

Wired Emergency Communications Systems

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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 emergency responder communication enhancement systems is presented in CAM #5123, which is available from the Seattle Fire Department website at <http://www.seattle.gov/fire/business-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 an emergency responder communication enhancement 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 basements that are over 10,000 square feet, or have people living on floors at least 30 feet below the exit, must follow current code requirements related to emergency responder communication enhancement 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](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

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220 3rd Avenue South
(206) 386-1450**

working days in advance, with more advance notice recommended. It is the responsibility of the contractor to perform all acceptance tests and provide the necessary equipment for the tests.

Additional Two-Way Wired Communications Systems Required by the Seattle Building Code

The Seattle Building Code (SBC) has additional requirements for a separate two-way wired communication system. SBC Section 1009.6.5 requires an 'Area of Refuge' two-way communication system that also communicates with the building fire command center. For buildings without a fire command center, the communication system control equipment is normally installed inside the building at the main building entrance, co-located with the fire alarm control panel or annunciator.

The following sections of the SBC are excerpted for customers' reference:

SBC 1009.6.5— Two-way communication

Areas of refuge shall be provided with a two-way communication system complying with Sections 1009.8.1 and 1009.8.2.

SBC 1009.8 — Two-way communication

A two-way communication system complying with Sections 1009.8.1 and 1009.8.2 shall be provided at the landing serving each elevator or bank of elevators on each accessible floor that is one or more stories above or below the level of exit discharge.

Exceptions:

1. *Two-way communication systems are not required at the landing serving each elevator or bank of elevators where the two-way communication system is provided within areas of refuge in accordance with Section 1009.6.5.*
2. *Two-way communication systems are not required on floors provided with ramps that provide a direct path of egress travel to grade or the level of exit discharge conforming to the provisions of Section 1012.*
3. *Two-way communication systems are not required at the landings serving only service elevators that are not designated as part of the accessible means of egress or serve as part of the required accessible route into a facility.*

4. *Two-way communication systems are not required at the landings serving only freight elevators.*
5. *Two-way communication systems are not required at the landing serving a private residence elevator.*
6. *Two-way communication systems are not required in Group I-2 (hospitals) or I-3 (jails).*

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 1010.2.7 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.

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 1032 requires that all two-way communication systems 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 2021 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)

The 2021 Seattle Fire Code can be viewed at: <http://www.seattle.gov/fire/business-services/fire-code-and-fire-safety-documents>.