Sacramento Metropolitan Fire District

Community Risk Reduction Division **www.metrofire.ca.gov**

10545 Armstrong Ave., Suite 310 · Mather, CA 95655 · Phone (916) 859-4330 · Fax (916) 859-3717

SACRAMENTO METROPOLITAN FIRE DISTRICT					
FIRE PREVENTION STANDARD					
STANDARD TITLE:	**Installation of Fire Alarm Systems**				
STANDARD NUMBER:	2	EFFECTIVE DATE:	05/06/10	REVISION DATE:	07/20/23

SCOPE

This standard is for the design, installation and maintenance of fire alarm systems in commercial buildings and is pursuant to the 2022 California Fire Code, Local Ordinance and the 2022 edition of NFPA 72.

This standard shall apply to all new or modified fire alarm systems.

DEFINITIONS

Change of Occupancy - a change in the use of a building or a portion of a building that results in the following (CFC 202):

1. A change of occupancy classification
2. A change from one group to another group within an occupancy classification.
3. A change in use within a group for which there is a change in the application of this code.

Common Areas – in addition to the areas listed in CFC section 907.5.2.3.1, common areas shall include shared, private offices (i.e. 2 or more desks) and private offices with a meeting or conference type seating arrangement.

Building Fire Alarm System – a fire alarm system located at the protected premise which utilizes manual or automatic initiating devices to activate alarm notification appliances throughout the building for the purpose of alerting occupants of the need to evacuate, summon aid and/or control other fire safety functions within the building.

Sprinkler System Supervision & Alarms (i.e. water flow and tamper) – a dedicated function fire alarm system located at the protected premise installed specifically to monitor sprinkler water flow alarm, valve supervision, general trouble conditions and elevator recall where a Building Fire Alarm System is not required. (CFC 903.4)

1. Dedicated Function Fire Alarm System for fire sprinkler system monitoring shall include the following:

a. An exterior horn/strobe connected to the water flow switch and located at the fire riser. (CFC 903.4.2 as amended by the Sacramento County Code)

   Additional exterior horn/strobes may be required where sprinkler risers are in multiple locations throughout a building.

b. Valve supervision of any control valve installed between the water supply and fire sprinklers. (CFC 903.3.8.4 as amended by the Sacramento County Code)

SPECIFICATIONS

1. All fire alarm plans shall include a furniture layout. An occupant load computed in accordance with CBC chapter 10 will be utilized in determining common areas where a furniture layout has not been provided. (NFPA 72; 7.2.1)

2. All fire alarm plans, calculations and installation shall be completed by a fire protection engineer, electrical engineer, C-10 contractor licensed by the State of California or a minimum NICET II certification. (NFPA 72; 10.5)

3. Fire alarm systems shall not be connected to a security system or any system other than that for the detection of fire and smoke. (CFC 907.1.5)

   Exception: Combination systems (i.e. burglar and fire) may be permitted if the system is UL certified and the building is single tenant use.

4. Multi-tenant buildings, served by a single fire sprinkler system with multiple fire alarm panels, shall provide one main fire alarm panel to which all fire alarm panels report and through which all signals are transmitted to the Central Station. All panels shall be resettable. (CFC 907.2)

5. A zone and building map, 24 hour contact information and panel silence and reset instructions shall be clearly provided at panel location. (CFC 509.1)

6. Alarms shall annunciate and transmit to the central station by building, zone, location, and device in plain English. (NFPA 72; 10.18)

7. Emergency voice alarm message content shall be as follows (NFPA 72; 24.4):

   “Attention, may I have your attention please. An emergency has been reported in the building. Please walk to the nearest stairwell or exit and evacuate the building. Do not use the elevator. I repeat, please walk to the nearest stairwell or exit and evacuate the building. Do not use the elevator.”

Sequence shall repeat 3 times followed by the temporal code only, continuously. Variations to the above may be permitted upon approval by the Fire District. If emergency voice alarm messages are desired in additional languages, the message content and translation shall be provided.

8. All notification circuits shall be designed with a safety margin such that the maximum voltage drop does not exceed 10%. (CFC 907.2)

9. Circuits for R-2 occupancies shall be sized to accommodate future devices. A 20% additional load, or other approved method, shall be included for each notification circuit that may support visual notification. Both factors shall be included in the voltage drop calculations. Visual appliance back boxes shall be installed at mounting heights for visual appliances. (CFC 907.5.2.3.3)

10. The actuation of fire dampers, smoke dampers, combination fire/smoke dampers, or ceiling radiation dampers shall initiate an alarm signal on the fire alarm control unit. (NFPA 72; 21.7.4.2)

11. Wireless transmission shall not be utilized between life safety initiating devices and fire alarm panel (i.e. smoke detector, heat detector, manual pull station or water flow switch). (NFPA 72; 17.4.6)

12. Nonrequired (Voluntary) fire alarm systems shall be installed to provide “selective” or “total coverage” in accordance with NFPA 72 and the system shall be certified by Underwriter’s Laboratory (UL). A letter from the building owner stating the objectives of the nonrequired system shall be included in the submittal package to document system goals. (NFPA 72; 23.3.2)

13. Existing fire alarm control panels requiring upgrade, due to component failure and/or non-replaceable parts, shall be compatible with existing equipment and shall maintain compliance at the time of original installation. (CFC 907.9)