



VOLTECH'S FIRESCRIBE

Volume 1, Issue 1 - Spring 2010

Let's Clear the Smoke

BATTERIES, DISCONNECTION OR DEAD— OH MY!

When we asked what local fire authorities' most pressing issue is, Ken Suzuki, Fire Prevention Inspector from the **Vancouver Fire Prevention Office** commented on their frustration with the negligence of homeowners with their Smoke Alarms especially in the Downtown Eastside. All too often, the Fire Department respond to house fires where, although there is a Smoke Alarm present, for some reason, the device is not functioning correctly.



Fire Prevention Canada, a national advocate of fire prevention education, states that "smoke is the cause of the majority of fire-related deaths. Hot flames are low on the list of killers during a fire. A smoldering fire may go undetected for hours, especially while people are asleep. In addition to deadly carbon monoxide,

smoke carries poisons such as hydrogen cyanide and irritants such as formaldehyde and acetic acid. Added to this lethal potion are other toxic substances that come from the burning of synthetic materials commonly found in the home, especially those emitted from plastics and foams. Oxides of nitrogen, sulphur-dioxide and ammonia are just a few examples. These agents can have a lethal effect before a sleeper is even disturbed; especially when one considers that the fire itself consumes life-sustaining oxygen."

This is why it is imperative to, first, have a ULC approved Smoke Alarm installed in your home, and secondly, ensure it is well maintained and functioning normally. Replace the batteries and test them regularly, and if they fail the test, replace the unit. Under no condition should a Smoke Alarm be disconnected on a permanent basis.

Local Fire Authorities urge all homeowners and property managers to implement a regulatory test and maintenance program either independently or more preferably, with a local fire safety service provider.

Bottom line?

SMOKE ALARMS SAVE LIVES. ~

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FIRESCRIBE Q & A

Q: What is FireScribe?

A: FireScribe is a free publication produced as a tool to communicate with the Property Managers, Owners and Site Managers providing both comprehensive and essential information from the Fire Industry.



Q: Who created it and why?

A: FireScribe is produced by Voltech Fire Protection, a longstanding provider of Fire & Safety services in the Lower Mainland. It was created with the intentions of educating the public and expanding communication lines between the service provider and the client.

Q: Where can I get more issues of FireScribe?

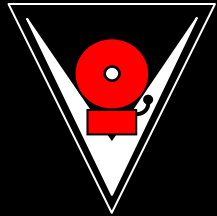
A: FireScribe will be available online at our NEW website, being launched this Spring. You can also subscribe for a hard copy to be sent to you by calling the Voltech office at 604 299 8881.

Q: How can I submit questions I may have for FireScribe?

A: Email, fax or even snail-mail your questions in. We will try our hardest to answer your question, if not in the next issue of FireScribe, then at least with a personal response to you.

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THE 3 COMMANDMENTS

The **Vancouver Fire & Rescue Services** recommends three things to keep your Smoke Alarm in good working condition.

1 TEST YOUR SMOKE ALARM REGULARLY. Once a month, test your smoke alarm by pushing the test button. In addition, test your device via canned or fake smoke at least once a year. This can be done by a professional company or individually. *If you have a Battery-operated smoke alarm it is also very important to replace your battery every year.*

2 VACUUM YOUR ALARM EVERY 6 MONTHS. Dust is everywhere and can even settle inside the detection chamber of a Smoke alarm causing your alarm to become clogged. Using a wand extension, gently vacuum the area around the device as well as the device. It is unnecessary to dismantle the device, simply hold the nozzle up to the exterior vents.

3 SMOKE ALARMS WON'T LAST FOREVER. Like any other home electronics, tool or appliance you purchase, smoke alarms will deteriorate over time and eventually become ineffective. Manufacturers have a "change by" date stamped or labeled on the device itself. It is safe to say, however, if your smoke alarm is more than 10 years old you should consider replacing it with a new one.

SMOKE AND MIRRORS

What's the difference between an Ionization and Photoelectric smoke alarm? How do they work? Which one is better for me? Why does my smoke alarm keep going off for no reason? These are usually the most commonly asked questions in the fire industry.

Well, let's get right to it. There are two basic types of smoke alarms. **Ionization** alarms use a very minute amount of radioactive material to charge the air molecules in the sensing chamber inside the device. The radiated air particles allow a steady predictable conductive flow to occur inside the chamber. When smoke enters the chamber, it decreases the conductivity and when it reaches a predetermined low point, the alarm activates. **Photoelectric** alarms use a light emitting diode and a light sensitive sensor inside the chamber. When the smoke enters the chamber, they interrupt the regular path of the light beam, scattering it. When the sensor detects a predetermined low amount of light it activates.

Both devices are effective for detecting smoke but as to which one is better to use depends on



the circumstances. Traditionally, ionization alarms are used in most residential settings. Not only is it less expensive than its counterpart but it also detects quick-flaming fires such as those that result from quick burning fuel sources like paper products, paint thinner, or grease.

Photoelectric smoke alarms tend to be less sensitive to quick fires, but do still detect them. Their forte is with slow-burning fires. Slow fires are ones that tend to smoulder before they become open flame. Larger furniture such as couches, mat-

tresses and tables will produce smouldering smoke before bursting into actual flame.

Ideally we should have both types. But since that is not the case more often than not, consider your household habits and activities and choose accordingly.

This brings us to our last question about nuisance alarms that predominantly happen with Ionization Smoke Alarms. If you find that your device is activating from hot steam or burnt toast too frequently, there are two options that you can consider. **First option** is to relocate the device. This is convenient and inexpensive, especially if it is a battery-operated device. Keep in mind that the new location should still be centralized to ensure adequate coverage. If in doubt, contact your local fire department. The **second option** is to replace the ionization alarm with a photoelectric alarm. Since Photoelectrics are less sensitive to quick-burning fires as aforementioned, it is logical to use them instead of ionization alarms while still retaining adequate coverage. ~

WAKE UP HONEY

Is it better to have a voice urgently waking you up or a loud high-pitch tone of the traditional Smoke Alarm?

In 2003, Matthew Ferris and Bruce Black developed the Kidsmart Vocal Smoke Detector; Their innovative smoke alarms, using voices, were soon available in stores for consumers but many were skeptical and uncertain about the effectiveness of this novelty.

The Center for Injury Research and Policy at Columbus Children's Research Institute and the Sleep Medicine Center at Columbus Children's Hospital, Department of Pediatrics in Ohio conducted a controlled study of the effectiveness of voice activated Smoke Alarms compared to the traditional tone alarm, the first of its kind,

Of the twenty-four children enrolled twelve of the children aged between 6 and 12 received the parent voice alarm first, and the other twelve received the tone alarm first. Twenty-three (96%) of the 24 subjects awakened to the parent voice alarm compared with 14 (58%) to the tone alarm.

Nine children awakened to their parent's voice but not to the tone, whereas none awakened to only the tone and not the voice.

In conclusion, the personalized parent voice smoke alarm at 100 dB successfully awakened 96% of the children, significantly outperforming the 100-dB conventional residential tone smoke alarm. **These findings suggest a clear direction for future research,** as well as important fundamental changes in smoke alarm design, that address the unique developmental needs of children. Nonetheless it is still under debate.

Although the Ohio study concluded that the voice activated alarms were more successful with children, **local and provincial authorities have not officially endorsed their use in Canada.**

Voice Alarms are available only in the U.S. at this time. UL & ULC are reviewing the devices to meet the CAN/ULC-S-531, Standard for Smoke Alarms, presently. They hope to have it available in Canada in the near future. We will advise you of any future updates in an upcoming issue of FireScribe. ~

