



San Mateo County Fire Department

FIRE CHIEF
NATHAN ARMSTRONG

ASSISTANT CHIEF
JONATHAN COX

FIRE MARSHAL
PATRICK GRIFFIN

DEPUTY FIRE MARSHALS
JOHN RIDDELL
AUSTIN SEELY
CLINTON DYER
TYLER STURM
JORDAN MOTTA

320 Paul Scannell Drive, San Mateo, California 94402 (650) 573-3846 SMCFDfiremarshal@fire.ca.gov

Standard Detail and Specification Manual

Section: Equipment	Title: Generators
Effective: January 1, 2023	Revised: May 2, 2023
Number:	Authorized By: Patrick Griffin, Fire Marshal

SCOPE:

These requirements are applicable to the installation of emergency and standby generators. They apply to both temporary and permanent installations. These requirements are a supplement to other requirements and/or guidelines, and are not all inclusive.

Generator operations shall comply the with the following code requirements:

- 2022 California Fire Code
- 2020 California Electric Code
- National Fire Protection Association, NFPA 37, Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines.
- National Fire Protection Association, NFPA 110, Standard for Emergency and Standby Power
- National Fire Protection Association, NFPA 111, Standard on Stored Electrical Energy

NOTE: Where the following Energy Systems are used, the listed code sections shall be applicable:

- Acetylene- 2022 CFC, Section 3508
- Ozone Gas-2022 CFC, Section 6005
- Ethylene- 2022 CFC, Section 2506

GENERAL:

- An installation permit is required from the Planning/ Building Department to install an emergency or standby generator, tank, piping, and associated equipment.
- A new or modified Hazardous Materials Business Plan (HMBP) may be required before placing the tank(s) in service.
- Notification of the electric utility is required.
- Permits may also be required from the Bay Area Air Quality Management District.

POLICY:

Generators:

Generator installations shall comply with the general set of requirements as listed below, but this list is not all-inclusive.

- Stationary emergency and standby generators shall be listed in accordance with UL 2200, Standard for Stationary Engine Generator Assemblies.
- Portable generators shall be listed in accordance with UL 2201 Carbon Monoxide (CO) Emission Rate of Portable Generators
- Engine rooms located **within structures** shall have interior walls, floors, and ceilings of at least 1-hour fire resistance rating.
 - The ceiling of rooms located on the top floor of a structure shall be permitted to be noncombustible or protected with an automatic fire suppression system.
 - Engine rooms **attached to structures** shall have the common wall of at least 1-hour fire resistance rating.
- Engines and their weatherproof housings that are installed **outdoors** shall be located at least 5 feet from openings in walls, and at least 5 feet from structures having combustible walls. A minimum separation should not be required where the following conditions exist:
 - The adjacent wall of the structure has a fire resistance rating of at least 1 hour.
- Exhaust pipes and ducts passing directly through combustible roofs should be guarded at the point of passage by ventilated metal thimbles that extend not less than 9 inches on each side of roof construction and are at least 6 inches in diameter larger than the exhaust pipe or duct.
- Exhaust pipes and ducts passing directly through combustible walls or partitions should be guarded at the point of passage by one of the following methods:
 - Metal ventilated thimbles not less than 12 inches larger in diameter than the exhaust pipe or ducts.
 - Metal or burned fire clay thimbles built in brickwork or other approved fireproofing materials providing not less than 8 inches of insulation between the thimble and combustible material.
- Electrical wiring and equipment shall be installed in accordance with the 2020 California Electrical Code.
- Where extension cords and temporary wiring are used per code, they shall be provided with GFCI Protection.

Indicate the type and class of electrical wiring on the plans.
- A NFPA 704 Standard for the Identification of the Hazards of Materials for Emergency Response diamond placard shall be placed at entrances to locations where tanks are stored.

- A sign shall be placed at the main electrical shutoff box identifying type and location of all normal and emergency power sources connected at that location.
Indicate the location of the main electrical shutoff and the signage on the plans.
- At least one portable fire extinguisher shall be provided near and within sight of the equipment. Where portable generators are used, a fire extinguisher with a rating of not less than 2A:10BC shall be provided not more than 50 feet from the generator. (2022 CFC, Section 906 Portable Fire Extinguishers)
Indicate the size and location of the fire extinguishers on the plans.