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The importance of upgrading fire alarm systems - Part 2

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Part one appeared in the March 6th edition of NEREJ in the ODM section.

This article explores key considerations in fire alarm system upgrade projects, the importance of an ongoing maintenance and testing program, key code compliance issues relating to upgrading fire alarm systems.

The Practicality of a Phased Upgrade

The alternative to installing an entirely new life safety/fire alarm system is to replace the system in phases, spreading the cost over a number of years. If cost is a factor, keep in mind that major tenant build-outs can be a great opportunity to incorporate the fire alarm retrofit costs into the tenant construction project. In this type of circumstance, it is critical to separate the fire alarm work from the electrical work to ensure the quality and consistency of the installation and a seamless tie-in to the base building fire alarm system.

A phased upgrade begins with the installation of all cabling for the communication network and power supplies required for a state-of-the-art fire alarm system. This is known as the system "backbone."

The fire alarm design/build contractor and/or the fire protection engineer will determine a route for the backbone cabling which addresses the requirement for 2-hour fire rated protection. The number of panels will be specified to meet the building's needs, typically one per 3 to 5 floors. In selecting a system manufacturer, consider that not all are created equal. Some systems are better suited for high-rise applications and others best serve low-rise applications. The designer will specify the most appropriate system for the facility, based on functionality and efficiency.

Once a manufacturer has been selected and a route secured, a decision should be made concerning existing circuits and devices. Is it best to connect to them or install new devices? In some cases, both scenarios may be chosen. New tenant build-outs may require all new devices to meet present day codes. Existing floors that are not being renovated can be connected to the new backbone, and these floors can be updated in the future, as budgets allow.

If all new devices in the tenant areas are to be installed, their layout and placement is largely code-driven. The mounting heights and physical location on the floors are defined in the National Fire Codes. The type of facility and its occupancy use determine both the number of devices and their locations.

Part three will appear in the March 20th edition of the NEREJ.

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