



Emergency Responder Radio Coverage

Background: The provisions of section 510 of the International Fire Code (IFC), Emergency Responder Radio Coverage, addresses the concern of responder radios operating in a large structure once constructed. Building construction materials can and do absorb or block the radio frequency energy, preventing critical messages from being broadcast. This may prevent an injured or disoriented emergency responder from receiving the needed assistance due to communications being lost with other responders.

IFC began to address these provision in the 2009ed. and continued through current codes. With the most recent adoption of the 2018ed. Harris County amended the code to address the needs of first responders in Harris County.

Section 1103.2 of the IFC addresses these same provisions for Emergency Responder Radio Coverage in existing buildings, requiring that existing building also be tested for proper radio coverage and installation of needed equipment to comply with radio frequency power requirements.

Requirements: The following is a snapshot of what the requirements are to comply with Emergency Responder Radio Coverage...

- Required buildings;
 - More than 50,000 square feet in size, more than 4 stories in height, or less than 4 stories if the square footage per floor is more than 50,000 square feet.
 - Any building that the Fire Code Official determines because of the construction or noted communication concerns, needs to be tested for proper coverage
 - Single-family detached residential dwellings and multifamily buildings are **excluded**
- Testing requirements;
 - All buildings that meet the required specifications, after completed construction.
 - Any building which requires emergency responder radio coverage system enhancements shall be tested annually for continued compliance.
 - Records of testing shall be maintained at the facility site for review by the Fire Code Official.
 - Testing compliance shall meet the requirements set forth in the Section 510 of the adopted Harris County Fire Code.
- Construction permits are required for the installation of or modification to emergency radio coverage systems and related equipment
- Emergency responder radio coverage systems shall be provided with dedicated standby batteries capable of providing 100% system capacity for 12 hours or provided with 2-hour standby batteries if connected to the facility generator power system
- Emergency responder radio enhancement system shall be monitored by an approved, listed fire alarm control unit
- Frequencies to be supported;
 - 700-800 MHz (FDMA & TDMA)
 - VHF/UHF (150-174 MHz/408-512 MHz) if the responding fire or EMS service providers utilize. Building owner shall check with their responding fire and EMS providers to determine needed coverage.
- Upon final inspection, HCFMO Inspectors will verify testing was conducted for all appropriate frequencies and subsequent equipment installed if required.