Derek Case

A Critical Take on Connectivity

Efficient building materials reduce operating costs and improve aesthetics, yet they can also prevent radio signals from penetrating facilities, especially in critical areas used by first responders in emergencies.

When many of us think of connectivity the first things that come to our minds are mobile devices, tablets, or the cloud. These tools are critical to keep us informed and available anytime, from anywhere. What we don't always jump to is first responder connectivity in our buildings and facilities. This connectivity is critical to ensure that our first responders can communicate if an emergency event ensues, and as many as 98% of the facilities in the U.S. could have poor radio frequency coverage according to a 2017 survey of the International Association of Fire Chiefs (IAFC) performed by the Safer Buildings Coalition (SBC).

You may ask how it is possible to have substantial radio frequency dead spots in an age of such profound connectivity. The answer to this question lies in how we are constructing our buildings. Today's facilities, particularly LEED-Certified Buildings, are constructed for maximum efficiency with Low-E Glass windows, and other energy saving materials. These efficient building materials reduce operating costs and improve aesthetics, yet they can also prevent radio signals from penetrating these facilities, especially in the critical areas used by first responders in the event of an emergency.

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Remove The Risk

The simplest and most cost-efficient solution is to install an Emergency Radio Communications Enhancement System (ERCES), also known as a Bi-Directional Amplifier (BDA) System. In instances where public safety radio communication into and out of the building do not meet minimum signal strength or clarity requirements, International Building Code (IBC), International Fire Code (IFC), the National Fire Protection Association (NFPA) and even local building ordinances may require the installation of an ERCES or BDA System to amplify radio signals.

These life safety systems are required by code to communicate 24/7 with the fire alarm control panel, as well as a separate supervised annunciator panel that signals any trouble with the BDA System to facility managers and emergency personnel.

ERCES / BDA systems must also be registered with the FCC, and the system installers must have their FCC General Radio Operators License (GROL) to design these systems and to perform final accreditation testing. These requirements ensure that radio signal strength and clarity comply with all pertinent building codes and performance standards, preventing any unnecessary delays in acquiring Certificates of Occupancy from Authorities Having Jurisdiction (AHJs) once construction or remodel is complete.

Not All Systems Are Created Equally

Though some are aware of the codes and standards that govern the need for BDA systems, what many do not know is that not every system being sold is compliant with UL 2524. In fact, only five manufacturers sell UL 2524-Listed systems: Honeywell, NOTIFIER, Gamewell FCI, Farenhyt, and Radio Solutions. This UL compliancy assures building owners, occupants and first responders that the system installed in their facility meets the highest performance standards, and that it will comply the first time, and every time an emergency event unfolds.

Protect Those Who Protect Us

When an emergency event unfolds, maintaining 100% reliable radio communications for first responders facilitates greater protection for people and property. 56% of first responders have experienced a communication failure within a building during an emergency event within the last two years, according to the 2017 survey of the IAFC by SBC.

How can facility executives help improve this untenable and life-threatening situation? When building a new facility, or renovating an existing property, including a radio signal strength site survey as part of the construction planning process. This will identify areas of insufficient radio coverage and confirm whether an ERCES is required.

It is our responsibility to prevent First Responders from venturing into "the unknown" during an emergency event. Installing ERCES will not only protect those who protect us, but it will also provide safer (and code-compliant) buildings, especially if an emergency ensues.

Reliable In-Building Emergency Communication Is Not A Luxury —Lives Depend Upon It!

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