



Fire Department

HEADQUARTERS

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CODE SUMMARY

OIL FIELD FACILITIES

A code summary is a compilation of code sections related to a specific occupancy or permit. This code summary lists sections of code pertaining to occupancies and operations as defined by the **California Fire Code**. Under each heading you will find the correlating code language and the reference cited. These requirements pertain to existing buildings. New construction may be subject to additional requirements. Please feel free to direct any questions to the Fire Prevention Division at (805) 681-5500.

SCOPE:

This guideline shall apply to facilities or locations utilized to produce, store or process combustible and flammable liquids, including individual oil wells, oil fields and small storage tank batteries.

Requirements for the following can be located in the stated sections of the *California Fire Code*:

- A. Foam fire protection systems for above ground tanks – CFC 5704.2.9.2
- B. Tanks containing boil-over or unstable flammable liquids – CFC 5704.2.9.6.1.4 thru CFC 5704.2.9.7
- C. Underground flammable liquid tanks – 5704.2.11
- D. Indoor storage of containers and portable tanks – 5704.3
- E. Liquid storage warehouses – 5704.3.8
- F. Outdoor storage of containers and portable tanks – 5704.4
- G. Dispensing inside buildings – CFC 5705
- H. Dispensing outside of buildings – CFC 5705.3.8
- I. Solvent distillation units – CFC 5705.4
- J. Stationary and portable tanks for gravity discharge – 5706.2.5.2
- K. Dispensing from tank vehicles – 5706.2.8
- L. Bulk plants, terminals, or bulk transfer operations – 5706.4

DEFINITIONS:

Flammable Liquid: A liquid that has a closed cup flash point below 100°F.

Class 1A Flammable Liquid: Liquids having a flash point below 73°F and having a boiling point below 100°F.

Class 1B Flammable Liquid: Liquids having a flash point below 73°F and having a boiling point at or above 100°F.

Class 1C Flammable Liquid: Liquids having a flash point at or above 73°F and below 100°F.

Combustible Liquid: A liquid that has a closed cup flash point at or above 100°F.

Class 2 Combustible Liquid: Liquids having a closed cup flash point at or above 100°F and below 140°F.

Class 3A Combustible Liquid: Liquids having a closed cup flash point at or above 140°F and below 200°F.

Class 3B Combustible Liquid: Liquids having a closed cup flash point at or above 200°F.

1. A permit is required to store, handle or use Flammable or Combustible Liquids. (CFC 105.6.16)

- A. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids.
- B. To store, use or handle Class 1 flammable liquids in excess of 5 gallons in a building or in excess of 10 gallons outside a building.

- C. To store, use or handle Class 2 or Class 3A combustible liquids in excess of 25 gallons inside a building or in excess of 60 gallons outside a building.
 - D. To operate tank vehicles, equipment, tanks, plants, terminals, wells, refineries, and similar facilities where flammable or combustible liquids are produced, transported, stored, dispensed or used.
- 2. Waste accumulation is prohibited.**
- 1.) No combustible material creating a fire hazard shall be allowed to accumulate on the premises.
 - 2.) In areas of wildfire risk, clearance requirements of 30 to 100 feet shall be required. (CFC 304.1.1) (CFC 304.1.2) (CFC 311.3)
- 3. Materials subject to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container. (CFC 304.3.1)**
- 4. Outdoor storage of flammable or combustible materials within the utility easement underneath high-voltage transmission lines shall be prohibited. (CFC 316.6.2)**
- 5. Fire Safety and Evacuation Plans shall be required for Hazardous Occupancies and shall meet the requirements of California Fire Code Section 404. (CFC 404.2) (CFC 404.3) (CFC 404.3.2)**
- 6. Employees in Hazardous Occupancies shall be trained in the fire emergency procedures described in their Fire Evacuation and Fire Safety Plans in accordance with the requirements of California Fire Code Section 406. (CFC 406.1)**
- 7. Material Safety Data Sheets (MSDS) for all hazardous materials shall be readily available on the premises. (CFC 407.2)**
- 8. Approved fire access roads shall be provided for every facility or building and meet the following requirements.**
- A. Fire apparatus access roads shall extend to within 150 feet of all portions of the facility and all portions of exterior walls of buildings. (CFC 503.1.1)
 - B. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet, except for approved security gates, and a vertical clearance on not less than 13 feet, 6 inches. (CFC 503.2.1)
 - C. Fire apparatus access roads shall be designed and maintained to support the loads of fire apparatus and be all-weather surface. (CFC 503.2.3)
 - D. Dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with turn-around area adequate for fire apparatus. (CFC 503.2.5)
- 9. Fire apparatus access roads shall not be obstructed. (CFC 503.4)**
- 10. Fire Code authorizes the fire authority to require a key box or department approved lock to gain access through security gates or to buildings. (CFC 506.1)**
- 11. An approved water supply capable of supplying the required fire flow for fire protection shall be provided as required by the fire official. (CFC 507.1)**
- 12. Fire hydrants shall be provided as required by the fire official. (CFC 507.5)**
- A. Unobstructed access to fire hydrants shall be maintained at all times. (CFC 507.5.4)
 - B. A 3-foot clear space shall be maintained around fire hydrants. (CFC 507.5.5)

C. Fire hydrants that are subject to impact by a motor vehicle shall be protected by guard posts or other approved means. (CFC 507.5.6)

13. Required hydrants and water supplying systems shall be subject to periodic testing as required by the fire official and shall be maintained in operable condition at all times. (CFC 507.5.2)

14. If required, standpipes, hose closets and/or sprinkler systems shall be maintained in operable condition and subject to periodic testing as required by the fire official. (CFC 901.6)

15. For flammable liquid hazards of appreciable depth (greater than ¼-in.), a Class B fire extinguisher shall be provided on the basis of at least two numerical units of Class B extinguishing potential per sq. ft. of flammable liquid surface of the largest hazard area. (CFC 906.3.2) (CCR T19, Div.1, Ch.3, Art.570)

16. For flammable liquid hazards of depth less than ¼-inch, extinguishers shall be provide in accordance with CFC Table 906.3(2) below:

TYPE OF HAZARD	BASIC MINIMUM EXTINGUISHER RATING	MAXIMUM TRAVEL DISTANCE TO EXTINGUISHERS	
		(in feet)	(in meters)
<i>Light (low)</i>	<i>5B</i>	<i>30</i>	<i>9.15</i>
	<i>10B</i>	<i>50</i>	<i>15.25</i>
<i>Ordinary (moderate)</i>	<i>10B</i>	<i>30</i>	<i>9.15</i>
	<i>20B</i>	<i>50</i>	<i>15.25</i>
<i>Extra (high)</i>	<i>40B</i>	<i>30</i>	<i>9.15</i>
	<i>80B</i>	<i>50</i>	<i>15.25</i>

17. Scattered or widely separated hazards shall be individually protected. An extinguisher in the proximity of a hazard shall be carefully located to be accessible in the presence of a fire without undue danger to the operator. (CFC 906.3.2) (CCR T19, Div.1, Ch.3, Art.570)

18. Extinguishers shall be inspected monthly by the building owner or occupant, or electronically monitored. (CFC 906.2) (T19 Sec. 574.1)

19. Extinguishers shall be subject to maintenance annually by licensed technician. (CFC 906.2) (T19 Sec. 575.1)

20. Electrical wiring and equipment in areas where flammable liquids are stored, handled, dispensed or mixed shall be in accordance with CFC Table 5703.1.1 (see following). (CFC 5703.1.1)

- A. Pumps, bleeders, withdrawal fittings, meters, etc. **outdoors** – Group D, Div. 2 within 3 feet of any devices, extending in all directions. Also up to 18 inches above floor or grade level within 10 feet horizontally from an edge of such devices.
- B. Pumps, bleeders, withdrawal fittings, meters, etc. **indoors** – Group D, Div. 2 within 5 feet of any devices, extending in all directions. Also up to 3 feet above floor or grade level within 25 feet horizontally from an edge of such devices.
- C. Drainage ditches, separators, impounding basin, etc. **outdoors** – Group D, Div. 2 up to 18 inches above ditch, separator or basin. Also up to 18 inches above grade within 15 feet horizontally from an edge.

21. The area surrounding a tank or group of tanks shall be provided with drainage control or shall be diked to prevent accidental discharge of liquid from endangering adjacent tanks, property or reaching waterways. (CFC 5703.4) (CFC 5704.2.10) (CFC 5004.2.1)
22. Visible hazard identification signs as specified by NFPA 704 shall be placed on all stationary containers and above-ground storage tanks for combustible and flammable liquids in excess of 100 gallons. (CFC 5704.2.3.2) (CFC 5703.5) (CFC 5704.2.3) (CFC 5003.5)
23. Guard posts or other approved means shall be provided to protect tanks, piping, valves or fittings subject to vehicular damage. (CFC 5704.2.9.7.5) (CFC 5703.6.4) (CFC 312.2)
24. Smoking and open flames are prohibited in flammable and combustible liquid storage and use areas. (CFC 5704.2.4)
25. "NO SMOKING" signs shall be provided in conspicuous locations and they shall not be obscured, removed and be maintained in good shape. (CFC 310.2) (CFC 310.3) (CFC 310.4) (CFC 5704.2.3.1)
26. Design and construction of tanks, piping valves, manifolds, venting, gauging, and overfill protection shall be in accordance with *California Fire Code* Sections 5704.2.7 and 5704.2.9.7. (CFC 5704.2.7.1 thru CFC 5704.2.7.11) (CFC 5704.2.9.7.1 thru CFC 5704.2.9.7.10)
27. Fire protection for above-ground tanks shall be in accordance with *California Fire Code* Section 5704.2.9.2. (CFC 5704.2.9.2.1 thru CFC 5704.2.9.2.4)
28. Above-ground tanks, connected piping, and ancillary equipment shall be maintained in a safe operating condition. (CFC 5704.2.15)
29. Storage tanks, boilers, fired heaters, open-flame devices or other sources of ignition shall not be located within 25 feet of well heads. Exception: engines used in the drilling, production and serving of wells. (CFC 5706.3.1.1)
30. Wells shall not be drilled within 75 feet of any dedicated public street, highway or operating railway. (CFC 5706.3.1.2)
31. Wells shall not be drilled within 100 feet of building not necessary to the operation of the well. (CFC 5706.3.1.3)
32. Wells shall not be drilled within 300 feet of buildings with an occupancy in Group A, E, or I. (CFC 5706.3.1.3.1)
33. Liquids containing crude petroleum or its products shall not be discharged into or on streets, highways, drainage canals or ditches, storm drains or flood control channels. (CFC 5706.3.2.1)
34. The surface of the ground under, around or near wells, pumps, boilers, oil storage tanks or buildings shall be kept free from oil, waste oil, refuse or waste material. (CFC 5706.3.2.2)
35. Protection shall be provided to prevent and control a blowout of a well. (CFC 5706.3.4)

36. Well locations and associated tanks shall have posted in a conspicuous place a sign with the name of the owner or operator, name of the lease or the lease number, the well number and the telephone number of a responsible person who can be reached at any time. (CFC 5706.3.7)