

# 2019 Emergency Power Supply Systems - Generators Reminder List

## Applicable Codes and Standards

CBC 2019, CEC 2019, CMC 2019, CFC 2019

NFPA 30 2018, NFPA 37 2015, NFPA 55 2016, NFPA 99 2018, NFPA 110 2016, NFPA 704 2017

### I. Scope

1. Emergency and standby power systems required by the California Building Code or the California Fire Code shall be installed in accordance with the California Building Code and NFPA 110 and NFPA 111. **CBC, Sec. 2702.1.3**
2. Permanently installed on-site generator sets for health care facilities shall be tested in accordance with NFPA 110, Standard for Emergency and Standby Power Systems, Section 7.13, Installation Acceptance. All safety devices shall be tested as specified in Section 7.13.4.5; however, the safety devices provided may comply with NFPA 99, Health Facilities, Section 6.7.1.2.14 in lieu of NFPA 110, Section 5.6.5.2. **CEC Sec. 700.3(A)**
3. When EPSSs are installed in health care facilities, the installation of distribution and wiring systems shall also be in compliance with NFPA 99, Health Care Facilities Code. **CBC Sec. 407.11 & NFPA 110, Sec. 7.12.2**
4. Prevention, control and mitigation of dangerous conditions related to storage, use, dispensing, mixing and handling of flammable and combustible liquids shall be in accordance with California Fire Code Chapter 50 and Chapter 57. **CFC Secs. 5701.1 & 5701.2**
5. Flammable and combustible liquids shall not be placed, stored or handled in any occupancy within the scope of California Code of Regulations, Title 19, Division 1 regulations, except as provided in the California Fire Code. **CCR, Title 19, Div. 1, Sec. 3.15**

### CHK N/A II. Generator Location

1. Level 1 emergency power supply to be separated from the remainder of the building by a 2-hr Fire Barrier. This is a minimum Level 1 requirement. Locations must also comply with the separation requirements of CBC, Section 508 and CBC Section 442.2. **NFPA 110, Sec. 7.2.1.1**
2. Exterior openings shall be protected below or within 10' of building openings. **CBC, Sec. 442.2.2**
3. Interior openings in engine room not permitted in a building containing a Group I occupancy. **CBC, Sec. 442.2.2.1**
4. Generators shall not be located in a room or area used for any other purpose other than equipment and controls related to the generation and distribution of emergency power. **CBC, Sec. 442.2.3**
5. Location classified as a Group F-1 when quantity of diesel fuel storage located inside a building does not exceed the limits of CFC Sec. 603.3.2.1 for Class II combustible liquids. **CBC, Sec. 306.2**
6. Location classified as a Group H-3 when quantity exceeds limits of CFC Sec. 603.3.2.1 and CBC, Table 307.1(1) or CFC, Table 5003.1.1(1) for Class II combustible liquids. The minimum separation shall be 4-hours in accordance with CBC Table 508.4. **CBC, Sec. 307.1 & CFC 603.3.2.1**
7. Generator locations shall be separated by fire barriers in accordance with CBC, Table 508.4 for a Group F-1. The minimum separation for a combustion engine shall be a 3-hour fire barrier. **CBC, Sec. 508.1**
8. Engines situated to be accessible for maintenance, repair and fire fighting. **NFPA 37, Sec. 4.1.1.1**
9. Detached structures shall be of noncombustible or fire-resistive construction and located 5' min from building openings and combustible construction or at least one of the exposed walls shall be 1-hour fire resistance rated or the detached structure shall be protected by fire sprinklers. **NFPA 37, Sec. 4.1.2.2.1 & Sec. 4.1.2.2.2**
10. Detached structures shall have ventilation to prevent the accumulation of flammable vapors or gases. **NFPA 37, Sec. 4.1.2.2.3**
11. Engines, and their weatherproof housings, installed on roofs shall be located at least 5 ft. from openings and from structures having combustible walls or adjacent construction shall be 1-hour resistance rated or the weatherproof enclosure shall be designed to contain a fire. **NFPA 37, Sec. 4.1.3.1**
12. Roof installation shall have an oil containment system consisting of a curb or dike having a capacity the greater of the fuel system or oil system **NFPA 37, Sec. 4.1.3.2**

| <u>CHK</u>               | <u>N/A</u>               | <b>II. Generator Location (Continued)</b>  |  |
|--------------------------|--------------------------|--|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 13. Roof surface below engine and beyond the engine and the dike or curb shall be noncombustible to a minimum distance of 12".   | <b>NFPA 37, Sec. 4.1.3.3</b>                                 |
| <input type="checkbox"/> | <input type="checkbox"/> | 14. Engines, and their weatherproof housings, installed outdoors shall be located at least 5 ft. from building openings and combustible walls or adjacent construction shall be 1-hour resistance rated or the weatherproof enclosure shall be designed to contain a fire. | <b>NFPA 37, Sec. 4.1.4</b>                                   |
| <input type="checkbox"/> | <input type="checkbox"/> | 15. Adequate air to be provided for cooling, ventilation and to replenish engine combustion air.   | <b>NFPA 37, Sec. 4.1.1.2 &amp; NFPA 110, Sec. 7.7.2</b>      |
| <input type="checkbox"/> | <input type="checkbox"/> | 16. Level 1 systems shall have supply and discharge air directly to the exterior or through a 2-hr fire rated transfer system without dampers.   | <b>NFPA 110, Secs. 7.7.2.1, 7.7.2.2, 7.7.2.3 &amp; 7.7.3</b> |
| <input type="checkbox"/> | <input type="checkbox"/> | 17. Energy converters shall not be located in the generator room.  | <b>NFPA 110, Sec. 7.2.1</b>                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | 18. Provisions shall be made to maintain generator room not to exceed maximum ambient air temperature required by the EPS manufacturer.  | <b>NFPA 110, Sec. 7.7.1</b>                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | 19. When sprinklered, .3 gpm/2500 sq. ft. most remote area density w/ 100 sq. .ft. max sprinkler spacing required.   | <b>NFPA 37 Sec. 11.4.5.1 &amp; 11.4.5.1.1</b>                |
| <input type="checkbox"/> | <input type="checkbox"/> | 20. Indoor storage areas and storage buildings shall be provided with mechanical exhaust ventilation or natural ventilation where natural ventilation can be shown to be acceptable for the materials as stored.   | <b>CFC, Sec. 5004.3</b>                                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 21. Exhaust ventilation systems shall comply with CFC, Section 5004.3.1.   | <b>CFC, Sec. 5004.3.1</b>                                    |
| <input type="checkbox"/> | <input type="checkbox"/> | 22. The minimum horizontal separation between an LP-gas container >125 gals. and a Class I, II or IIIA liquid storage tank >660 gals. shall be 20 feet.  | <b>NFPA 30, Sec. 22.4.2.6</b>                                |

| <u>CHK</u>               | <u>N/A</u>               | <b>III. Generator Installation</b>  |  |
|--------------------------|--------------------------|---|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. No combustible materials permitted in room.  | <b>Title 19, Sec. 3.19(f), NFPA 37, Sec. 4.1.1.3 &amp; NFPA 110, Sec. 7.11.1</b> |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Sprinkler protection required when maximum allowable quantity of fuel storage exceeds 660 gals. for Class II flammable liquid.   | <b>CFC, Sec. 603.3.2.1</b>   |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Protected by fire sprinklers if Group H-3.   | <b>CFC, Sec. 5705.3.7.3</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Remote manual stop station of a type to prevent inadvertent or unintentional operation located outside the room housing the prime mover, where so installed, or outside the enclosure where the prime mover is located outside the building. | <b>NFPA 110, Sec. 5.6.5.6</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. EPS shall be heated as necessary to maintain water jacket and battery temperature required by manufacturer for cold start and load acceptance.   | <b>NFPA 110, Sec. 5.3.1</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. The ambient air temperature in the EPS equipment room or outdoor housing containing Level I rotating equipment shall be not less than 40°F.  | <b>NFPA 110, Sec. 5.3.5</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Annunciation of alarms at generator location and a remote location on-site or off site.  | <b>NFPA 110, Sec. 5.6.6.2 (1)</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Remote annunciation at regular work station of operating personnel.  | <b>NFPA 99 - 2018, Secs. 6.7.1.2.15 &amp; 6.7.1.2.15.2</b>                       |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Remote audible & visible alarm at constantly monitored location.   | <b>NFPA 99 - 2018, Secs. 6.7.1.2.15 &amp; 6.7.1.2.15.2</b>                       |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Battery charger operated by the prime mover shall be provided. The charger is not required if the automatic charger has a high-low rate capable of charging during running conditions.  | <b>NFPA 110, Sec. 5.6.3.6 &amp; Sec. 5.6.3.6.1</b>                               |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. Automatic battery charger provided.   | <b>NFPA 110, Sec. 5.6.4.6</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | 12. Level 1 control panel provided at generator.  | <b>NFPA 110, Sec. 5.6.5.1</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | 13. Normal power service equipment not permitted in generator room where service equipment is >150 volts or ≥1000 amperes.  | <b>NFPA 110, Sec. 7.2.3</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | 14. No other equipment, except those that serve the space, shall be permitted in the EPS room or EPS enclosure.   | <b>NFPA 110, Sec. 7.2.1.3 &amp; Sec. 7.2.2.3</b>                                 |

| <b>CHK</b>               | <b>N/A</b>               | <b>III. Generator Installation (Continued)</b>  |                                |
|--------------------------|--------------------------|---|--------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | 15. Equipment located to minimize damage resulting from vandalism, tampering, or sabotage.  | <b>NFPA 110, Sec. 7.1.2</b>    |
| <input type="checkbox"/> | <input type="checkbox"/> | 16. Generators shall have a minimum clearance of 3 ft. on all sides readily accessible for repair, maintenance, cleaning, or replacement. | <b>NFPA 110, Sec. 7.9.12.1</b> |
| <input type="checkbox"/> | <input type="checkbox"/> | 17. Flexible connections between radiator and air ducts for cooling system provided.  | <b>NFPA 110, Sec. 7.8.2</b>    |
| <input type="checkbox"/> | <input type="checkbox"/> | 18. Flexible electrical conduit connections provided.   | <b>NFPA 110, Sec. 7.12.4</b>   |

| <b>CHK</b>               | <b>N/A</b>               | <b>IV. Generator Fuel Supply</b>   |  |
|--------------------------|--------------------------|--|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Minimum fuel supply of 24 hrs. full-demand operation for acute care hospital. (Min 72 hrs. for NPC-5)   | <b>CEC 700-12(B)(2)Exc.1</b>                               |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Minimum fuel supply of 6 hrs. full-demand operation for SNF, Psych, ICF.  | <b>CEC 700-12(B)(2)Exc.2</b>                               |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Minimum fuel supply of 4 hrs. full-demand operation for ambulatory surgery clinics.   | <b>CEC 700-12(B)(2)Exc.3</b>                               |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. <i>Minimum fuel of 96 hours full-demand operation in seismic design category C, D, E, or F as determined in accordance with ASCE 7. Not a CBC requirement. However, it may be required for CDPH, CMS and JCI approvals.</i> | <i>NFPA 110-2010, Sec. 5.1.2</i>                           |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. See OSHPD CAN 2-108 for temporary generator fuel supplies.  | <b>CBC Sec. 108</b>  |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Liquid fuel shall feed to engines by pumps only.  | <b>NFPA 37, Sec. 6.9</b>                                   |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Fuel supply for exclusive use of EPSS or separate draw down.  | <b>NFPA 110, Sec. 5.5.1 &amp; Sec. 5.5.1.1</b>             |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Main fuel tank(s) shall be sized to accommodate 133% of the specific EPS class.   | <b>NFPA 110, Sec. 5.5.3</b>                                |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Low-fuel sensing switch required for the main fuel supply tank(s) when less than the minimum fuel required for the specific EPS class remains in the tank(s).   | <b>NFPA 110, Sec. 5.5.2</b>                                |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Low fuel annunciation at a generator location and a remote location on-site or off-site.   | <b>NFPA 110, Sec. 5.6.6.2(1)</b>                           |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. Low fuel annunciation at a constantly monitored location.  | <b>NFPA 99 - 2018, Secs. 6.7.1.2.15 &amp; 6.7.1.2.15.2</b> |
| <input type="checkbox"/> | <input type="checkbox"/> | 12. Low fuel annunciation at regular work station of operating personnel.  | <b>NFPA 99 - 2018, Secs. 6.7.1.2.15 &amp; 6.7.1.2.15.2</b> |

| <b>CHK</b>               | <b>N/A</b>               | <b>V. Generator Fuel Supply/Return Piping</b>   |  |
|--------------------------|--------------------------|---|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Provisions shall be made for pressure testing of piping.   | <b>NFPA 30, Sec. 27.7</b>                        |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Protected from corrosion and galvanic action.  | <b>NFPA 30, Sec. 27.6.4</b>                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Protected from vehicle damage by guard posts or other approved means.  | <b>NFPA 30, Sec. 27.6.1</b>                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Supports protected by draining liquids away, 2-hr fire rating, or other approved means.                                      | <b>NFPA 30, Sec. 27.6.2</b>                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Approved metallic or nonmetallic flex connectors permitted to protect the piping.  | <b>NFPA 37, Sec. 6.8.2.1</b>                     |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Valves shall be provided to control normal flow and shut off flow for breaks   | <b>NFPA 37, Sec. 6.8.3</b>                       |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Fuel piping shall be of compatible metal to minimize electrolysis and be properly sized.                                     | <b>NFPA 110, Sec. 7.9.3</b>                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Galvanized fuel lines shall not be used.   | <b>NFPA 110, Sec. 7.9.3.1</b>                    |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Approved flexible fuel lines shall be used between the prime mover and the fuel piping.                                      | <b>NFPA 110, Sec. 7.9.3.2</b>                    |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Fuel line solenoids shall be battery powered.   | <b>NFPA 110, Sec. 7.9.9 &amp; Sec. 5.6.3.2.1</b> |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. EPS piping shall be designed to minimize damage from earthquakes.   | <b>NFPA 110, Sec. 7.11.5</b>                     |
| <input type="checkbox"/> | <input type="checkbox"/> | 12. Gravity return fuel lines between the day tank and main supply tank shall be free of traps to flow freely to the main tank. | <b>NFPA 110, Sec. 7.9.4.2</b>                    |
| <input type="checkbox"/> | <input type="checkbox"/> | 13. Gravity feed to generator not permitted.  | <b>NFPA 37, Sec. 6.5.1</b>                       |
| <input type="checkbox"/> | <input type="checkbox"/> | 14. Spill control, drainage control & secondary containment not required for piping connected to systems. See ANSI/ASME B31.3   | <b>NFPA 30, Sec. 27.3.1</b>                      |

| <b>CHK</b>               | <b>N/A</b>               | <b>VI. Generator Day Tanks</b>   |   |
|--------------------------|--------------------------|--|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Day tank required when fuel pump lift (suction head) is not adequate.   | <b>NFPA 110, Sec. 7.9.2</b>                                 |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Day tank required if the engine manufacturer's fuel pump static head pressure limits are exceeded when the level of fuel in the tank is at maximum.                                   | <b>NFPA 110, Sec. 7.9.2.1</b>                               |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Spill control required when any individual vessel exceeds 55 gal. or the aggregate capacity exceeds 1,000 gals and secondary containment is not provided.                             | <b>CFC, Sec. 603.3.2.6</b>                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Listed generator subbase secondary containment fuel tanks of (660 gal) capacity and below shall be permitted to be installed outdoors or indoors without diking or remote impounding. | <b>NFPA 110, Sec. 7.9.12</b>                                |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Monitoring of secondary containment of tanks located indoors required.  | <b>CFC, Sec. 5004.2.2.5, NFPA 30, Sec. 22.11.4.9</b>        |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Diesel day tanks shall be installed below the engine fuel return elevation.   | <b>NFPA 110, Sec. 7.9.4</b>                                 |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Return line to day tank shall be below the fuel return elevation.   | <b>NFPA 110, Sec. 7.9.4.1</b>                               |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Drainage control or diking required for aboveground tanks located outside.  | <b>NFPA 30, Sec. 22.11</b>                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Drainage control or diking not required for listed secondary containment aboveground tanks located outside.   | <b>NFPA 30, Sec. 22.11.4</b>                                |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Shall not be located near or be allowed to obstruct an egress route.   | <b>CFC, Sec. 5704.3.3.3 &amp; NFPA 30 Sec. 24.5.1</b>       |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. Sprinkler protection required when maximum allowable quantity of fuel storage exceeds 660 gals. Class II flammable liquid.   | <b>CFC, Sec. 603.3.2.1</b>                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | 12. Protected by fire sprinklers if Group H-3.   | <b>CFC, Sec. 5705.3.7.3</b>                                 |
| <input type="checkbox"/> | <input type="checkbox"/> | 13. Spill control and secondary containment when tank located inside structure or roof of structure.   | <b>NFPA 37, Sec. 6.3.2.4 &amp; Sec. 6.3.4.2</b>             |
| <input type="checkbox"/> | <input type="checkbox"/> | 14. Fuel tanks supplied by pumps shall have (1) overflow line piped to source tank, (2) high level alarm and (3) high-level automatic shutoff.   | <b>NFPA 37, Sec. 6.5.4</b>                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | 15. Filling, emptying and vapor recovery connections shall be located outside no less than 5 ft. from building openings or lot lines of property that can be built on.                   | <b>CFC, Sec. 5704.2.7.5.2 &amp; NFPA 30, Sec. 22.13.4.1</b> |
| <input type="checkbox"/> | <input type="checkbox"/> | 16. Signs prohibiting open flames and smoking.   | <b>CFC, Sec. 308.1.1 &amp; 310.2</b>                        |
| <input type="checkbox"/> | <input type="checkbox"/> | 17. Signage in accordance with NFPA 704 >100 gal. capacity.  | <b>CFC, Sec. 5704.2.3.2 &amp; NFPA 30, Sec. 21.7.2.1</b>    |
| <input type="checkbox"/> | <input type="checkbox"/> | 18. Piping, connections, fittings and other appurtenances shall be installed in accordance with ASME B31.  | <b>NFPA 30, Sec. 27.3.1</b>                                 |

| <b>CHK</b>               | <b>N/A</b>               | <b>VII. Integral Tanks</b>   |   |
|--------------------------|--------------------------|--|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Liquid storage room/warehouse required when maximum allowable quantity exceeded.  | <b>CFC, Sec. 603.3.2.1 &amp; Table 5003.1.1(1)</b>          |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Liquid storage room (H-3) >1000 sq. ft. must have at least 25% of perimeter on an exterior wall.  | <b>CBC, Sec. 415.6</b>                                      |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Liquid storage room must be separated from adjacent occupancies as required for H-3 occupancies.  | <b>CBC, Sec. 508.4.4</b>                                    |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. The design of the supporting structure shall be in accordance with CBC and NFPA 30.   | <b>CFC, Sec. 5704.2.7.7</b>                                 |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Horizontal cylindrical and rectangular tanks shall not exceed a gauge pressure of 1 psi and shall be limited to 2.5 psi under emergency conditions.                                   | <b>NFPA 31, Sec. 7.2.6.1 &amp; NFPA 30, Sec. 21.4.2.1.4</b> |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Tanks inside buildings required to have means to prevent overflow into the building.  | <b>CFC, Sec. 5704.2.9.5.1 &amp; NFPA 30 Sec. 24.14.8</b>    |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Fabrication & construction of tanks complies with NFPA 30, Chapters 21, 22 & 23.  | <b>CFC, Sec. 5704.2.7 &amp; NFPA 31, Sec. 7.2.3</b>         |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Spill control required when any individual vessel exceeds 55 gal. or the aggregate capacity exceeds 1,000 gals.   | <b>CFC, Sec. 603.3.2.6</b>                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Listed generator subbase secondary containment fuel tanks of (660 gal) capacity and below shall be permitted to be installed outdoors or indoors without diking or remote impounding. | <b>NFPA 110, Sec. 7.9.12</b>                                |

**CHK** **N/A** **VII. Integral Tanks (Continued)**

- 10. Monitoring of secondary containment of tanks located indoors required. **CFC, Sec. 5004.2.2.5 & NFPA 30 Sec. 22.11.4.9**
- 11. Drainage control or diking required for aboveground tanks located outside. **NFPA 30, Sec. 22.11**
- 12. Drainage control or diking not required for listed secondary containment aboveground tanks located outside. **NFPA 30 Sec. 22.11.4**
- 13. Location of tanks with a capacity >660 gals.distance to property lines, public ways and important buildings shall be in accordance NFPA 30, Table 22.4.1.1(a). **CFC, Sec. 603.3.1 7 & NFPA 31, Sec. 7.8.3**
- 14. Tank, tank vent and tank filler locations in accordance with NFPA 55, Table 9.3.2. **NFPA 55, Sec. 9.3.2**
- 15. Shall not be located near or be allowed to obstruct an egress route. **CFC, Sec. 5704.3.3.3 & NFPA 30, Sec. 24.5.1**
- 16. Sprinkler protection required when maximum allowable quantity of fuel storage exceeds 660 gals. Class II flammable liquid. **CFC, Sec. 603.3.2.1**
- 17. Protected by fire sprinklers if Group H-3. **CFC, Sec. 5705.3.7.3**
- 18. Spill control and secondary containment when tank located inside structure or roof of structure. **NFPA 37, Sec. 6.3.2.4 & Sec. 6.3.4.2**
- 19. Fuel tanks supplied by pumps shall have (1) overflow line piped to source tank, (2) high level alarm and (3) high-level automatic shutoff. **NFPA 37, Sec. 6.5.4**
- 20. Filling, emptying and vapor recovery connections shall be located outside no less than 5 ft. from building openings or lot lines of property that can be built on. **CFC, Sec. 5704.2.7.5.2 & NFPA 30, Sec. 22.13.4.1**
- 21. Signs prohibiting open flames and smoking. **CFC, Sec. 308.1.1 & 310.2**
- 22. Signage in accordance with NFPA 704 >100 gal. capacity. **CFC, Sec. 5704.2.3.2 & NFPA 30, Sec. 21.7.2.1**
- 23. Piping, connections, fittings and other appurtenances shall be installed in accordance with ASME B31. **NFPA 30, Sec. 27.3.1**

**CHK** **N/A** **VIII. Tank Venting**

- 1. The vent pipe shall terminate outside the building at a point at least 24 in. from any building opening at the same or lower level. **NFPA 37, Sec. 6.7.1.1**
- 2. Piping for venting shall discharge upward or horizontally away from adjacent walls. **NFPA 30, Sec. 27.8.1.2**
- 3. Vent outlets shall be located so that vapors will not be trapped by eaves or other obstructions. **NFPA 30, Sec. 27.8.1.3**
- 4. Vent piping shall not be manifolded except where required for special purposes such as vapor recovery, vapor conservation or air pollution control. **NFPA 30, Sec. 27.8.1.4**
- 5. Vent piping protected from vehicle damage by guard posts or other approved means. **NFPA 30, Sec. 27.8.1**

**CHK** **N/A** **IX. Generator Exhaust**

- 1. Exhaust shall terminate minimum 25' from ventilation air inlets or windows. **CMC, Sec. 407.2.1**
- 2. Exhaust shall terminate not less than 10 ft. above adjoining grade. **CMC, Sec. 407.2.2**
- 3. Exhaust shall terminate not less than 10' from doors, occupied areas or operable windows. **CMC, Sec. 407.2.2**
- 4. Low points in exhaust systems shall have suitable drains. **NFPA 37, Sec. 8.1.5 & NFPA 110, Sec. 7.10.3.1**
- 5. Exhaust systems shall terminate outside of structure. **NFPA 37, Sec. 8.2.3.1**
- 6. Exhaust systems shall be a metal, masonry, or factory-built chimney where they pass through a floor, ceiling, attic, or concealed space. **NFPA 37, Sec. 8.2.5**
- 7. Exhaust pipes <1400°F shall have clearances from combustible materials of not less than 9". **NFPA 37, Sec. 8.3.1**
- 8. Exhaust pipes <1400°F passing through combustible roofs shall be protected by a ventilated thimble at least 9" on each side and 6" in diameter larger than the pipe. **NFPA 37, Sec. 8.3.2**

**CHK N/A IX. Generator Exhaust (Continued)**

- 9. Approved thimble(s) required where <1400° F exhaust passes through combustible walls or partitions. **NFPA 37, Sec. 8.3.3 & NFPA 110, Sec. 7.10.3.4**
- 10. Exhaust pipes >1400° F shall comply with NFPA 211. **NFPA 37, Sec. 8.4**
- 11. Exhaust piping shall be connected to the prime mover by means of a flexible connector. **NFPA 37, Sec. 8.2.2 & NFPA 110, Sec. 7.10.3**
- 12. Exhaust shall be independently supported. **NFPA 110, Sec. 7.10.3**
- 13. Exhaust system shall be designed so it does not create excessive backpressure. **NFPA 110, Sec. 7.10.4**
- 14. Exhaust shall terminate at a point where hot gases, sparks, or products of combustion will discharge to a safe location. **NFPA 37, Sec. 8.2.3.1**
- 15. Exhaust shall terminate with a rain cap, tee, Ell pointing downward or vertically with provisions for trapping and draining rain water and snow melt. **NFPA 110, Sec. 7.10.3.5**
- 16. Exhaust systems shall be guarded where necessary to prevent personnel burns. **NFPA 37, Sec. 8.2.4**

**CHK N/A X. Emergency Power**

- 1. Battery charger for task illumination connected to life safety branch (hospitals). **CEC, Sec. 517-33(E)**
- 2. Receptacles at Gen Set connected to life safety branch (hospitals). **CEC, Sec. 517-33(E)**
- 3. Generator accessories for performance connected to life safety branch (hospitals). **CEC, Sec. 517-33(F)**
- 4. Task illumination connected to life safety branch (SNF's). **CEC, Sec. 517-43(F)**
- 5. Receptacles at Gen Set connected to life safety branch (SNF's). **CEC, Sec. 517-43(F)**
- 6. Battery powered emergency lighting required at EPS location. **NFPA 110, Sec. 7.3.1**
- 7. Equipment essential to operation of generator (ventilation, fuel oil pumps, etc.) powered by EPS. **NFPA 110, Sec. 7.12.5**

**CHK N/A XI. Exiting**

- 1. Maximum length of common path of egress travel for Group H-3 spaces with one exit is 25 ft. **CBC, Sec. 1006.2.1 & Table 1006.2.1**
- 2. Maximum travel distance for Group H-3 is 150 ft. **CBC, Sec. 1017.2 & Table 1017.2**
- 3. Two exits required if Group H-3 with occupant load greater than 3. **CBC, Sec. 1006.2.1 & Table 1006.2.1**
- 4. Egress doors swing in direction of egress if Group H. **CBC, Sec. 1010.1.2.1**
- 5. Panic hardware required if Group H. **CBC, Sec. 1010.1.10**
- 6. Maximum length of common path of egress for Group F-1 spaces with one exit; 75 ft. unsprinklered and 100 ft. sprinklered. **CBC, Sec. 1006.2.1 & Table 1006.2.1**
- 7. Maximum travel distance for Group F-1; 200 ft. unsprinklered, 250 ft. sprinklered. **CBC, Sec. 1017.2 & Table 1017.2**
- 8. Two exits required if Group F-1 with an occupant load greater than 49. **CBC, Sec. 1006.2.1 & Table 1006.2.1**

**CHK N/A XII. Testing**

- 1. Testing shall be in accordance with NFPA 110, Sec. 7.1.3. **CEC, Sec. 700.3(A)**
- 2. Cold start & 1.5 hour test with building load. **NFPA 110, Sec. 7.13.4.1**
- 3. 2-hour test with full load. **NFPA 110, Sec. 7.13.4.3**
- 4. Cycle crank test. **NFPA 110, Sec. 7.13.4.4**
- 5. All safeties required by NFPA 110, Sec. 5.6.5.2. (NFPA 99, Sec. 6.7.1.2.14.2 includes one additional safety, low lube oil pressure pre-alarm) **CEC, Sec. 700.3(A)**

**NOTE**

**Compliance with all items on this list does not necessarily assure compliance with all provisions of the applicable codes and standards. This reminder list should be used only by persons with a comprehensive knowledge of the applicable codes and standards.**

OSHPD Policy Intent Notices and Code Application Notices.

<https://oshpd.ca.gov/construction-finance/codes-and-regulations/#PINs>

OSHPD Project Review Status

<https://oshpd.ca.gov/construction-finance/building-and-construction-projects/plan-review-program>

OSHPD Public Use Forms

<https://oshpd.ca.gov/construction-finance/resources/forms-applications-reminder-lists/>