



Bureau of Fire Prevention Bulletin # 2022-01 Revision 1

Issued by: Thomas Currao, Chief of Fire Prevention

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Effective Date: Immediately

Related Code Sections: 2014 NYC Building Code Section 907.2.13.2 and 2022 NYC Building Code Section 916.3

Purpose: This document clarifies NYC Fire Department's criteria to determine when the installation an Auxiliary Radio Communication System (ARCS) is not required.

I. **Background**

An Auxiliary Radio Communication System (ARCS or "ARC System") is a wireless two-way building communication system consisting of a transceiver (base station) connected to a building-wide antenna system, with a radio console in the building lobby. It is designed to receive and transmit Fire Department portable radio communications within the building, thereby facilitating firefighting operations and promoting firefighter safety.

The portable radios carried by Fire Department firefighters are limited in terms of the distance that they can transmit within a building, depending on the building's construction. ARC Systems allow on-scene communications throughout the building.

II. **Purpose**

Generally, all buildings greater than 75 feet in height irrespective of occupancy are required to install an ARC System since the adoption of the 2014 NYC Building Code (BC). The 2014 NYC Building Code provision that requires installation of ARC Systems in high-rise buildings (BC907.2.13.2) and 2022 NYC Building Code (BC916.3) contains the following exception:

"Where it is determined by the Fire Department that a radio communication system is not required."

The Bureau of Operations has empirically determined that current Fire Department portable radios are adequate in many buildings greater than 75 feet in height without the enhancement of any ARC System. Accordingly, as per the exception set forth in 2014 BC907.2.13.2 and 2022 BC916.3), the Fire Department is exempting existing and new buildings that meet the parameters set forth in this bulletin from the Building Code requirement to install an ARC System.

III. New and Existing Buildings

New and existing buildings that are required to install an ARC System as required by 2014 NYC BC907.2.13.2 and 2022 NYC BC916.3 are exempt from installing an ARCS if they meet all of the following conditions:

- a. The occupancy of the building is a Group R-1, R-2 or B.
- b. The height of the highest roof surface is less than or equal to 150 feet (45.72 meters) above the lowest level of Fire Department vehicle access.
- c. The building has no more than one story below grade.
- d. The building does not exceed a total area of 250,000 square feet ($23,225.8\text{ m}^2$).

IV. Existing Buildings that do not satisfy the parameters set forth in Section III

A waiver from the requirement to install an ARC System may be issued by the Fire Department for **any existing building** that does not satisfy the parameters set forth in Section III of this bulletin, provided the following criteria and procedures are also met:

- a. A final Certificate of Occupancy from NYC Department of Buildings has been issued.
- b. A Letter of Approval for the building's fire alarm system has been issued.
- c. A commissioning test report prepared by an ARC System Professional who holds a Fire Department Company Certificate and Certificate of Fitness as set forth in Fire Department rule 3 RCNY §511-01(f)(2) and this bulletin shall be submitted through the FDNY Business Portal as a Fire Alarm Variance application (TM-4 Form).
- d. The ARC System Professional shall comply with following procedures to conduct the commissioning test:
 - The 2 Watt Channel of the FDNY-programmed portable radios shall be used to communicate with all areas of the building;
 - Portable radio transmissions shall be made from the lobby location at which the ARC System radio console would have been installed pursuant to Building Code requirements;
 - Only Delivered Audio Quality (DAQ) measurements need to be taken and reported;
 - Provide an affidavit certifying the commissioning test results.
- e. The testing conducted by the ARC System Professional shall be witnessed by a Licensed Professional Engineer.
- f. The Licensed Professional Engineer shall submit a report memorializing the findings of the ARC System Professional and the basis for requesting a waiver from the requirement to install an ARC System in the subject building.
- g. If the commissioning report is satisfactory, the Fire Department's Bureau of Operations will conduct a DAQ acceptance test in accordance with 3 RCNY 511-01(d)(3)(D) to verify that the Fire Department can satisfactorily operate its portable radios within the building without an ARC System. A letter granting the waiver will be issued upon satisfactory completion of the acceptance test.