

City of San Jose CA

Section 1001.10 of the 2001 California Fire Code is amended to add Sections 1001.10.2 to be numbered, entitled and read as follows

1001.10.2. Public Safety Radio Coverage

1001.10.2.1 The following buildings and structures shall be required to meet the radio coverage requirements specified in Section 1001.10.2.2:

1. Buildings greater than 50,000 square feet or additions and/or modifications which cause a building to be greater than 50,000 square feet (for purposes this section, area separation walls cannot be used to define separate buildings);
2. Basements over 10,000 square, regardless of the occupancy;
3. Any building having floors used for human occupancy located more than seventy five feet (75') above the lowest level of the fire department vehicular or personnel access, whichever access is more restrictive as determined by the Fire Chief;
4. Any building with two (2) or more stories underground;
5. Any tunnel over five hundred feet (500') in length;

1001.10.2.2 Radio coverage requirements are as follows:

1. Inbound into the building: A minimum average in-building field strength of 8 microvolts (-88 dBm) throughout 90% of the area of each floor of the building when

transmitted from the nearest police/fire radio site. If the field strength outside the building where the receiving antenna system for the in-building system is located is less than the -88 dBm, then the minimum required in-building field strength shall equal the field strength being delivered to the receiving antenna of the building.

2. Outbound from the building: Minimum average signal strength of 4 microvolts (-95dBm) measured at the nearest police/fire receiver site. (Voting receiver or Repeater.)

No existing or future wireless communications facilities shall interfere with any public safety radio communications systems. Wireless communications facilities, as referred to herein, include, but are not limited to, satellite dish, antenna, cellular phone facility and similar wireless communication structure or system.

1001.10.2.3

Any building or structure that cannot meet the required level of radio coverage shall be equipped with a Radio Signal Booster System consisting of an exterior antenna, a FCC Type Accepted Bi-Directional amplifier system with a backup power supply mounted in a suitable location in the building and an in-building antenna or radiating cable system. The Signal Booster System shall be designed to operate in the VHF, UHF, 700 and 800 megahertz (MHz) bands and shall be

capable of operating on an independent battery and/or generator system for a period of at least twelve (12) hours without external power input. The battery system shall automatically charge in the presence of external power input. There shall be no connectivity between the amplification system and fire alarm system. Where signal booster equipment is located in an equipment room that may become water soaked or sprayed with fire retardants during a fire, the installations will require the use of a watertight case, typically "NEMA-4", which is an industry standard specification for a sealed wall mounted cabinet.

Exception: Elevator coverage is exempt.

1001.10.2.4 Acceptance testing shall be as follows:

1. When an in-building radio system is required, upon completion of installation the radio system, and prior to issuance of certificate of occupancy, the property owner shall provide for testing to ensure that two-way coverage on each floor of the building is a minimum of ninety (90) percent. Each floor of the building shall be divided into a grid of approximately twenty (20) equal areas. A maximum of two (2) of the areas will be allowed to fail the test.
2. In the event that three (3) of the areas fail the test, in order to be more statistically accurate, the floor may be divided into forty (40) equal areas. A maximum of four (4) areas will be allowed to fail the test. After the forty (40) area test, if the system continues to fail, it will be the building owner's responsibility to have the system altered to meet the ninety (90) percent coverage requirement.
3. The voice test shall be conducted using a portable radio with specifications equivalent to the San Jose fire/police personnel portable radios, talking through the city public safety communication system.
4. The data system test shall be conducted using a laptop computer communicating with the computer aided dispatch system. A spot approximately in the center of the grid area will be selected for the test, then the radio will be keyed to verify two-way communications to and from the outside of the building through the city public safety communications system. Once the spot has been selected prospecting for a better spot in the grid area will not be permitted.
5. The gain values of all amplifiers shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified each year during the annual tests. In the event that the measurement results become lost, the building owner will be required to rerun the acceptance test to reestablish the gain values. Copies of all tests shall be forwarded to the attention of the 911 communications supervisor of the city.

1001.10.2.5 Where radio "retransmission equipment is required, an annual test shall be performed as described in the administrative regulations issued by the Fire Chief to ensure that the building continues to meet the radio coverage requirements of this section, and a copy of such test shall be kept on record by the property owner and available for inspection at any time by Fire Department representatives.

1001.10.2.6 Personnel conducting acceptance and annual radio system tests shall be qualified to perform the work. All tests shall be documented and signed by a person in possession of a current FCC license, a current technician certification issued by the Associated Public Safety Communications Officials International (APCO), or the Personal Communications Industry Association (PCIA).

1001.10.2.7 Public safety personnel shall have the right to enter onto the property to inspect and to conduct field-testing at all reasonable times to be certain that the required level of radio coverage is present.

1001.10.3 Administrative Regulations: The Fire Chief is authorized to, from time to time as necessary, issue, review and revise administrative regulations to implement this Section, including but not limited to the specification of standards for installation and maintenance of firefighter breathing air replenishment systems and operation and maintenance of radio retransmission equipment.

1001.10.4 Effect on Pending Applications, Repairs and Alterations: The provisions of this section shall apply to any new building or structure for which application for a building permit application is completed on or after March 11, 2005. The provisions of this section shall further apply to alterations, additions or repairs to existing buildings for which a permit application is completed on or after March 11, 2005 to the same extent that the building or structure is required to comply with then current requirements or other technical codes as specified in Title 24 of this Code.