



Alameda County Fire Department Fire Prevention Bureau

INFORMATIONAL BULLETIN

Emergency Responder Radio Coverages

The provisions contained in 2019 California Fire Code Section 510 are to be followed.

Permit. A construction permit is required for the installation of or modification to emergency responder radio coverage systems and related equipment. Maintenance work does not require a permit.

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*
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. The building is equipped with a solar photovoltaic system; or
5. Radio coverage signal strength levels are not consistent with 95% In-Building coverage

Obstruction by new buildings. When in the opinion of the *fire code official*, the construction of a new building obstructs line of sight emergency radio communications to existing buildings or other locations, the developer of the new building shall correct the degraded radio coverage as necessary to restore communications capabilities in accordance with the County of Alameda and the East Bay Regional Communications System Authority.

The Police, Sheriff, and other Emergency Services connectivity shall also be validated. For Current published frequencies information refer to EBRCSA or any of the authorized EBRCSA infrastructure service providers.

Radio signal strength. The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 90 percent of all areas on each floor of the building meet the signal strength requirements of -95 dBm.

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 by the *fire code official*, shall be provided with 99 percent floor area radio coverage.

Power supply sources. (Secondary power.) Emergency responder radio coverage systems shall

be provided with an approved secondary source of power of at least two independent and reliable power supply sources conforming to NFPA 72 and the Electrical Code, one primary and one secondary. The secondary power supply shall be capable of operating the emergency responder radio coverage system for a period of at least 24 hours. When primary power is lost, the power supply to the emergency responder radio coverage system shall automatically transfer to the secondary power supply.

Signal booster requirements. If used, signal boosters shall meet the following requirements:

1. Primary BDA booster components shall be contained in a National Electrical Manufacturer's Association (NEMA) 4-type waterproof cabinet or other *approved* enclosure.
2. Battery systems used for the emergency power source shall be contained in a NEMA 4-type waterproof cabinet.
3. The signal booster system shall be electrically supervised and monitored by a supervisory service ((or when approved by the fire code official, shall sound an audible signal at a constantly attended location))
4. Equipment shall have FCC certification prior to installation.
5. Unless otherwise approved by the *fire code official*, only channelized signal boosters shall be permitted.

Approval prior to installation. Amplification systems capable of operating on frequencies licensed to any public safety agency by the FCC shall not be installed without prior coordination and approval of the *fire code official*.

Minimum qualifications of personnel. The minimum qualifications of the system designer, and lead installation personnel and personnel conducting radio system tests shall include possession of a valid FCC-issued general radio operator's license.

Acceptance testing. Upon completion of installation, the building owner shall have the radio system tested to ensure that two-way coverage on each floor of the building is Functional.

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. A final test report provided by the Owners Testing Agency shall be provided to the Fire Department.

Additional frequencies. The building owner shall modify or expand the emergency responder radio coverage system at his or her 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.

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.

Permit Application: Permit applications are available from the Fire Department offices noted

below. All information requested on the application shall be accompanied by scaled drawings.

The Permit Process: After you have submitted your completed Permit Application, Scale Drawing, and Basic Permit Fee, you will be contacted by the Fire Department and an inspection will be scheduled.

If you have any questions, please contact the Fire Prevention Division for your area.

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(925) 833-6606	(510) 596-3759	(510) 578-4218	(510) 670-5853	(925) 833-3473	(510) 675-5470