Wired Emergency Communications Systems

Updated January 2019

Two-way communications service within a building provides a reliable method for firefighters and other emergency response personnel to communicate with each other during the course of an emergency. The fire code recognizes two means: wired communication systems and radio coverage systems.

This Client Assistance Memo (CAM) describes requirements for wired fire department communication systems and includes information about separate Seattle Building Code requirements related to other in-building communications systems.

Information regarding radio communication enhancement systems is presented in CAM #5123, which is available from the Seattle Fire Department website at http://www.seattle.gov/fire/services/fire-code-and-fire-safety-documents.

Wired vs. Wireless System—What is Required?

A functioning wired system as described in this CAM is allowed in lieu of a radio coverage system in your existing building as long as the building does not undergo substantial alterations that trigger compliance with current code requirements.

In contrast, new buildings that are high rises, or exceed certain size standards (at least 50,000 square feet), or have large basements, or have people living on floors at least 30 feet below the exit, must follow current code requirements related to radio coverage systems.

Seattle Fire Code Requirements for Wired Systems

The wired communication system shall be designed and installed in accordance with NFPA 72. In buildings with a fire command center, the system shall operate between the fire command center, elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. A device for the wired fire department communication system shall be provided at each floor level within the enclosed exit stairway. Eight portable hand-sets for the wired fire department communication system shall be provided in the fire command center.

Note: Two-way telephone communication service control equipment and portable handsets are normally located inside a building fire command center. For buildings without a fire command center, the communication system control equipment and a minimum of eight portable handsets shall be installed inside the building at the main building entrance, co-located with the fire alarm control panel or annunciator. The control equipment and handsets may be secured in locked cabinet(s) where a Knox Box is installed containing keys for the cabinet(s).

City of Seattle — Permitting and Inspection Process

Wired communication systems are required to be installed under a Seattle Department of Construction and Inspection (SDCI) electrical permit. Wired fire department communication systems that are part of the building fire alarm system are normally included in the fire alarm system plans submittal, which is reviewed by SFD and installed under the fire alarm system permit. For information on SDCI electrical permits, visit: http://www.seattle.gov/sdci/permits/permits-we-issue-(a-z)/electrical-permit.

After the SDCI electrical inspection/signoff and functional pre-testing by the contractor to verify proper performance of the system, acceptance testing must be witnessed by a Seattle Fire Department inspector. To schedule an inspector, call the SFD Engineering Section at (206) 386-1443 between the hours of 8:00 a.m. and 9:00 a.m. Inspections should be scheduled at least five working days in advance, with more advance notice recommended. It is the responsibility of the contractor...
5. Two-way communication systems are not required at the landing serving a private residence elevator.

**SBC 1009.8.1 System requirements**

Two-way communication systems shall provide communication between each required location and the fire command center or a central control point location approved by the fire department. Where the central control point is not constantly attended, a two-way communication system shall have a timed automatic telephone dial-out capability to a monitoring location. The two-way communication system shall include both audible and visible signals. The two-way communication system shall have a battery backup or an approved alternate source of power that is capable of 90 minutes of use upon failure of the normal power source.

**SBC 1009.8.2 Directions**

Directions for the use of the two-way communication system, instructions for summoning assistance via the two-way communication system and written identification of the location shall be posted adjacent to the two-way communication system.

**SBC 403.5.3.1 High-rise buildings**

This section requires a stairway telephone or other two-way communication device every fifth floor in each stairway connected to a constantly attended location, similar to the passenger phones or ‘push-to-talk boxes’ that are installed in elevators.

**SBC 1010.1.9.11 Stairways in non-high-rise buildings**

This section requires a stairway or other two-way communication system for stairways that are serving more than four stories in non-high rise buildings and have doors locked from the side opposite of the egress side.

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**LEGAL DISCLAIMER:** This Client Assistance Memo (CAM) should not be used as a substitute for codes and regulations. Individuals are responsible for compliance with all code and rule requirements, whether or not described in this CAM.
Since these communication systems are provisions of the Seattle Building Code, the Seattle Fire Department defers all requirements for the installation, inspections and final acceptance of these systems to the Seattle Department of Construction and Inspections.

**Annual testing requirements**

*SFC Section 1031.8* requires that *all two-way communication systems for areas of refuge be inspected and tested on a yearly basis to verify that all components are operational*. Documentation of the testing must be maintained on the premises and be made available to the fire department upon request.

**Additional references**

The Seattle Building Code can be viewed at: [http://www.seattle.gov/sdci/codes/codes-we-enforce-(a-z)/building-code](http://www.seattle.gov/sdci/codes/codes-we-enforce-(a-z)/building-code)