shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified during annual tests. In the event that the measurement results become lost, the building owner shall be required to rerun the acceptance test to reestablish the gain values.~~
- ~~8. As part of the installation a spectrum analyzer or other suitable test equipment shall be utilized to ensure spurious oscillations are not being generated by the subject signal booster. This test shall be conducted at time of installation and subsequent annual inspections.~~

~~9. Individuals conducting initial benchmark and system acceptance tests shall meet the minimum qualifications in accordance with Section 510.5.2. All test results are required to be validated by an approved third party, independent of the system designer and installer.~~

~~Prior to issuance of the building Certificate of Occupancy, a system acceptance test report shall be submitted to the fire code official, maintained on the premises and be made available to the public safety department upon request. The report shall verify compliance with Section 510.5.4, and include the emergency responder radio coverage system equipment data sheets, diagram showing device locations and wiring schematic, and a copy of the electrical permit and system certification letter.~~

~~— **510.5.4** — **FCC Compliance.** The emergency responder radio coverage system installation and components shall also comply with all applicable federal regulations, including, but not limited to, FCC 47 CFR Part 90.219.~~

~~— **510.5.5** — **Location of equipment.** For buildings without a fire command center the communications control equipment shall be located inside the building near the fire alarm control panel, or other approved location.~~

~~— **510.5.6** — **Signage.** Buildings equipped with an emergency responder radio coverage system shall be identified by an approved sign located above or near the building key box stating: “Radio System Installed.”~~

~~— **510.6** — **Maintenance.** The emergency responder radio coverage system shall be maintained operational at all times in accordance with Sections 510.6.1 through 510.6.5.~~

~~— **510.6.1** — **Testing and proof of compliance.** The emergency responder radio coverage system shall be inspected and tested annually or whenever structural changes occur including additions or remodels that could materially change the original field performance tests. Individuals conducting the tests shall meet the minimum qualifications in accordance with Section 510.5.2. All test results are required to be validated by an approved third party, independent of the system designer and installer. Testing shall consist of the following:~~

- ~~1. In building coverage test as described in Section 510.5.3.~~
- ~~2. Signal boosters shall be tested to verify that the gain/output level is the same as it was upon initial installation and acceptance.~~
- ~~3. Backup batteries and power supplies shall be tested under load of a period of 1 hour to verify that they will properly operate during an actual power outage. If within the 1 hour test period the battery exhibits symptoms of failure, the test shall be extended for additional 1-hour periods until the integrity of the battery can be determined.~~
- ~~4. All other active components shall be checked to verify operation within the manufacturer’s specifications.~~
- ~~5. At the conclusion of the testing, a report, which shall verify compliance with Sections 510.5.3 and 510.6 shall be submitted to the fire code official and a copy maintained on the premises and made available to the authority having jurisdiction upon request.~~

~~— **510.6.2** — **Additional frequencies.** The building owner shall modify or expand the emergency responder radio coverage system at their expense in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC. Prior approval of a public safety radio coverage system on previous frequencies does not exempt this section.~~

~~— 510.6.3 — Field testing.~~ Agency personnel shall have the right to enter onto the property at any reasonable time to conduct field testing to verify the required level of radio coverage.

~~— 510.6.4 — Qualifications of testing personnel.~~ All tests shall be documented and signed by a person meeting the minimum qualifications set forth in Section 510.5.2.

~~— 510.6.5 Continuing operation/supervision.~~ The occurrence of any fault in an emergency responder radio coverage system where the system function is decreased shall result in the transmission of a supervisory signal to a supervisory service. Systems that are out of service for more than 8 hours require notification to the fire code official.

~~Design Details for Approved Building Signage Required in Section 510.5.6:~~

~~6" x 8" Sign  
½" Lettering  
2" x 4" Graphic  
Red Background with White  
Letters and Graphic~~



## Radio System Installed

~~V-300-2.58~~

Section 605.1318 hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**605.13-18 Immersion Heatersheaters.** All electrical immersion heaters used in dip tanks, sinks, vats and similar operations shall be provided with approved over-temperature controls and low liquid level electrical disconnects. Manual reset of required protection devices shall be provided.

~~V-300-2.5980~~

Section ~~607606~~.1.1 hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**~~607606~~.1.1 New elevators.** All new passenger service elevators shall meet the medical service elevator requirements in the California Building Code, ~~2016~~2019 Edition, Chapter 30.

**V-300-2.81**

~~V-300-2.60~~

~~Section 608.6.1.1 is hereby added to the California Fire Code, 2016 Edition, to read as follows:~~

~~**608.6.1.1 Failure of Ventilation System.** Failure of the ventilation system shall automatically disengage the charging system.~~

~~V-300-2.61~~

Section 903.1.2 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**903.1.2 Fire Walls and Fire Barriers.** Fire walls and fire barriers shall not be considered to create separate buildings for the purpose of automatic fire sprinkler requirements as set forth in Chapter 9 of this ~~code~~Code.

**Exception:** Buildings separated by continuous fire wall of 4-hour fire resistive construction without openings or penetrations. Buildings required to have automatic fire sprinkler protection as set forth in Section 13113 of Health and Safety Code are prohibited from using fire walls in lieu of automatic fire sprinkler protection.

**V-300-2.6282**

Section 903.2 of the California Fire Code, ~~2016~~2019 Edition, is amended to read as follows:

**903.2 Where Required.** Approved automatic sprinkler systems in new and existing buildings and structures shall be provided in the locations described in this Section or per the requirements set forth in Sections 903.2.1 through 903.2.~~1920~~, whichever is the more restrictive:

1. In other than residential buildings which require the installation of fire sprinkler for all new buildings according to the California Residential Code, an automatic sprinkler system shall be provided throughout all new buildings and structures greater than 1,000 square feet of building area.

**Exception:**

Group S-2 or U occupancies used exclusively for vehicle parking and which meet all of the following:

- a. Noncombustible construction.
  - b. Maximum building area not to exceed 5,000 square feet. Structures with less than 10' horizontal separation are considered as one.
  - c. Structure is open on three (3) or more side.
  - d. Minimum of 10 feet separation from existing buildings unless area is separated by fire walls complying with California Building Code-~~706~~.
2. An automatic fire sprinkler system shall be provided throughout existing Group A, B, E, F, L, M, S and U buildings and structures, when additions are made that increase the building area to more than 3,600 square feet or that create conditions described in Sections 903.2.1 through 903.2.~~1920~~.
  3. An automatic sprinkler system shall be provided throughout existing Group R occupancies when additions are made that increase the building area to more than 3,600 square feet, or when the Building Department determines that the home needs to comply with the current CA Building Codes due to extensive remodel/renovation.

4. An automatic sprinkler system shall be provided throughout all new basements regardless of size and throughout existing basements that are expanded by more than 50%.
5. Any change in the character of occupancy or in use of any building with a building area equal to or greater than 3,600 square feet which, in the opinion of the fire code official or building official, would place the building into a more hazardous division of the same occupancy group or into a different group of occupancies and constitutes a greater degree of life safety<sup>1</sup> or increased fire risk<sup>2</sup>, shall require the installation of an approved fire automatic fire sprinkler system.

1. Life Safety – Increased occupant load, public assembly areas, public meeting areas, churches, indoor amusement attractions, buildings with complex exiting systems due to increased occupant loads, large schools/day-care facilities, large residential care facilities with non-ambulatory

2. Fire Risks – High-piled combustible storage, woodworking operations, hazardous operations using hazardous materials, increased fuel loads (storage of moderate to highly combustible materials), increased sources of ignition (welding, automotive repair with the use of flammable liquids and open flames).

**V-300-2.6383**

Section 903.3.1.1 of the California Fire Code, 20162019 Edition, is amended to read as follows:

**903.3.1.1 NFPA 13 sprinkler systems.** Where the provisions of this ~~code~~Code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 as amended in Chapter 80 except as provided in Section 903.3.1.1.1 and 903.3.1.1.2.

For a new building having no designated use or tenant, the minimum sprinkler design density shall be Ordinary Hazard Group 2. Where future use or tenant is determined to require a higher density, the sprinkler system shall be augmented to meet the higher density.

**V-300-2.6484**

Section 903.3.1.4 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**903.3.1.4 One sprinkler design.** One sprinkler head design shall not be permitted.

~~V-300-2.65~~

**V-300-2.85**

Section 903.3.5.3 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**903.3.5.3. Riser ~~Location~~location.** The fire sprinkler system riser shall not be located within electrical rooms or storage closets and shall be provided with clear access and working clearance. The fire sprinkler system riser location shall be approved by the fire code official.

**V-300-2.6686**

Section 903.3.5.4 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**903.3.5.4 Number of water supplies.** For buildings and or structures over 200,000 square feet, the fire code official may require more than one source of water supply.

**V-300-2.6787**

Section 903.3.5.5 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**903.3.5.5 Sprinkler ~~Riser~~riser system.** The sprinkler riser system shall be a manifold type system and shall meet the design requirements of the NFPA 13 Standards.

**V-300-2.6888**

Section 903.3.5.6 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**903.3.5.6 Water supply safety margin.** Hydraulic design for the automatic fire sprinkler system shall provide a minimum of 20% safety margin.

**Exception:** The fire code official may grant a reduction in the required safety margin for existing buildings but not less than 10%.

**V-300-2.6989**

Section 903.3.5.7 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**903.3.5.7 Sprinkler pipe velocity.** The automatic fire sprinkler system shall be designed to a maximum 20 feet per second water flow.

**Exception:** The fire code official may grant higher water velocity for existing buildings when supported by mechanical engineering design done by a California registered engineer.

**V-300-2.7090**

Section 907.2.9.1 of the California Fire Code, 2016 Edition, is amended to delete the following:

**907.2.9.1 Manual fire alarm system.** Exception 3. ~~Isis~~ deleted.

~~V-300-2.71~~

V-300-91

Section 913.7 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

**913.7 Fire Pump standby power.** Power supply from local utility provider is not considered a reliable source of power. Standby power is required for electrical or natural gas fire pumps.

V-300-2.92

Section 914.2.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to delete the exception:

**914.2.1 Automatic sprinkler systems** exception ~~under item number 2 (open parking garages) is is~~ deleted.

V-300-2.93

~~V-300-2.72~~

Section 914.3.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to delete the exception:

**914.3.1 Automatic sprinkler systems** exception is deleted.

~~V-300-2.7394~~

Section 914.3.9 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**914.3.9 Anchor devices.** Anchor repelling devices meeting the Fire department requirements shall be placed on the roof for Fire department use.

~~V-300-2.7495~~

Section 914.3.10 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**914.3.10 Helicopter pad.** High-rise buildings greater than 150' in height (above the lowest level of Fire department access) may be required to provide a helicopter pad, which meets the requirements of the Fire department.

~~V-300-2.7596~~

Section 914.4.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to delete the exceptions:

**914.4.1 Automatic ~~Sprinkler Systems~~sprinkler systems** exceptions 1 and 2 are deleted.

~~V-300-2.76~~



**V-300-2.97**

Section 914.6.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to delete the exceptions:

**914.6.1 Automatic Sprinkler Systems** exceptions 1 and 2 are deleted.

**V-300-2.7798**

Section 914.12 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**914.12 Special Provisions For Group B office Buildings and Group R Division 1 and 2 Occupancies.** All Group B office buildings and Group R, Division 1 & 2 Occupancies, each having floor used for human occupancy located more than 60 feet above the lowest level of Fire Department vehicle access, or more than 4 stories in height shall provide the following:

1. Equipment cache rooms shall be located on the 1<sup>st</sup> floor above the ground floor, and every other floor thereafter, or as directed by the fire code official.
  - a. Cache rooms shall be located and accessible from within the rated stair enclosures.
  - b. Prior to the purchase of the fire department cache room equipment and or materials a complete list of the equipment and or materials with all necessary cut-sheets shall be submitted to the fire department for review and approval.
  - c. Due to operational needs, the fire code official reserves the right to make changes to the required equipment and or materials listed under item 2 below.
2. Each equipment storage room size should be a minimum of 4’ deep, full height (8’ to 9’), with a door the minimum width of 43”. A roll-up door can be used provided it has a 43” minimum width and unobstructed access. It shall have a power outlet to provide electricity, a light (connected to a ‘timer’), be sprinklered, and be locked with a ‘break-away’ type lock. Fixed shelving<sup>1</sup> shall be provided in a configuration approved by the fire agency to store items that may include, but not be limited to:

<b>Item</b>	<b>ITEM DESCRIPTION</b>	<b>PART NUMBER</b>	<b>PER ROOM</b>
1)a	2.5 Inch Hose Pack Straps	Turning Out Solutions	24
1)b	2.5X50 Foot Durabuilt Hose	DB25X50YEN NAFH	8
1)c	Straight Tip 1-1/8 X 1.5 NH	FSS10TFT	2
1)d	Ball Valve 2.5 Female X 1.5 Male	J140F	2
1)e	Universal Spanner Wrench	00100001 AKR	2
1)f	Gated Wye	AYNJNF TFT	2
1)g	2 1/2 x 1 1/2 reducer	3725N15N	2
2)a	50' banded hose roll	DF817X50R15NH NAFH	2
2)b	Red Hose Ret. Bands	HRRBARC	2
3)	15' Stinger length hose	DF3X15Y25NH NAFH	2
4)	Halligan Style Tool	HAL1P36	1
5)a	Pick head axe	6PH36W	1
5)b	Flat head axe	6FH32W	1
6)	Attic ladder	10102LG LITTLE GIANT	1
7)	Ames Wrecking bar	75036	1
8)	Open door industries stops	WIY ODI	24
9)	Salvage Cover	14VSC1214GR GOS	4

<sup>1</sup> Shelving shall be every 16” after ladder placement is determined.



Item	ITEM DESCRIPTION	PART NUMBER	PER ROOM
10)	Spare Sprinkler heads (3) each type per bldg	To be Determined	3
11)	Sprinkler wrench	To be Determined	1
12)	Push cart for SCBA cylinders	MBR16 GROVES	1
13)a	RIT Pack	TRUE NORTH L-2 RIT BAG	1
13)b	Facemask	R56424 DRAGER	1
13)c	McGuire Diaper	RICTARP MCGUIRE	1
14)	Evacuation Chair— <del>Each side of Cache Room</del>	6252 STRYKER	2
15)a	Air Bottles 45 min Carbon Cylinder Clear	4058992 DRAGER	8
15)b	Air Bottles 60 min Carbon Cylinder Clear	4058993 DRAGER	1
15)c	Quick Release Adapter	4046162 DRAGER	8
15)d	Weather Guard Gasket	4058936 DRAGER	9
15)e	<del>Pneumatic Dual Line w/ Whistle</del>	<del>4058936 DRAGER</del>	<del>1</del>
15)f	<del>LVD Assembly</del>	<del>3355679 DRAGER</del>	<del>1</del>
16)	Red Webbing	200103 CMC	4
17)	D lock Carabiner	300221 CMC	2
18)	Wagan LED Flare	WAGAN EL2639-3 FRED	2
19)	Cable Cutter	UPB41 BEN NAW	1
20)	18 Inch Pipe Wrench	5862074118 Irwin	1
21)	30 Degree Elbow Adapter 2.5'	E253025N25N	4
22)	Encased Line Gauge 2.5 Redhead	155225N RH	2
23)	Speed Swivel	480-NST	1
24)	Adapter 1.5NHFRLX2.5NHM	3715N25N	2
25)	16" Large Mouth Tool Bag	<del>88598N1467126-02</del> HUSKY	2
26)	<del>Yellow</del> -Polytac <del>Flshht</del> Flashlight	88853 STRMLIT	2
27)	<del>LED Flashing Lights</del>	<del>TBD by MFD</del>	<del>3</del>

3. Equipment maintenance, inspections, replacement and or equipment update and required certification(s) shall be the responsibility of the building owner and or owner’s association.

\*The fire code official may require, an air bottle filling system shall have the fill access port located at a reasonable distance from each structure that takes into account debris fall out & collapse zones. A ‘monument-type’ fill station port should be located near a public roadway, not adjacent to the structure. The underground piping system, designed and installed with stainless steel welded fittings and piping, should terminate at this monument. A weather tight access panel with Knox-box key entry should also be provided. The storage system should be designed to provide enough air @ 4500 psig for up to fifty 45 minute bottles, prior to augmentation by an outside air source.

**V-300-2.7899**

Section 916.8 of the California Fire Code, 2019 Edition, is amended to read as follows:

**916.8 System activation.** A gas detection alarm shall be initiated where any sensor detects a concentration of gas exceeding the following thresholds:

1. For flammable gases, a gas concentration exceeding 25 percent of the lower flammability limit (LFL).
2. For nonflammable gases, a gas concentration exceeding one-half of the 1DLH, unless a different threshold is specified by the section of this code requiring a gas detection system.

Upon activation of a gas detection alarm, alarm signals or other required responses shall be as specified by the section of this code requiring a gas detection system. Audible and visible alarm signals associated with a gas detection alarm shall be distinct from fire alarm and carbon monoxide alarm signals.

The audible alarm signals shall be in accordance with 907.5.2.1.1 and 907.5.2.1.2. The visual alarm notification appliances shall be in accordance with 907.5.2.3.

### **V-300-2.100**

Section 1103.2 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is hereby adopted.

### **V-300-2.101**

Section 1206.2.1 of the California Fire Code, 2019 Edition, is amended to read as follows:

**1206.2.1 Permits.** Permits shall be obtained for the installation and operation of stationary battery systems in accordance with Sections 105.6.58 and 105.7.2.

### **V-300-2.102**

Section 1206.2.11.3 of the California Fire Code, 2019 Edition, is amended to read as follows:

**1206.2.11.3 Ventilation.** Where required by Section 1206.2.3 or 1206.2.12, ventilation of rooms containing stationary storage battery systems shall be provided in accordance with the California Mechanical Code and one of the following:

1. The ventilation system shall be designed to limit the maximum concentration or flammable gas to 25 percent of the lower flammable limit, or for hydrogen, 1.0 percent of the total volume of the room.
2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute (cfm) per square foot [0.00508 m<sup>3</sup>/ (s · m<sup>2</sup>)] of the floor area, but not less than 150 cfm (4 m<sup>3</sup>/min).
3. ~~Failure of the ventilation system shall automatically disengage the charging system.~~

The exhaust system shall be designed to provide air movement across all parts of the floor for gases having a vapor density greater than air and across all parts of the vault ceiling for gases having a vapor density less than air.

### **V-300-2.103**

### **~~V-300-2.79~~**

Section 1206.2.11.5 of the California Fire Code, 2019 Edition, is amended to read as follows:

**1206.2.11.5 Spill control and neutralization.** Where required by Section 1206.2.12, approved methods and materials shall be provided for the control and neutralization of spills of electrolyte or other hazardous materials in areas containing stationary storage batteries as follows:

1. For batteries with free flowing electrolyte, the method and materials shall be capable of neutralizing a spill of the total capacity from the largest cell or block to a pH between 5.0 and 9.0.
2. For batteries with immobilized electrolyte, the method and material shall be capable of neutralizing a spill of 3.0 percent of the capacity of the largest cell or block in the room to a pH between 5.0 and 9.0.

The spill control shall be designed and constructed in accordance with 5004.2.1.

### **V-300-2.104**

Section 1206.2.12.1 of the California Fire Code, 2019 Edition, is amended to read as follows:

**1206.2.12.1 Lead-acid storage batteries.** Stationary storage battery systems utilizing lead-acid storage batteries shall comply with the following:

1. Ventilation shall be provided in accordance with Section 1206.2.11.3.
2. Spill control and neutralization shall be in accordance with Section 1206.2.11.5.
3. The spill control system shall be monitored in accordance with 5004.2.2.5.
4. Thermal runaway protection shall be provided for valve-regulated lead-acid (VRLA) storage batteries in accordance with Section 1206.2.10.7.
5. The signage in Section 1206.2.8.6 shall indicate that the room contains lead-acid batteries

#### **V-300-2.105**

Section 1206.2.12.2 of the California Fire Code, 2019 Edition, is amended to read as follows:

**1206.2.12.2 Nickel-cadmium (Ni-Cd) storage batteries.** Stationary storage battery systems utilizing nickel-cadmium (Ni-Cd) storage batteries shall comply with the following:

1. Ventilation shall be provided in accordance with Section 1206.2.11.3.
  2. Spill control and neutralization shall be in accordance with Section 1206.2.11.5.
  3. The spill control system shall be monitored in accordance with 5004.2.2.5.
  4. Thermal runaway protection shall be provided for valve-regulated sealed nickel-cadmium storage batteries in accordance with Section 1206.2.10.7.
  5. The signage in Section 1206.2.8.6 shall indicate the room contains nickel-cadmium batteries.
- 1206.2.12.3 Lithium-ion storage batteries.

#### **V-300-2.106**

Section 1206.2.12.5 of the California Fire Code, 2019 Edition, is amended to read as follows:

**1206.2.12.5 Flow storage batteries.** Stationary storage battery systems utilizing flow storage batteries shall comply with the following:

1. Ventilation shall be provided in accordance with Section 1206.2.11.3.
2. Spill control and neutralization shall be in accordance with Section 1206.2.11.5.
3. The spill control system shall be monitored in accordance with 5004.2.2.5.
4. The signage required in Section 1206.2.8.6 shall indicate the type of flow batteries in the room.

#### **V-300-2.107**

Section 1206.2.12.6 of the California Fire Code, 2019 Edition, is amended to read as follows:

**1206.2.12.6 Other battery technologies.** Stationary storage battery systems utilizing battery technologies other than those described in Sections 1206.2.12.1 through 1206.2.12.5 shall comply with the following:

1. Gas detection systems complying with Section 916 shall be provided in accordance with Section 1206.2.11.4 where the batteries have the potential to produce toxic or highly toxic gas in the storage room or cabinet in excess of the permissible exposure limits (PEL) during charging, discharging and normal system operation.
2. Mechanical ventilation shall be provided in accordance with Section 1206.2.11.3.
3. Spill control and neutralization shall be in accordance with Section 1206.2.11.5.
4. The spill control system shall be monitored in accordance with 5004.2.2.5.
5. In addition to the signage required in Section 1206.2.8.6, the marking shall identify the type of batteries present, describe the potential hazards associated with the battery type, and indicate that the room contains energized electrical circuits.

#### **V-300-2.108**

Section 2807.6 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**2807.6 Fire protection water supply system.** An approved fire protection water supply and hydrant system suitable for the fire hazard involved shall be provided for open storage yards and processing areas. Hydrant systems shall be installed in accordance with NFPA 24 adopted by this ~~2807.6~~ **Fire Protection Water Supply System**.Code.

#### **V-300-2.109**

Section 2808.11 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

**2808.11 Fire protection water supply system.** An approved fire protection water supply and hydrant system suitable for the fire hazard involved shall be provided for open storage yards and processing areas. Hydrant systems shall be installed in accordance with NFPA 24 adopted by this ~~code~~Code.

**V-300-2.80110**

~~Section 2808.11 is hereby added to the California Fire Code, 2016 Edition, to read as follows:~~

~~**2808.11 Fire Protection Water Supply System.** An approved fire protection water supply and hydrant system suitable for the fire hazard involved shall be provided for open storage yards and processing areas. Hydrant systems shall be installed in accordance with NFPA 24 adopted by this ~~code~~.~~

**V-300-2.81**

Section 3103.2 of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

**3103.2 Approval required.** Tents and membrane structures having an area in excess of 200 square feet (19 m<sup>2</sup>) and canopies in excess of 400 square feet (37 m<sup>2</sup>) shall not be erected, operated or maintained for any purpose without first obtaining a permit and approval from the fire code official. Smaller tents or canopies set side by side are considered as one, unless separated from each other by 10 feet on all sides.

**Exceptions:**

1. Tents used exclusively for recreational camping purposes.

**V-300-2.82111**

Section 3304.8 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**3304.8 Fire Walls.** When fire walls are required, the wall construction shall be completed (with all openings protected) immediately after the building is sufficiently weather-protected at the location of the wall(s).

**V-300-2.83112**

Section 3311.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

~~[B]~~**3311.1 Stairways Requiredrequired.** Each level above the first story in new multi-story buildings that requires two (2) exit stairways shall be provided with at least two (2) usable exit stairways after the floor decking is installed. The stairways shall be continuous and discharge to grade level. Stairways serving more than two (2) floor levels shall be enclosed (with openings adequately protected) after the exterior walls/windows are in place. Exit stairs in new and in existing, occupied buildings shall be lighted and maintained clear of debris and construction materials at all times.

**Exception:** For new multi-story buildings, one of the required exit stairs may be obstructed on not more than two (2) contiguous floor levels for the purposes of stairway construction (i.e., installation of gypsum board, painting, flooring, etc.).

**V-300-2.84113**

Section 3311.1.1 -is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**3311.1.1 Required Means Of Egressmeans of egress.** All new buildings under construction shall have a least one unobstructed means of egress. All means of egress shall be identified in the prefire plan per Section 3308.2.

**V-300-2.85114**

Section 5001.~~1~~first paragraph2.2.2 of the California Fire Code, ~~2016~~2019 Edition, is amended to read as follows:

~~**5001.1 Scope.** Prevention, control and mitigation of dangerous conditions related to the storage, dispensing, use and handling of hazardous materials shall be in accordance with this chapter. Additionally, prevention, control and mitigation of dangerous conditions related to the storage, use and handling of lithium ion batteries shall be in accordance with Section 5001.1.2.~~

**V-300-2.86**

Section 5001.1.2 is hereby added to the California Fire Code, 2016 Edition, to read as follows:

**5001.1.2 — Lithium ion battery storage, use and handling.** Rooms or areas where lithium ion batteries are stored, used or handled shall comply with the following:

1. Rooms or areas where lithium ion batteries are stored or handled shall be protected throughout by an approved smoke detection system.

Indoor storage of lithium ion batteries in excess of 6,000 pounds shall be confined to a Group H Division 2 Occupancy designed and constructed in accordance with the Building Code.

**5001.2.2.2 Health hazards.**

~~V-300-2.87~~

~~Section 5001.1.3 is hereby added to the California Fire Code, 2016 Edition, to read as follows:~~

~~**5001.1.3 — Other Requirements.** This chapter shall include those parts of Chapter 6.95 (commencing with Section 25500) and Chapter 6.7 (commencing with Section 25280) of the Health and Safety code which impose additional requirements or are more restrictive.~~

~~Any person who violates Health and Safety Code SS 25507 shall be subject to the penalties specified in Health and Safety Code SS 25515. The violation of any other Health and Safety Code Sections specified in this paragraph shall constitute a misdemeanor.~~

~~V-300-2.88~~

~~Section 5001.2.2.2 of the California Fire Code, 2016~~**5001.2.2.2 — Health Hazards.** The material categories listed in this section are classified as health hazards. A material with a primary classification as a health hazard can also pose a physical hazard.

1. Highly toxic and toxic materials.
2. Corrosive materials.
3. Moderately toxic gas.
4. Other health hazards.

**V-300-2.89115**

Section 5001.5.1 of the California Fire Code, 2019 Edition, is amended to read as follows:

**5001.5.1 Hazardous materials management plan (HMMP).** Where required by the fire code official, an application for a hazardous materials permit in accordance with Section 105.6 of this code shall include a Hazardous Materials Management Plan (HMMP).

The HMMP shall include the following:

- a. Information consistent with that outlined in Sections H103 and H3 of Appendix H of this code.
- b. A facility site plan designating the following:
  1. Access to each storage and use area.
  2. Location of emergency equipment.
  3. Location where liaison will meet emergency responders.
  4. Facility evacuation meeting point locations.
  5. The general purpose of other areas within the building.
  6. Location of all above-ground and underground tanks and their appurtenances including, but not limited to, sumps, vaults, below-grade treatment systems and piping.
  7. The hazard classes in each area.
  8. Locations of all control areas and Group H occupancies.
  9. Emergency exits.

The HMMP shall be readily available onsite.

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

**V-300-2.116**

Section 5001.5.1.1 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

**5001.5.1.1 Submittal frequency.** Facilities required to maintain a hazardous materials permit shall submit an updated or recertified HMMP within 12 months of the previous submittal, or within 30 days of a change, whichever occurs first.

**Exceptions:** The following facilities may submit an updated HMMP within 36 months of the previous submittal if no reportable changes have occurred:

1. Cell tower sites with no hazardous materials related permits other than a permit for a battery system.
2. Facilities with no hazardous materials related permits other than a permit for carbon dioxide used in an insulated liquid carbon dioxide beverage dispensing system.
3. Dental offices with no other hazardous materials related permits other than a permit for a fixed medical gas system.

**V-300-2.117**

Section 5003.1.3.1 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**5003.1.3.1 Toxic, Highly Toxic, Moderately Toxic**~~highly toxic, toxic, moderately toxic~~ **gases and similarly used or handled materials.** The storage, use and handling of ~~highly~~ **highly** toxic, ~~highly~~ **highly** toxic and moderately toxic gases in amounts exceeding Table 6004.1 shall be in accordance with this ~~chapter~~**Chapter** and Chapter 60. Any ~~highly~~ **highly** toxic, ~~highly~~ **highly** toxic or moderately toxic material that is used or handled as a gas or vapor shall be in accordance with the requirements for ~~highly~~ **highly** toxic, ~~highly~~ **highly** toxic or moderately toxic gases.

**V-300-2.90118**

Section 5003.1.5 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**5003.1.5 Other Health Hazards**~~health hazards~~. The storage, use and handling of materials classified as other health hazards ~~including carcinogens, irritants and sensitizers~~ in amounts exceeding 810 cubic feet for gases, 55 gallons for liquids and 5,000 pounds for solids shall be in accordance with Section 5003.

**V-300-2.91119**

Section 5003.1.6 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**5003.1.6 Additional Spill—Control**~~spill control~~ **and Secondary—Containment—Requirements**~~secondary containment requirements~~. In addition to the requirements set forth in Section 5004.2, an approved spill control and containment system is required for any quantity of hazardous materials that are liquids or solids at normal temperature and pressure (NTP), where a spill is determined to be a plausible event and where such an event would endanger people, property or the environment. The approved containment system may be required to include a combination of spill control and secondary containment meeting the design and construction requirements set forth in Section 5004.2.

**V-300-2.92120**

Section 5003.2.2.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to read ~~in its entirety~~ as follows:

**5003.2.2.1 Design ~~And Construction~~and construction.** Piping, tubing, valves, fittings and related components used for hazardous materials shall be in accordance with the following:

1. Piping, tubing, valves, fittings and related components shall be designed and fabricated from materials compatible with the material to be contained and shall be of adequate strength and durability to withstand the pressure, structural and seismic stress, and exposure to which they are subject.
2. Piping and tubing shall be identified in accordance with ASME A13.1 and Santa Clara County Fire Chiefs Marking Requirements and Guidelines for Hazardous Materials and the Hazardous Waste to indicate the material conveyed.
3. ~~Readily accessible manual~~**Manual** valves or automatic remotely activated fail-safe emergency shutoff valves shall be installed on supply piping and tubing, **and provided with ready access** at the following locations:



1. The point of use.
2. The tank, cylinder or bulk ~~usesource~~.
4. Manual emergency shutoff valves and controls for remotely activated emergency shutoff valves shall be identified and the location shall ~~behave access~~ clearly visible ~~accessible~~ and indicated by means of a sign.
5. Backflow prevention or check valves shall be provided when the backflow of hazardous materials could create a hazardous condition or cause the unauthorized discharge of hazardous materials.
6. Where gases or liquids having a hazard ranking of:
  - Health hazard Class 3 or 4
  - Flammability Class 4
  - Reactivity Class 4
 in accordance with NFPA 704 are carried in pressurized piping above 15 pounds per square inch gauge (psig)(103 Kpa), an approved means of leak detection, emergency shutoff or excess flow control shall be provided. Where the piping originates from within a hazardous material storage room or area, the excess flow control shall be located within the storage room or area. Where the piping originates from a bulk source, the excess flow control shall be located as close to the bulk source as practical.

**Exceptions:**

- 1 Piping for inlet connections designed to prevent backflow.
  2. Piping for pressure relief devices.
7. Secondary containment or equivalent protection from spills or leaks shall be provided for piping for liquid hazardous materials and for highly toxic and toxic corrosive gases above threshold quantities listed in ~~TablesTable~~ 6004.2 and 6004.31. Secondary containment includes, but is not limited to double walled piping.

**Exceptions:**

1. Secondary containment is not required for toxic corrosive gases if the piping is constructed of inert materials.
2. Piping under sub-atmospheric conditions if the piping is equipped with an alarm and fail-safe-to-close valve activated by a loss of vacuum.

~~8. Expansion chambers shall be provided between valves whenever the regulated gas may be subjected to thermal expansion. Chambers shall be sized to provide protection for piping and instrumentation and to accommodate the expansion of regulated materials.~~

~~V-300-2.93~~

**V-300-2.121**

Section 5003.2.2.2 of the California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

**5003.2.2.2 Additional Regulation—regulation for supply piping for Supply Piping for Health Hazard Materials-health hazard materials.** Supply piping and tubing for gases and liquids having a health hazard ranking of 3 or 4 in accordance with NFPA 704 shall be in accordance with ASME B31.3 and the following:

1. Piping and tubing utilized for the transmission of ~~toxic~~, highly toxic, toxic or highly volatile corrosive liquids and gases shall have welded or brazed connections throughout except for connections within an exhausted enclosure if the material is a gas, or an approved method of drainage or containment is provided for connections if the material is a liquid.
2. Piping and tubing shall not be located within corridors, within any portion of a means of egress required to be enclosed in fire-resistance-rated construction or in concealed spaces in areas not classified as Group H Occupancies.
 

**Exception:** Piping and tubing within the space defined by the walls of corridors and the floor or roof above or in concealed space above other occupancies when installed in accordance with Section 415.4011.6.4 of the California Building Code as required for Group H, Division 5 Occupancies.
3. All primary piping for highly toxic, ~~highly~~ toxic and moderately toxic gases shall pass a helium leak test of 1x10<sup>-9</sup> cubic centimeters/second where practical, or shall pass testing in accordance with an approved, nationally recognized standard. Tests shall be conducted by a qualified "third party" not involved with the construction of the piping and control systems.

**V-300-2.94122**

Section 5003.3.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to read ~~in its entirety~~ as follows:

**5003.3.1 Unauthorized Discharges.** ~~When discharges.~~ **In the event** hazardous materials are released in quantities reportable under state, federal or local regulations or when there is a release or a threatened release ~~or~~ that presents a threat to health, property or the environment, the fire code official shall be notified immediately in an approved manner and the following procedures required in accordance with Sections 5003.3.1.1 through 5003.3.1.4.

**V-300-2.95123**

Section 5003.5.2 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**5003.5.2 Ventilation Ducting.** ~~Product conveying ducts~~ **ducting.** Ducts for venting hazardous materials operations shall be labeled with the hazard class of the material being vented and the direction of flow.

**V-300-2.96124**

Section 5003.5.3 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**5003.5.3 "H" Occupancies.** In "H" occupancies, all piping and tubing may be required to be identified when there is any possibility of confusion with hazardous materials transport tubing or piping. Flow direction indicators are required.

**V-300-2.97125**

Section 5003.9.8 of the California Fire Code, 20162019 Edition, is amended to read ~~in its entirety~~ as follows:

**5003.9.8 Separation of Incompatible Materials.** ~~incompatible materials.~~ Incompatible materials in storage and storage of materials that are incompatible with materials in use shall be separated. When the stored materials are in containers having a capacity of more than 5 pounds (2 kg) ~~or~~, 0.5 gallon (2 L), or any amount of compressed gases, separation shall be accomplished by:

1. Segregating incompatible materials in storage by a distance of not less than 20 feet (6096 mm) and in an independent containment system.
2. Isolating incompatible materials in storage by a noncombustible partition extending not less than 18 inches (457 mm) above and to the sides of the stored material.
3. Storing liquid and solid materials in hazardous material storage cabinets.
4. Storing compressed gases in gas cabinets or exhausted enclosures in accordance with Sections 5003.8.5 and 5003.8.6. Materials that are incompatible shall not be stored within the same cabinet or exhausted enclosure.

**V-300-2.98126**

Section 5003.9.11 is hereby added to the California Fire Code, 20162019 Edition to read as follows:

**5003.9.11 Fire Extinguishing Systems For Workstations Dispensing, Handling** ~~extinguishing systems for workstations dispensing, handling or Using Hazardous Materials~~ **using hazardous materials.** Combustible and non-combustible workstations, which dispense, handle or use hazardous materials, shall be protected by an approved automatic fire extinguishing system in accordance with Section 2703.10.

**Exception:** Internal fire protection is not required for Biological Safety Cabinets that carry NSF/ANSI certification where quantities of flammable liquids in use or storage within the cabinet do not exceed 500 ml.

**V-300-2.99127**

Section 5003.10.4.3 of the California Fire Code, 20162019 Edition, is amended to read ~~in its entirety~~ as follows:

**5003.10.4.3** ~~Toxic,~~ Highly toxic, toxic, moderately toxic, ~~highly toxic, asphyxiate gases, and corrosive~~ gases shall be limited to a container of a maximum water capacity of 1 lb.

**V-300-2.128**

**~~V-300-2.100~~**

Section 5004.2.1 of the California Fire Code, 20162019 Edition, is amended to read in its entirety as follows:



**5004.2.1 Spill ~~Control~~control for Hazardous Material Liquids

### hazardous material liquids.** Rooms, buildings or areas used for storage of hazardous material liquids ~~in individual vessels having a capacity of more than 55 gallons (208 L) or in which aggregate capacity of multiple vessels exceed 1,000 gallons (3785 L),<sup>2</sup>~~ shall be provided with spill control to prevent the flow of liquids to adjoining areas. Floors in indoor locations and similar surfaces in outdoor locations shall be constructed to contain a spill from the largest single vessel by one of the following methods:

1. Liquid-tight sloped or recessed floors in indoor locations or similar areas in outdoor locations.
2. Liquid-tight floors in indoor and/ or outdoor locations or similar areas provided with liquid-tight raised or recessed sills or dikes.
3. Sumps and collection systems, including containment pallets in accordance with Section 5004.2.3.
4. Other approved engineered systems.

Except for surfacing, the floors, sills, dikes, sumps and collection systems shall be constructed of noncombustible material, and the liquid-tight seal shall be compatible with the material stored. When liquid-tight sills or dikes are provided, they are not required at perimeter openings having an open-grate trench across the opening that connects to an approved collection system.

**~~V-300-2.101~~129**

Section 5004.2.2 of the California Fire Code, 20162019 Edition, is amended to read ~~in its entirety~~ as follows:

**5004.2.2 Secondary ~~Containment~~containment for Hazardous Material Liquids

### hazardous material liquids

 and Solids

### solids.** Buildings, rooms or areas used for the storage of hazardous materials liquids or solids shall be provided with secondary containment in accordance with this section.

**~~V-300-2.102~~130**

Table 5004.2.2 of the California Fire Code, 20162019 Edition is hereby deleted.

~~V-300-2.103~~

**V-300-2.131**

Section 5004.2.2.2 is hereby amended to the California Fire Code, 20162019 Edition, to read as follows:

**5004.2.2.2 Incompatible ~~Materials~~materials.** Incompatible materials shall be separated from each other in independent secondary containment systems.

**~~V-300-2.104~~132**

Section 5004.2.2.5 of the California Fire Code, 20162019 Edition, is amended to read in its entirety as follows:

**5004.2.2.5 Monitoring.** An approved monitoring method shall be provided to detect hazardous materials in the spill control and secondary containment ~~systems~~systems and to verify that the provisions of this ~~code~~Code for the storage and handling of hazardous materials are addressed. Monitoring shall be recorded at least once per week. The monitoring method is allowed to be visual inspection of the primary or secondary containment, or other approved means. Where secondary containment is subject to the instruction of water, a monitoring method for detecting water shall be provided. Where monitoring devices are provided, ~~the~~they shall be connected to approved visual or audible alarms.

**V-300-2.133**

**~~V-300-2.105~~**

Section 5004.2.3 of the California Fire Code, 20162019 Edition, is amended to read ~~in its entirety~~ as follows:

**5004.2.3 Containment pallets.** Combustible containment pallets shall not be used inside buildings to comply with Section 5004.2 where the individual container capacity exceeds 55 gallons (208 L) or an aggregate capacity of multiple containers exceeds 1,000 gallons (3785 L) for liquids or where the individual container capacity exceeds 550 pounds (250 kg) or an aggregate of multiple containers exceeds 10,000 pounds (4540 kg) for solids.

Where used as an alternative to spill control and secondary containment for outdoor storage in accordance, with the exception in Section 5004.2, containment pallets shall comply with all of the following:

1. A liquid-tight sump accessible for visual inspection shall be provided;
2. The sump shall be designed to contain not less than 66 gallons (250L);
3. Exposed surfaces shall be compatible with material stored;
4. Containment pallets shall be protected to prevent collection of rainwater within the sump of the containment pallet.

**V-300-2.106134**

Section 5005.4.4 of the California Fire Code, 20162019 Edition, is amended to read in its entirety as follows:

**5005.4.4 Emergency Alarmalarm.** When hazardous materials having a hazard ranking of 3 or 4 in accordance with NFPA 704, or toxic or moderately toxic gases exceeding 40405 cu. ft. and any amount of highly toxic compressed gases are transported through corridors or exit enclosures, there shall be an emergency telephone system, a local manual alarm station or an approved alarm-initiating device at not more than 150-foot (45,720 mm) intervals and at each exit and exit-access doorway throughout the transport route. The signal shall be relayed to an approved central, proprietary or remote station service or constantly attended on-site location and shall also initiate a local audible alarm.

**V-300-2.107135**

Section 5303.5.3, method 1. of the California Fire Code, 20162019 Edition, is amended to read ~~in its entirety~~ as follows:

1. Securing containers, cylinders and tanks to a fixed object with one or more noncombustible restraints.

**V-300-2.108136**

Section 5601.1.3 of the California Fire ~~Code~~2016Code 2019 Edition, is amended to read in its entirety as follows:

**5601.1.3 Fireworks.** The possession, manufacture, storage, sale, handling, and use of fireworks, including those fireworks classified as Safe and Sane by the California State Fire Marshal, are prohibited.

~~Exceptions:~~

- ~~1. The storage and handling of fireworks as allowed in Section 5604.~~
- ~~2. Manufacture, assembly and testing of fireworks as allowed in Section 5605, and Health and Safety Code Division 11.~~

~~3. **Exception:** The use of fireworks for fireworks displays, ~~pyrotechnics before a proximate audience and pyrotechnic special effects in motion pictures television, theatrical or group entertainment productions as allowed in Title 19, Division 1, Chapter 6 Fireworks reprinted in Section~~ as allowed in Section 5608, and Health and Safety Code Division 11.~~

**V-300-2.137**

**V-300-2.109**

Section 5704.2.7.5.8 of the California Fire Code, 20162019 Edition, is amended to read ~~in its entirety~~ as follows:

**5704.2.7.5.8 Overfill Preventionprevention.** An approved means or method in accordance with Section 5704.2.9.7.5 shall be provided to prevent the overfill of all Class I, II and IIIA liquid storage tanks. Storage tanks in refineries, bulk plants or terminals regulated by Sections 5706.4 or 5706.7 shall have overfill protection in accordance with API 2350.

— **Exception:** Outside aboveground tanks with a capacity of 1320 gallons (5000 L) or less need only comply with Section 5704.2.9.7.5, item 1, sub-item (1.1)

An approved means or method in accordance with Section 5704.2.9.7.65 shall be provided to prevent the overfilling of Class IIIB liquid storage tanks connected to fuel-burning equipment inside buildings.

**V-300-2.110138**

Section 5704.2.7.5.9 is hereby added to the California Fire Code, 20162019 Edition, to read as follows:

**5704.2.7.5.9 Automatic Fillingfilling of Tankstanks.** Systems that automatically fill flammable or combustible liquid tanks shall be equipped with overfill protection, approved by the fire code official that sends an alarm signal to a constantly attended location and immediately stops the filling of the tank. The alarm signal and automatic shutoff shall be tested on an annual basis and records of such testing shall be maintained on-site for a period of five (5) years.

**V-300-2.111139**

Section 5707 is hereby added to of the California Fire Code, 20162019 Edition, to read is hereby adopted and amended as follows:

**—5707 MOBILE FUELING OPERATIONS**

**—5707.1 General.** On demand mobile fueling operations that dispense Class I, II, and III liquids into the fuel tanks of motor vehicles shall comply with Sections 5707.1 through 5707.7.

**Exception:** Fueling from an approved portable container in cases of an emergency or for personal use.

**—5707.1.1 Approval required.** Mobile fueling operations shall not be conducted without first obtaining a permit and approval from the fire code official. Mobile fueling operations shall occur only at approved locations.

**—5707.2 Mobile fueling vehicle.** An on-demand mobile fueling vehicle shall be one of the following:

1. A tank vehicle complying with NFPA 385 that has chassis-mounted tanks or containers where the aggregate cargo capacity does not exceed 1200 gallons (4542 L).
2. A vehicle with one or more chassis-mounted tanks or containers that do not exceed 110 gallons (415 L) individual capacity and having an aggregate capacity that does not exceed 1200 gallons (4542 L).
3. A vehicle that carries a maximum of 60 gallons (227 L) of motor fuel in metal safety cans listed in accordance with UL 30 or other approved metal containers each not to exceed 5 gallons (19 L) in capacity.

The mobile fueling vehicle shall comply with the requirements of all local, state and federal requirements.

Mobile fueling vehicles with a chassis-mounted tank in excess of 110 gallons (415 L) shall comply with the requirements of Section 5706.6, Section 5707, and NFPA 385.

The mobile fueling vehicle and its equipment shall be maintained in good repair.

Safety cans and approved metal containers shall be secured to the mobile fueling vehicle except when in use.

**—5707.3 Required documents.** Documents developed to comply with Sections 5707.3.1 through 5707.3.3 shall be updated as necessary by the owner of the mobile fueling operation and shall be maintained in compliance with Section 107.3.

**—5707.3.1 Safety and emergency response plan.** Mobile fueling operators shall have an approved written safety and emergency response plan that establishes policies and procedures for fire safety, spill prevention and control, personnel training and compliance with other applicable requirements of this code.

**—5707.3.2 Training records.** Training records of operators shall be maintained. Mobile fueling vehicle operators shall possess evidence of training on proper fueling procedures and the safety and emergency response plan.

**V-300-2.140**

Section 5707.3.3 of the California Fire Code, 2019 Edition, is amended as follows:

**5707.3.3 Site plan.** A site plan shall be developed for each location at which mobile fueling occurs. The site plan shall be in sufficient detail to indicate: all buildings, structures, lot lines, property lines, light fixtures and appurtenances on site and their use or function; all uses adjacent to the lot lines of the site; fueling locations, the locations of all storm drain openings and adjacent waterways or wetlands; information regarding slope, natural drainage, curbing, impounding and how a spill will be retained upon the site property; and the scale of the site plan.

**V-300-141**

Section 5707.4 of the California Fire Code, 2019 Edition, is amended to read as follows:

**5707.4 Mobile fueling areas.** Mobile fueling shall not occur on public streets, public ways, any residential street, or inside buildings. Fueling on the roof level of parking structures or other buildings is prohibited.

~~—5707.4.1 Separation.~~ Mobile fueling shall not take place within 25 feet (7620 mm) of buildings, property lines, or combustible storage.

~~Exception:~~ The fire code official shall be authorized to decrease the separation distance for dispensing from metal safety cans or other approved metal containers in accordance with Section 5707.2.

~~When dispensing operations occur within 15 feet (4572 mm) of a storm drain, an approved storm drain cover or an approved equivalent method that will prevent any fuel from reaching the drain shall be used.~~

**V-300-2.142**

Section 5707.5.5 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

~~5707.4.2 Sources of ignition.~~ Smoking, open flames, and other sources of ignition shall be prohibited within 25 feet (7620 mm) of fuel dispensing activities. Signs prohibiting smoking or open flames within 25 feet (7620 mm) of the vehicle and the point of fueling shall be prominently posted on the mobile fueling vehicle. The engines of vehicles being fueled shall be shut off during fueling.

~~—5707.5 Equipment.~~ Mobile fueling equipment shall comply with Sections 5707.5.1 through 5707.5.5.

~~—5707.5.1 Dispensing hoses and nozzles.~~ Where equipped, the dispensing hose shall not exceed 50 feet (15240 mm) in length. The dispensing nozzles, and hoses and appurtenances shall be of an approved and listed type.

~~—5707.5.2 Break-away device.~~ A listed break-away device shall be provided at the nozzle.

**Exception:** Mobile fueling vehicles equipped with an approved brake interlock tied to the nozzle holder that prohibits movement of the mobile fueling vehicle when the nozzle is removed from its holder.

~~—5707.5.3 Shut off valve and fuel limit.~~ Mobile fueling vehicles shall be equipped with a listed shutoff valve assembly and a fuel limit switch set to a maximum of 30 gallons (116 L).

~~—5707.5.4 Fire extinguisher.~~ An approved portable fire extinguisher complying with Section 906 with a minimum rating of 4 A:80 B:C shall be provided on the mobile fueling vehicle with signage clearly indicating its location.

~~—5707.5.5 Spill kit.~~ Mobile fueling vehicles shall contain a minimum 5 gallon (19 L) spill kit of an approved type. Contaminated absorbent shall be removed from the property, by the mobile fueler, and disposed in accordance with the applicable hazardous waste regulations.

~~—5707.6 Operations.~~ Mobile fueling vehicles shall be constantly attended during fueling operations with brakes set and warning lights in operation. Mobile fueling vehicles shall not obstruct emergency vehicle access roads.

~~—5707.6.1 Dispensing hose.~~ Where equipped, mobile fueling vehicles shall be positioned in a manner to preclude traffic from driving over the dispensing hose. The dispensing hose shall be placed on an approved reel or in an approved compartment prior to moving the mobile fueling vehicle.

~~— **5707.6.2 Drip control.** Operators shall place a drip pan or an absorbent pillow under the nozzle to catch drips and under each fuel fill opening prior to and during dispensing operations. Contaminated absorbent shall be removed from the property, by the mobile fueler, and disposed in accordance with the applicable hazardous waste regulations.~~

~~— **5707.6.3 V-3 00-2.143**~~

~~Sections 5707.6.4 to 5707.6.7 are hereby added to the California Fire Code, 2019 Edition, to read as follows:~~

~~**5707.6.4 Nighttime deliveries.** Nighttime deliveries shall only be made in areas deemed adequately lighted by the fire code official.~~

~~**5707.6.45 Vehicle lights.** The mobile fueling vehicle flasher lights shall be in operation while dispensing operations are in progress.~~

~~**5707.6.56 Safety cones.** Safety cones or barriers shall be employed as warning devices to highlight the vehicle fueling area.~~

~~**5707.6.67 Bonding.** A means for bonding the mobile fueling vehicle to the motor vehicle shall be provided. Such bonding means shall be employed during fueling operations.~~

~~**5707.6.7 Spill reporting.** Spills shall be reported in accordance with **V-300-2.144**~~

~~Section 50035809.3.1.~~

~~— **5707.7 Training.** Mobile fueling vehicles shall be operated only by designated personnel who are trained on proper fueling procedures and the safety and emergency response plan. The vehicle operator training shall be approved by the fire code official.~~

~~**V-300-2.112**~~

~~Section 5803.3 is hereby added to the California Fire Code, 2016 Edition, to read as follows:~~

~~— **Section 5803.3 Mobile fueling of hydrogen vehicles.** Mobile fueling of hydrogen vehicles is prohibited unless approved by the fire code official.~~

~~**V-300-2.113**~~

~~Section 6004.4 is hereby amended to the California Fire Code, 2019 Edition, to read as follows:~~

~~**5809.3.4 Site plan.** For other than emergency roadside service, a site plan shall be developed for each location at which mobile gaseous hydrogen fueling occurs. The site plan shall be in sufficient detail to indicate: all buildings, structures, lot lines, property lines and appurtenances on site and their use and function, and the scale of the site plan.~~

~~**V-300-2.145**~~

~~2016 Section 6004 of the California Fire Code, 2019 Edition, is amended to read as follows:~~

~~**HIGHLY TOXIC, TOXIC AND MODERATELY TOXIC COMPRESSED GASES INCLUDING THOSE USED AS REFRIGERANTS.**~~

~~**V-300-2.146**~~

~~Section 6004.1 of the California Fire Code, 2019 Edition, is amended to read as follows:~~

~~**6004.1 General.** Materials stored ~~and~~or used as a gas whether or not the material meets the definition of a compressed gas, and meets the definition of a highly toxic, toxic and moderately toxic gas shall comply with Section 6004.~~

~~The minimum threshold quantity for highly toxic, toxic and moderately toxic gases, vapors and mists for indoor and exterior storage and use are set forth in Table 6004.1.~~

Table 6004.1 Minimum Threshold Quantities for Highly Toxic, Toxic and Moderately Toxic Gases	
Highly Toxic	<del>0</del> <u>20</u>
Toxic	<del>10</del> <u>40</u> cubic feet
Moderately Toxic	<del>20</del> <u>40</u> cubic feet

**V-300-2.147**

Section 6004.1.1 of the California Fire Code, 2019 Edition, is amended to read as follows:

**6004.1.1 Special limitations for indoor storage and use by occupancy.** The indoor storage and use of highly toxic, toxic and moderately toxic gases in certain occupancies shall be subject to the limitations contained in Sections 6004.1.1.1 through 6004.1.1.3.

**V-300-2.148**

Section 6004.1.1.1 of the California Fire Code, 2019 Edition, is amended to read as follows:

**6004.1.1.1 Group A, E, I or U occupancies.** ~~Toxic, highly~~Highly toxic, toxic and moderately toxic gases shall not be stored or used within Group A, E, I or U occupancies.

**Exception:** Cylinders not exceeding 20 cubic feet (0.556m<sup>3</sup>) at normal temperature and pressure (NTP) are allowed within gas cabinets or fume hoods.

**V-300-2.149**

Section 6004.1.1.2 of the California Fire Code, 2019 Edition, is amended to read as follows:

**6004.1.1.2 Group R occupancies.** ~~Toxic, highly~~Highly toxic, toxic and moderately toxic gases shall not be stored or used in Group R occupancies.

**V-300-2.150**

Section 6004.1.1.3 of the California Fire Code, 2019 Edition, is amended to read as follows:

**6004.1.1.3 Offices, retail sales and classrooms.** ~~Toxic, highly~~Highly toxic, toxic and moderately toxic gases shall not be stored or used in offices, retail sales or classroom portions of Group B, F, M or S occupancies.

**Exception:** In classrooms of Group B occupancies, cylinders with a capacity not exceeding 20 cubic feet (0.566 m<sup>3</sup>) at NTP are allowed in gas cabinets or fume hoods.

**V-300-2.151**

Section 6004.1.2 of the California Fire Code, 2019 Edition, is amended to read as follows:

**6004.1.2 Gas cabinets.** Gas cabinets containing highly toxic, toxic and moderately toxic gases shall comply with Section 5003.8.6 and the following requirements:

1. The average ventilation velocity at the face of gas cabinet access ports or windows shall not be less than 200 cubic feet per minute (1.02 m/s) with a minimum of 150 feet per minute (0.76 m/s) at any point of the access port or window.
2. Gas cabinets shall be connected to an exhaust system.
- ~~3.~~ Gas cabinets shall not be used as the sole means of exhaust for any room or area.
- ~~3-4.~~ The maximum number of cylinders located in a single gas cabinet shall not exceed three, except that cabinets containing cylinders not exceeding 1 pound (0.454 kg) net contents are allowed to contain up to 100 cylinders.
- ~~5.~~ Gas cabinets required by Section 6004.2 or 6004.3 shall be equipped with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Alternative fire-extinguishing systems shall not be used.

**V-300-2.152**

Section 6004.1.3 of the California Fire Code, 2019 Edition, is amended to read as follows:



**6004.1.3 Exhausted enclosures.** Exhausted enclosures containing highly toxic, toxic or moderately toxic gases shall comply with Section 5003.8.5 and the following requirements:

1. The average ventilation velocity at the face of the enclosure shall not be less than 200 feet per minute (1.02 m/s) with a minimum of 150 feet per minute (0.76 m/s).
2. Exhausted enclosures shall be connected to an exhaust system.
3. Exhausted enclosures shall not be used as the sole means of exhaust for any room or area.

Exhausted enclosures required by Section 6004.2 or 6004.3 shall be equipped with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Alternative fire-extinguishing system shall not be used.

~~6004.1.4 Automatic Shut-Off Valve. V-300-2.153~~

Section 6004.1.4 of the California Fire Code, 2019 Edition, is amended to read as follows:

6004.1.4 Automatic shut-off valve. If gas monitoring is not provided, an automatic shut-off valve, which is of a fail-safe to close design, shall be provided to shutoff the supply of toxic and moderately toxic gases upon failure of the required gas cabinet or exhausted enclosure ventilation.

An automatic shut-off valve, which is of a fail-safe to close design, shall be provided to shut off the supply of highly toxic gases for any of the following:

1. Activation of a manual fire alarm system.
2. Activation of the gas detection system.
3. Failure of emergency power.
4. Failure of primary containment.
5. Seismic activity.
6. Failure of required ventilation.
7. Manual activation at an approved remote location.

An automatic shutoff valve is not required if a manual shutoff valve at the source is readily accessible and the process is continuously attended and supervised by a qualified individual.

~~V-300-2.114154~~

Section 6004.1.5 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.1.5 Emergency ~~Control Station~~ control station.** Signals from emergency equipment used for highly toxic gases shall be transmitted to an ~~emergency control station or other~~ approved ~~monitoring station, which is continually staffed by trained personnel.~~ location.

~~V-300-2.115155~~

Section 6004.1.6 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.1.6 Maximum ~~Threshold Quantity~~ threshold quantity.** Toxic gases stored or used in quantities exceeding the maximum threshold quantity in a single vessel per control area or outdoor control area shall comply with the additional requirements for highly toxic gases of Section 6004 of this ~~code~~Code.

Moderately toxic gases stored or used in quantities exceeding the maximum threshold quantity. in a single vessel per control area or outdoor control area shall comply with the additional requirements for toxic gases of Section 6004 of this ~~code~~Code.

The following formula shall be used to calculate the maximum threshold quantity:

$$\text{Max TQ (pounds)} = \text{LC}_{50} \text{ (ppm)} \times 2 \text{ lb.}$$



**V-300-2.116156**

Section 6004.1.7 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.1.7 Reduced Flow Valve flow valve.** All containers of highly toxic and toxic materials other than lecture bottles containing ~~Highly Toxic~~ highly toxic material and having a vapor pressure exceeding 29 psia shall be equipped with a reduced flow valve when available. If a reduced flow valve is not available, the container shall be used with a flow-limiting device. All flow limiting devices shall be part of the valve assembly and visible to the eye when possible; otherwise, they shall be installed as close as possible to the cylinder source.

**V-300-2.117157**

Section 6004.1.8 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.1.8 Fire Extinguishing Systems extinguishing systems.** Buildings and ~~covered exterior~~ areas for the storage and use ~~areas~~ of materials regulated by this Chapter shall be protected by an automatic fire sprinkler system in accordance with NFPA 13. The design of the sprinkler system for any room or area where highly toxic, toxic and moderately toxic gases are stored, handled or used shall be in accordance with Section 5004.5.

**V-300-2.118158**

Section 6004.1.9 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.1.9 Local Gas Shut-Off gas shut off.** Manual activation controls shall be provided for highly toxic and toxic gases at locations near the point of use and near the source, as approved by the fire code official. The fire code official may require additional controls at other places, including, but not limited to, the entry to the building, storage or use areas, and emergency control stations. Manual activated shut-off valves shall be of a fail-safe-to-close design.

**V-300-2.119159**

Section 6004.1.10 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.1.10 Exhaust Ventilation Monitoring ventilation monitoring.** For highly toxic ~~gases~~ and toxic gases exceeding threshold quantities, a continuous monitoring system shall be provided to assure that the required exhaust ventilation rate is maintained. The monitoring system shall initiate a local alarm. The alarm shall be both visual and audible and shall be designed to provide warning both inside and outside of the interior storage, use, or handling area.

**V-300-2.120160**

Section 6004.1.11 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.1.11 Emergency Response Plan response plan.** If the preparation of an emergency response plan for the facility is not required by any other law, responsible persons shall prepare, or cause to be prepared, and filed with the fire code official, a written emergency response plan. If the preparation of an emergency response plan is required by other law, a responsible person shall file a copy of the plan with the fire code official.

**V-300-2.121161**

Section 6004.1.12 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.1.12 Cylinder Leak Testing leak testing.** Cylinders shall be tested for leaks immediately upon delivery and again immediately prior to departure. Testing shall be approved by the fire code official in accordance with appropriate nationally recognized industry standards and practices, if any. Appropriate remedial action shall be immediately undertaken when leaks are detected.

**V-300-2.122162**

Section 6004.1.13 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.1.13 Inert ~~Gas Purge System~~gas purge system.** Gas systems shall be provided with dedicated inert gas purge systems. A dedicated inert gas purge system may be used to purge more than one gas, provided the gases are compatible. Purge gas systems shall be located in an approved gas cabinet unless the system operates by vacuum demand.

**V-300-2.123163**

Section 6004.1.14 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.1.14 Seismic ~~Shutoff Valve~~shutoff valve.** An automatic seismic shut-off valve, which is of a fail-safe to close design, shall be provided to shutoff the supply of highly toxic, toxic and moderately toxic gases with an LC<sub>50</sub> less than or equal to 3000 parts per million upon a seismic event within 5 seconds of a horizontal sinusoidal oscillation having a peak acceleration of 0.3G (1.47 m/sec<sup>2</sup>) and a period of 0.4 seconds.

**V-300-2.124164**

Section 6004.2 of the California Fire Code, ~~2016~~2019 Edition, is amended to read ~~in its entirety~~ as follows:

**6004.2 Indoor ~~Storage~~storage and ~~Use~~use.** The indoor storage or use of highly toxic, toxic and moderately toxic compressed gases shall be in accordance with Sections 6004.2.1 through 6004.2.2.10.4. ~~The threshold quantity for highly toxic, toxic and moderately toxic gases for indoor storage and use are set forth in Table 6004.1.~~

**V-300-2.125165**

Section 6004.2.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to read ~~in its entirety~~ as follows:

**6004.2.1 Applicability.** The applicability of regulations governing the indoor storage and use of highly toxic, toxic, and moderately toxic gases shall be as set forth in Sections 6004.2.1.1 through 6004.2.1.5.

**V-300-2.126166**

Section 6004.2.1.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to read ~~in its entirety~~ as follows:

**6004.2.1.1 Quantities ~~Not Exceeding~~not exceeding the ~~Maximum Allowable Quantity~~maximum allowable quantity per ~~Control Area~~control area.** The indoor storage or use of highly toxic, toxic and moderately toxic gases in amounts exceeding the maximum allowable quantity per control area set forth in Table 5003.1.1(2) shall be in accordance with Sections 5001, 5003, 6001, 6004.2.1.4 and 6004.2.1.5.

**V-300-2.127167**

Section 6004.2.1.4 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.2.1.4 Quantities not exceeding minimum threshold quantity per control area.** The indoor storage or use of highly toxic, toxic and moderately toxic gases in amounts not exceeding the minimum threshold quantity per control area set ~~for~~forth in Table 6004.1 shall be in accordance with Sections 6001, 6004.1 and Chapter 50.

~~V-300-2.128~~

**V-300-2.168**

Section 6004.2.1.5 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.2.1.5 Quantity exceeding the minimum threshold quantity per control area.** The indoor storage or use of highly toxic, toxic and moderately gases in amounts exceeding the minimum threshold quantity per control area set forth in Table 6004.1 shall be in accordance with Sections 6001, 6004.1, 6004.2 and Chapter 50.

**V-300-2.129169**

Section 6004.2.2 of the California Fire Code, ~~2016~~2019 Edition, is amended to read ~~in its entirety~~ as follows:

**6004.2.2 General indoor requirements.** The general requirements applicable to the indoor storage and use of highly toxic and toxic compressed gases shall be in accordance with Sections 6004.2.2.1 through 6004.2.2.10.4.

Moderately toxic gases with an LC<sub>50</sub> less than or equal to 3000 parts per million shall comply with the requirements for toxic gases in Sections 6004.2.2.1 through 6004.2.2.10.43.

Moderately toxic gases with an LC<sub>50</sub> more than 3000 parts per million but not greater than 5000 parts per million and exceeding the maximum threshold quantity, as determined by 6004.1.6, shall comply with the requirements for toxic gases in Sections 6004.2.2.1 through 6004.2.2.7.

Moderately toxic gases shall not be considered as toxic gases for maximum allowable quantities determinations under Table 5003.1.1(2).

**V-300-2.130170**

Section 6004.2.2.7 of the California Fire Code, 20162019 Edition, is amended to read ~~in its entirety~~ as follows:

**6004.2.2.7 Treatment Systems.** The exhaust ventilation from gas cabinets, exhausted enclosures, gas rooms and local exhaust systems required in Section 6004.2.2.4 and 6004.2.2.5 shall be directed to a treatment system. The treatment system shall be utilized to handle the accidental release of gas and to process exhaust ventilation. The treatment system shall be designed in accordance with Sections 6004.2.2.7.1 through 6004.2.2.7.5 and Section 510 of the California Mechanical Code.

**Exceptions:**

1. Highly toxic, toxic and moderately toxic gases storage. A treatment system is not required for cylinders, containers and tanks in storage when all of the following are provided:
  - 1.1. Valve outlets are equipped with gas-tight outlet plug or caps.
  - 1.2. Hand wheel-operated valves have handles secured to prevent movement.
  - 1.3. Approved containment vessels or containment systems are provided in accordance with Section 6004.2.2.3.

**V-300-2.131171**

Section 6004.2.2.40.28 of the California Fire Code, 20162019 Edition, is amended to read ~~in its entirety~~ as follows:

**6004.2.2.8 Emergency power.** For highly toxic and toxic gas systems, emergency power, in accordance with Section 1203, shall be provided for the following:

1. Exhaust ventilation system.
2. Treatment system.
3. Gas detection system.
4. Smoke detection system.
5. Temperature control system.
6. Fire alarm system.
7. Emergency alarm system.

**V-300-2.172**

Section 6004.2.2.10 of the California Fire Code, 2019 Edition, is amended to read as follows:

**6004.2.2.10 Gas detection system.** A gas detection system complying with Section 916 shall be provided to detect the presence of a highly toxic or toxic gas at or below the PEL or ceiling limit of the gas for which detection is provided. In occupied areas where gas cabinets or exhausted enclosures are not provided, the fire code official may require a cyclical basis at intervals not to exceed 5 minutes.

The system shall be capable of monitoring the discharge from the treatment system at or below one-half the IDLH limit and shall initiate a response in accordance with Sections 6004.2.2.10.1 through 6004.2.2.10.3 if the gas detection system is activated.

**Exception:** A gas detection system is not required for toxic gases when the physiological warning threshold level for the gas is at a level below the accepted PEL for the gas.

**V-300-2.173**

Section 6004.2.2.10.1 of the California Fire Code, 2019 Edition, is amended to read as follows:

**6004.2.2.10.1 Alarms.** The gas detection system shall initiate a local alarm and transmit a signal to ~~a constantly attended control station~~ an approved location when a short-term hazard condition is detected. The alarm shall be both visual and audible and shall provide warning both inside and outside the area where the gas is detected. The audible alarm shall be distinct from all other alarms.

**Exception: Signal transmission to a constantly attended control station is not required where not more than one cylinder of highly toxic, toxic or moderately toxic gas is stored.**

**V-300-2.132174**

Section 6004.2.2.10.2 of the California Fire Code, 2019 Edition is amended to read as follows:

**6004.2.2.10.2 Shut off of gas supply.** The gas detection system shall automatically close the shutoff valve at the source on gas supply piping and tubing related to the system being monitored for whichever gas is detected.

**Exception: An automatic shutdown is not required for reactors utilized for the production of highly toxic, toxic or moderately toxic compressed gases where such reactors are:**

1. Operated at pressures less than 15 pounds per square inch gauge (psig) (103.4kPa).
2. Constantly attended.
3. Provided with emergency shutoff valves that have ready access.

**V-300-2.175**

Section 6004.2.2.10.4 is hereby added to the California Fire Code, 2019 Edition, to read as follows:

**6004.2.2.10.4 Emergency alarm.** The indoor storage or use of highly toxic or toxic gases in amounts exceeding the minimum threshold quantity per control area set forth in Table 6004.1 shall also comply with Sections 5004.9 and 5005.4.4.

**V-300-2.176**

Section 6004.3 of the California Fire Code, ~~2016~~2019 Edition, is amended to read ~~in its entirety~~ as follows:

**6004.3 Outdoor ~~Storage~~Storage and ~~Use~~Use.** The outdoor storage or use of highly toxic, toxic and moderately toxic compressed gases shall be in accordance with Sections 6004.3.1 through 6004.3.4. ~~The minimum threshold quantity for highly toxic, toxic and moderately toxic gases for outdoor storage and use are set forth in Table 6004.1.~~

~~**V-300-2.133**~~

**V-300-2.177**

Section 6004.3.1 of the California Fire Code, 2016 Edition, is amended to read ~~in its entirety~~ as follows:

**6004.3.1 Applicability.** The applicability of regulations governing the outdoor storage and use of highly toxic, toxic, and moderately toxic gases shall be as set forth in Sections 6004.3.1.1 through 6004.3.1.5.

**V-300-2.134178**

Section 6004.3.1.1 of the California Fire Code, ~~2016~~2019 Edition, is amended to read ~~in its entirety~~ as follows:

**6004.3.1.1 Quantities ~~Not Exceeding The Maximum Allowable Quantity Per Control Area~~not exceeding the maximum allowable quantity per control area.** The outdoor storage or use of highly toxic and toxic gases in amounts exceeding the threshold quantity per control area set forth in Table 5003.1.1(4) shall be in accordance with Sections 5001, 5003, 6001, 6004.1, and 6004.3.1.4 and 6004.3.1.5.

**V-300-2.135179**

Section 6004.3.1.4 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.3.1.4 Quantities not exceeding minimum threshold quantity per control area.** The outdoor storage or use of highly toxic, toxic and moderately toxic gases in amounts not exceeding the minimum threshold quantity per control area set for in Table 6004.1 shall be in accordance with Sections 6001, 6004.1 and Chapter 50.

**~~V-300-2.136180~~**

Section 6004.3.1.5 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6004.3.1.5 Quantity exceeding the minimum threshold quantity per control area.** The outdoor storage or use of highly toxic, toxic and moderately gases in amounts exceeding the minimum threshold quantity per control area set forth in Table 6004.1 shall be in accordance with Sections 6001, 6004.1, 6004.3 and Chapter 50.

~~V-300-2.137~~

**V-300-2.181**

Section 6004.3.2 of the California Fire Code, ~~2016~~2019 Edition, is amended to read as follows:

**6004.3.2 General outdoor requirements.** The general requirements applicable to the outdoor storage and use of highly toxic, toxic and moderately toxic gases shall be in accordance with Sections 6004.3.2.1 through 6004.3.2.4.

Moderately toxic gases with an LC<sub>50</sub> equal to or less than 3000 parts per million shall comply with the requirements for toxic gases in Sections 5001, 5003, 6001, 6004.1 and 6004.3.

Moderately toxic gases with an LC<sub>50</sub> more than 3000 parts per million but not greater than 5000 parts per million and exceeding the maximum threshold quantity, as determined by 6004.1.6, shall comply with the requirements for toxic gases in Sections 5001, 5003, 6001, 6004.1 and 6004.3.2.1 through 6004.3.2.4.

Moderately toxic gases shall not be considered as toxic gases for maximum allowable quantities determinations under Table 5003.1.1(4).

**~~V-300-2.138182~~**

Section 6004.3.3 of the California Fire Code, ~~2016~~2019 Edition, is amended to read ~~in its entirety~~ as follows:

**6004.3.3 Outdoor storage weather protection for portable tanks and cylinders.** Weather protection in accordance with Section 5004.13 and this section shall be provided for portable tanks and cylinders located outdoors and not within gas cabinets or exhausted enclosures. The storage area shall be equipped with an approved automatic sprinkler system in accordance with Section ~~5004.5903.3.1.1~~.

**~~V-300-2.139183~~**

Section 6405.3.1 is hereby added to the California Fire Code, ~~2016~~2019 Edition, to read as follows:

**6405.3.1 Silane distribution systems automatic shutdown.** Silane distribution systems shall automatically shut down at the source upon activation of the gas detection system at levels above the alarm level and/or failure of the ventilation system for the silane distribution system.

**~~V-300-2.140184~~**

~~Chapter 80 Referenced Standards is hereby amended as follows:~~

~~CGA~~

~~G 7 (2014) — Guide to Labeling and Marking of Compressed Gas~~

~~G 13 (2015) — Storage and Handling of Silane and Silane Mixtures.~~

~~ANSI/P-18 (2013) — Standard for Bulk Inert Gas Systems~~

~~S 1.2 (2009) — Pressure Relief Device Standards — Part 2 Portable Containers for Compressed Gases~~

~~V 1 (2013) — Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections~~

~~V-300-2.141~~

Section D101.1 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is amended to read in its entirety as follows:

**D101.1 Scope.** Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of this ~~code~~Code.

~~V-300-2.142~~185

Section D103.1 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is amended to read in its entirety as follows:

**D103.1 Access road width with a hydrant.** Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm). See Figure D103.1. Only conditions with 26 feet roads are applicable.

**Exception:** The ~~Fire Code Official~~fire code official may approve other condition that provides equivalent access.

~~V-300-2.143~~186

Section D104.1 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is amended to read in its entirety as follows:

**D104.1 Buildings with two or more fire apparatus access roads.** Buildings or facilities exceeding 30 feet (9144 mm), or three stories in height, or 50,000 square feet (5760m<sup>2</sup>) shall be provided with at least two means of fire apparatus access for each structure.

~~V-300-2.144~~187

Section D104.2 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is deleted in its entirety.

~~V-300-2.145~~

~~V-300-2.188~~

Section D105.2 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is amended to read in its entirety as follows:

**D105.2 Width.** Fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm) in the immediate vicinity of any building or portion of building more than 30 feet (9144) in height.

**Exception:** The Fire Code Official may approve the use of other usable space/area that provides equivalent required width.

~~V-300-2.146~~189

Section D106.1 of the ~~International~~California Fire Code, ~~2015~~2019 Edition, is amended to read in its entirety as follows:

**D106.1 Projects having more than 50 dwelling units.** Multiple-family residential projects having more than 50 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads.

~~V-300-2.147~~190

Section D106.2 of the ~~International~~California Fire Code, ~~2016~~2019 Edition, is amended to read in its entirety as follows:

**D106.2 Projects having more than 200 dwelling units.** For Multiple-family residential projects having more than 200 units, the fire code official may require more than two fire apparatus access roads.

~~V-300-2.148~~191

Section D107.1 of the ~~International~~California Fire Code, ~~2016~~2019 Edition, exceptions No. 1 and No. 2 are deleted.

## SECTION 4. SEVERABILITY

The provisions of this Ordinance are separable, and the invalidity of any phrase, clause, provision or part shall not affect the validity of the remainder.

**SECTION 5. EFFECTIVE DATE AND POSTING**

In accordance with Section 36937 of the Government Code of the State of California, this Ordinance shall take effect thirty (30) days from and after the date of its passage. The City Clerk of the City of Milpitas shall cause this Ordinance or a summary thereof to be published in accordance with Section 36933 of the Government Code of the State of California.