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Monitoring for fire alarms: Are you ready for change? What you need to know - by Tom Norton

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Building occupancies such as retail, residential, commercial, healthcare, and education, need effective and reliable fire protection. Over the past year, this point has been emphasized again and again with reported fires causing severe loss of property and loss of life from fires in London, California and here in New England.

Property managers, building owners and facilities directors need to ensure the fire alarm systems in their properties are maintained to operate in a reliable fashion. Staying abreast of the latest technology for fire protection systems, along with any impending changes to fire and building codes which could impact the way you procure fire-related services, is mandatory in order to maintain the dependability of fire alarm systems.

What you need to know

One of the most drastic changes in technology is the way a fire alarm system reports to the monitoring or supervising station. In recent years, this modification has gone unnoticed until a fire occurs and the fire department is not notified of the alarm condition. Additionally, land lines and outdated reporting technologies have become much less reliable, for example:

- As of January 1 of this year, the FCC has authorized the sunset of copper phone lines (or POTS plain old telephone service).
- Customer demand for POTS has drastically declined along with the advent of new technologies, i.e. fiber, Internet, cellular.
- As a result, current connections using POTS and Leased Line Circuits (called BANA) will remain in service until they fail, at which point there will be no service or maintenance provided by the communications carriers.
- Within the next two to four years, it is estimated that 3G cellular connections will also use the same

sunset rules as 2G. Specifically, the industry has deemed 2021 as a guideline for ending 3G support.

These changes will require building owners/managers to seek alternative and more reliable methods for communication between their building(s) and their alarm monitoring company.

Changes to building and fire codes: Why plan now?

Coinciding with the timing of these industry developments, The Massachusetts Building Code, 9th Edition, will be taking effect this summer. The building code references NFPA 72-2013 Edition, which provides for alternate methods of communication in addition to allowing the existing radio and cellular methods between a building and its alarm receiving station.

The code allows various options described below with my comments on their reliability.

Option 1: Wireless radio

- Wireless Mesh Radio Monitoring: this is a network of radio communicators which provides multiple paths of communication between buildings and an alarm receiving station.
- These mesh radio networks provide more reliable response time due to the redundancy of the system; there are multiple paths for signals from the building to the monitoring facility.
- Reliability is improved through a privately-owned and operated system using the network of paths connecting with the alarm receiving station without relying on current communications providers.

Option 2: Cellular networks

- Use cellular with Internet backup.
- User is at the mercy of the cellular carriers quality and reliability of service and sunsetting of technologies.

Option 3: Combination

- Use of one telephone line along with either a one-way private radio alarm system, or a two-way RF multiplex system for transmission.

Why radio monitoring is the optimal choice

Using a Radio Mesh Network provides the most reliable communication method for alarm communications to the remote receiving station. And, the dependability of radio monitoring can be obtained generally at lower monthly cost. Mesh radio has the following benefits:

- Free from constraints of the major communication providers;
- No phone lines required;
- Significantly quicker response speeds and faster notification;
- Provides for a more robust communication system at a reduced cost; no phone bills and no phone maintenance;
- Remote diagnostics ability; and
- Provides a more streamlined emergency communication system.

Furthermore, the mesh radio network has the capability to incorporate life safety and environmental signals by monitoring alarm signals over the same network used for security, temperature monitoring, and carbon monoxide detection.

Mesh radio monitoring provides customers with an advantage against the changing communications environment while still providing reliable communications of a potential emergency situation to summon fire department assistance.

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