Why Building Owners Need Communications Experts to Handle ERRCS Installations

Using the right team to design, test and install Emergency Responder Radio Communication Systems can help ease MDU owners' headaches when it's time for inspection.

By Dan Leaf / *LEAF Communications*

Emergency Responder Radio Communication Systems (ERRCS) are a building code requirement for both new builds and existing structures in many jurisdictions around the U.S. ERRCS are deployed in commercial and multiple-dwelling-unit (MDU) buildings and are designed to enhance communications systems for first responders and emergency services throughout building interiors. Such system implementations ensure connection from a building to dispatchers, fire engines and teams outside the building. ERRCS boost the signal from the public safety network developed by the FCC through strategically placed distributed antenna systems (DASs) that transmit and receive radio signals from a first-responder network.

ERRCS typically include a few components installed in a structure using a bi-directional amplifier (BDA), which connects to a donor antenna that transmits and receives radio frequencies from a public safety network. The BDA also connects to a DAS through cable or fiber, where signals are reamplified throughout a building in areas where coverage is weak or nonexistent.

ERRCS code mandates vary based on jurisdiction. Using the wrong team to test, design and install an ERRCS could cost building owners when it's time for inspection. There are many variables to consider when installing an ERRCS, including code requirements, structural materials layout and signal propagation.

UNDERSTANDING CODE REQUIREMENTS

Codes differ based on jurisdiction, and each requirement may call for different system integration. For instance, in San Francisco, California, modifications or upgrades can be site-specific depending on the type of construction, location, size and occupancy capacity. Variations of requirements include fire-resistive cable, fire-rated circuit integrity and pathway survivability level.

Because codes are ever-changing, selecting a company that offers continued maintenance and will annually test systems and file with the authority having jurisdiction (AHJ) to prove functionality and adherence to the code is essential. Responsibility for compliance falls on the owner/manager of a building and should not be overlooked. Some owners may not be aware of the system or the continued requirements because often the general

contractor arranges the wireless integrator upon construction.

Ensuring first-responder communications on a property work correctly is imperative. Changes a municipality makes to its perimeter components could interfere with the entire system and impair communications for first responders throughout a community. Yearly inspections allow for budget planning if code changes and allow building owners to avoid any costly malfunctions or fines that could pile up because of lack of attention.

PERMITS AND INSPECTIONS

Permits must be filled out correctly, submitted to the local Department of Building Inspection, and approved by the fire department plan review section. Teams with established AHJ relationships and internal permit expediters are best for a seamless process.

Because of the number of variables each system requires, using trusted ERRCS vendors who have relationships with AHJs and fire departments is crucial. Such vendors will be fully aware of each jurisdiction's code requirements, permitting and inspection processes, and particular building needs. Failure to meet codes by a mandated date could result in fines or even a delay in receiving a certificate of occupancy.

NEW CONSTRUCTION

Communications experts should be included in the developmental phase of projects. For larger developments, such as MDU housing, the developmental phase can last three to five years. A communications team can help facilitate and coordinate a project's scope (e.g., radio frequency survey, modeling and radio frequency planning). It will do so by coordinating with architects and other mechanical, electrical and plumbing trade professionals. A communications team also will consult with the property owner to ensure all code requirements are met, planned and expected when a venue breaks ground for construction.

Without proper testing and an understanding of what is required before a system is designed, building owners risk overdoing it. Most buildings do not need full coverage; they need only partial coverage of certain areas. For instance, more than 90 percent of projects LEAF Communications has worked on required that only a portion of a building have additional coverage to meet code and receive a certificate of occupancy or an annual compliance report.

Finding a team that has deep experience in this field is important for a well-executed system. For instance, Josh Helling, executive vice president of LEAF, has been in telecommunications for 25 years and has developed relationships with AHJs all over the country, allowing him to fully understand each jurisdiction's code requirements and gain experience as new codes are enforced, written, changed and tested. This provides clients with a worry-free experience; they know their systems will be accepted the first time and gain the approval they need to move in tenants and begin generating revenue. ❖

Dan Leaf is CEO and president of LEAF Communications. Under his leadership, the LEAF Communications team of experts has engineered, installed and maintained more than 4,000 ERRCS in MDUs across 30-plus jurisdictions.