CITY OF SAN ANTONIO

DEVELOPMENT SERVICES AND FIRE DEPARTMENT
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TO: Development Services and Fire Department Customers

SUBJECT: **INFORMATION BULLETIN 603**

Requirements for Emergency Responder Radio Coverage Surveys (Needs Assessment) for Existing Buildings

DATE: September 16, 2022

CREATED BY: Development Services and Fire Department

Purpose:

As a customer service initiative, the Development Services Department (DSD) and the San Antonio Fire Department(SAFD) created this bulletin to provide clarification of the requirements for Emergency Responder Radio Coverage in existing buildings. Pursuant to the International Fire Code, as adopted and amended by the City of San Antonio, this information bulletin clarifies requirements for compliance, timeline for completion, and the method of notification for first responders.

Scope:

Radio Coverage Requirements

The emergency responder radio coverage requirement, mentioned herein, initially took effect on January 1, 2010, with the adoption of the 2009 International Fire Code and local code amendments.

The International Fire Code, as adopted and amended by the City of San Antonio, requires emergency responder radio coverage be provided in all existing buildings based upon the public safety communication system coverage levels at the exterior of the building. Exemption from the coverage requirements is at the discretion of the fire code official. In-building emergency responder radio coverage systems shall be installed in accordance with the adopted code and local code amendments.

In the event it is determined that installation of an Emergency Responder Radio Coverage System (ERRCS) is required, existing buildings that meet the criteria set forth in the adopted code and local amendments, will be provided a three (3) -year period to comply. The three (3)-year period shall begin upon notification, by a fire code official, that installation will be required. To ensure ample time to complete each phase of the project, a compliance timeline is provided below.

Establishing Existing Conditions

Pursuant to the 2021 IFC Chapter 11, Section 1103.2, a building owner, or owner-authorized agent, is required to perform a building radio coverage survey to determine if an Emergency Responder Radio Communications System is necessary. The purpose of the initial site (needs assessment) survey is to determine emergency responder radio coverage levels in existing buildings and does not preclude the option for the fire code official to conduct a secondary DAQ (Delivered Audio Quality) test. The results of the survey shall be submitted to ERRCS Plan Review Team at FireERRCS@sanantonio.gov. See IB 600 for the process and application. Online service for ERRCS-related permits is currently unavailable. Upon completion of survey review, a member of the ERRCS Plan Review Team will contact submitter to communicate assessment findings, determination, and any actions required.

System Design

The City of San Antonio is transitioning to a standards-based Project 25 (P25) Phase II compliant land mobile radio(LMR) system for all San Antonio Police, Fire and Emergency Medical Service operations. As each of these public safety organizations routinely respond to various emergency calls for services either singly or together, clear and reliable communication is essential for the safety of all building occupants and responding personnel.

As set forth in Section 510.4.2 System Design (IFC 2021), the emergency responder radio coverage system shall be designed in accordance with Sections 510.4.2.1 through 510.4.2.8 and NFPA 1221.

Survey Criteria

The following criteria shall be utilized for site surveys of existing buildings:

1. Surveys shall be conducted utilizing industry standard, calibrated test equipment to perform on-site spectrumanalysis of radio signal levels. Documentation of equipment calibration shall be provided with the test reportpackage. Each floor should be divided into 20 equal test grids.
2. Measurements should be taken at the center of each test grid or as close to the center as possible.
3. Critical areas, to include fire command centers, fire pump rooms, exit stairwells, exit passageways, elevator lobbies, standpipe cabinets, and sprinkler sectional valve locations, must be clearly designated on the floor plan and included in the survey.
4. An acceptable survey shall yield a minimum signal strength inbound and outbound of -95dBm and Delivered AudioQuality (DAQ) of 3.0.
5. Survey results shall be submitted through email to FireERRCS@sanantonio.gov along with the project address, name and building permit number. Our office will create a separate construction permit for installation in our online portal (Build SA) and tie it to an existing building/fire permit for future inspections.

System Frequency and Site Information

The system frequencies, control channel and antenna sites for the P25 Phase II radio system are required for testing and are available upon request @ FireERRCS@sanantonio.gov. See IB 600.

Determination based upon survey results and compliance timeline

In the event it is determined that a Two-Way Radio Communication Enhancement System is required, the followingtimeline provides the maximum time allowed per phase of project:

1. Employment of a qualified installing contractor shall be completed within three hundred sixty-five (365) days of the determination by the fire code official that installation is required.
2. Submittal of application for a construction permit prior to installation shall occur within one hundred eighty (180) of employment by the building owner.
3. Installation of all head-end equipment, donor antenna, lighting protection system and riser cabling shall be completed within one hundred eighty (180) days of permit issuance.
4. Installation of all feeder cables and RF emitting devices, pretesting and final acceptance testing of the system shall occur within one-hundred eighty (180) days of permit issuance.
5. Submittal of application for an operational permit shall occur within ten (10) business days of final acceptance testing.

The minimum qualifications of personnel conducting surveys for Emergency Responder Radio Coverage are as follows:

1. A valid Federal Communications Commission issued General Radio Operators License (GROL), or
2. Certification in Distributed Antenna Systems issued by the Electronics Technicians Association, or
3. Certification in Emergency Responder Radio Coverage Systems by the National Institute for Certification in Engineering Technologies when such certification is made available, or
4. Professional Engineer (PE), as approved by AHJ, and
5. Certification of in-building system training issued by an approved organization or school or amanufacturers' certificate of training for the equipment being installed.

Required Signage

Signage indicating noncompliance shall be provided in the format specified in Attachment A.

Summary:

This information bulletin is for informational purposes only.

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ATTACHMENT A

Required Signage for Existing Building Emergency Responder Radio Coverage Noncompliant Condition

