

# Dated fire panel parts possible cause for alarm

By Umair Abdul

If your office building has an older fire alarm panel, possibly with parts that are no longer being produced, it may be time to light a fire under those in charge of system upkeep.

Fire alarm panels are at the heart of any workplace's alarm system. Field detection devices such as smoke detectors, manual pull stations, and heat detectors are all wired to the panel. In many cases, the panel is monitored by an off-site service that contacts the authorities if activation occurs.

The concern is that if a fire alarm panel is not working as intended, workplace parties may not be alerted to the deficiency ahead of time, or worse still, during an emergency.

Stephen Ames, president of the Canada Fire Alarm Association, says it's difficult to pinpoint exactly how long fire alarm panels will function without issue, but, in general, they have an average life expectancy of about 15 to 20 years. Building operators are required to keep up with daily, monthly and annual tests and inspections to ensure the panel and system as a whole are fully functional.

"Fire alarm panels are a necessary evil," Ames says. "They are legislated by the provinces and they must be installed in the building."

In addition to requirements set out by the provinces, the *National Fire Code* says fire alarm systems must be tested annually (as per the national Underwriters' Laboratory of Canada standard, CAN/ULC S536, "Standard for the Inspection and Testing of Fire Alarm Systems"), and requires daily and monthly procedures to test the integrity of the alarm system. Daily reviews can include things such as visual checks to ensure the system is still operating.

But a leading fire expert warns employers and proprietors not to get behind the times. With technology advancing and spreading like wildfire, some older fire alarm systems are becoming the industry's equivalent of typewriters.

"Fire alarm systems have changed a lot over the last 10 years. Today's panels have become microprocessors like computer systems," says Firepoint Technologies director Fred Baumgartner.

As more sophisticated panels become hot commodities, old systems fall out of production. But there's no need to sound an alarm, at least just yet.

Newer systems are more computerized, but that does not mean older systems with different technology are not in compliance. Some working systems can be as much as 50 years old, Baumgartner says, and still pass inspection.

Several factors must be considered before making that big decision to replace a workplace's fire alarm panel. The most important consideration, Baumgartner believes, is whether or not replacement parts for the system are available.

Though the system may pass inspection, he says property

operators should be thinking ahead to determine if the system is repairable when and if one of the parts stops working. If it is not, a malfunction can quickly leave a workplace without the ability to detect — and protect.

For employers who manage and operate their own office property, a rush replacement job can be costly. For all employers, a building without a working fire alarm system can result in the loss of revenue and the endangerment of lives.

The approval and installation of a fire alarm system requires some pre-planning. Property operators must contact an engineer to prepare a specification for the new fire alarm panel, and the plans need to be approved for installation. A properly licensed installer must then install the system.

Property operators who do not pre-plan for repair and replacement may be, quite literally, playing with fire.

Umair Abdul is a writer in Toronto.

# Asphyxiation can carry a quick and deadly toll

By Jason Contant

Relax and take a deep breath. That's an oft-used bit of advice for coping with stress. But in an oxygen-deficient atmosphere, taking that breath could spell the difference between life and death.

Such a life-threatening atmosphere was present inside a sampling shed at a decommissioned mine in Kimberly, British Columbia last May. That deadly environment claimed the lives of two workers and two paramedics hoping to provide assistance — and did so quickly.

Upon entering the shed, one paramedic questioned the presence of gas. But before she had time to give an answer, it was too late for her to extricate herself. The second paramedic attempted a rescue but he, too, was quickly overcome. All four were asphyxiated.

"There's any number of ways that [asphyxiation] can occur," says Gloria Merrithew, chief deputy coroner for New Brunswick. That may be because a person is "choking because you've aspirated some food, because you're drowning, [or] because you're in an environment that's deficient in oxygen such as the exhaust of a motor vehicle," Merrithew explains.

Normal air consists of about 20.9 per cent oxygen and most workers' compensation boards in this country define oxygen deficiency as air with less than 19.5 per cent oxygen.

"Working in an atmosphere with oxygen levels less than 17 per cent can produce symptoms that might prevent you from escaping," notes a safety alert from WorkSafeBC. "If oxygen levels are lower than 10 per cent, taking just one breath might make you unconscious almost immediately."

The Canadian Standards Association's (CSA) 2002 standard on the selection, use and care of respirators says that at 16 per cent oxygen in the air, workers may experience increased heart and breathing rates; at 14 per cent, fatigue, emotional upset and impaired judgement and coordination; and, at 12 per cent, very poor judgement and coordination, nausea and vomiting, and

