







# Suppress!

PREVENTING FIRES... SAVING LIVES!  
...official newsletter for Fire Protection Technicians in British Columbia

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## Do you know the answer?

1. How often are sprinkler alarms required to be tested?
2. What design pressure and required flow must be measured during the five-year flow test?
3. During the annual fire pump performance test, what points along the performance curve must be tested?
4. Pressure reducing valves for sprinkler and hose connections must be flow tested how often?

You can find the answers to these questions on the 14th page of this newsletter.

## WHAT'S NEW

### Online Videos Explain WHMIS

WorkSafe BC online videos describe the WHMIS system including overview, classification, labels, material safety data sheets, and education & implementation.

<http://www2.worksafebc.com/Publication/s/Multimedia/Videos.asp?ReportID=35318>

## Suppress!

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## UNLINED FIRE HOSE

NFPA 1962, Standard for the Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose

The 1998 edition defined a separate test procedure when using a hose testing machine from the procedure when using a stationary fire pump or pumper as the pressure source. It also required that unlined fire hose be replaced with lined fire hose when the unlined fire hose came due for testing.

**3.3.15 Occupant-Use Hose.** Fire hose designed to be used by the building's occupants to fight incipient fires prior to the arrival of trained fire fighters or fire brigade members. [1961:3.3]

**3.3.17 Service Test.** Hydrostatic test conducted by users on all in-service hose to determine suitability for continued service.

**3.3.24 Unlined Hose.** A hose consisting of only a woven jacket that is usually of linen yarns and is of such quality that the yarn swells when wet, tending to seal the hose.

## Chapter 4 Care and Use of Fire Hose

### 4.3\* Occupant-Use Hose.

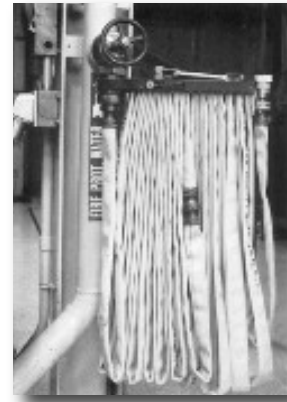
**4.3.1** Occupant-use hose shall be inspected in accordance with Section 4.6 when it is placed in service.

**4.3.2** In-service hose designed for occupant use only shall be removed and service-tested as specified in Chapter 7 at intervals not exceeding 5 years after the date of manufacturer and every 3 years thereafter.

**4.3.3** When hose is taken out of service for testing, replacement hose shall be installed on the rack, reel, or storage area until the tested hose is returned to service.

**4.3.4** In-service hose shall be unracked, unreeled, or unrolled and physically inspected as specified in Section 4.6 at least annually. The hose shall be racked, reeled, or rerolled so that any folds do not occur at the same position on the hose.

**A.4.3 – Figure A.4.3** shows a Class II standpipe system with 1½-in. (38-mm) occupant-use hose



**FIGURE A.4.3** Typical Standpipe and Fire Hose Rack Arrangement. (Courtesy of National Aeronautics and Space Administration)

## Chapter 5 Hose Records

### 5.3 Occupant-Use Hose.

**5.3.1** A record for each length of occupant-use hose, whether on a rack or reel or in an enclosure, shall be kept on a tag attached near the female end of the hose.

**5.3.2** The tag shall be fastened in a manner that does not restrict the hose from deploying properly and will not damage the hose.

**5.3.3\*** The tag shall contain at least the following information for each length of hose:

1. Manufacturer and part number
2. Date put in service
3. Date of each inspection and person/agency performing inspection
4. Date of each service test and person/agency performing service test

**5.3.4\*** An inspection checklist maintained on file or in an electronic method (e.g., bar coding) that provides a permanent record shall be permitted to be used in place of a tag to track inspection and service test data provided each length of hose is assigned a unique identification number that is fastened to or recorded on the hose or female coupling and the information required by 5.3.3 is recorded.

**5.3.5\*** Where records are kept electronically, the electronic record shall be available at the facility where the hose is in service.

**5.3.6\*** Hose removed from service for repair or because it has been condemned shall be tagged with a distinctive tag with the reason for removal from service noted on the tag.

**A.5.3.3** The owner of the hose might wish to keep some or all of the following information as a separate record to assist in tracking the performance of the hose:

1. Assigned identification number
2. Manufacturer and part number
3. Vendor from which hose was purchased
4. Size (internal diameter of waterway)
5. Length
6. Type of hose
7. Construction
8. Date received
9. Repairs and new length if shortened
10. Actual damage
11. Exposure to possible damage
12. Reason removed from service
13. Reason condemned
14. Indication that the hose has been removed from service or condemned within the warranty period because of an in-warranty failure

**A.5.3.4** Because occupant-use hose does not get the same type of use as other fire hose, methods of recording the identification number can include using bar-coded labels on the coupling, fastening metal tags to the hose, stamping couplings, or painting on the hose. In stamping couplings, the proper procedure is to insert a special steel plug with round edges into the end of the expansion ring. One sharp blow from a steel numbering die will then clearly stamp the coupling. Coupling bowls can be damaged by improper stamping. Aluminum couplings should be stamped before they are hardcoated. A water-based latex paint is not harmful to hose. Paints with a petroleum solvent base can cause the bond between the liner and jacket to fail.

**A.5.3.5** It is important that a fire inspector have ready access to records of hose inspection and tests.

### 7.3 Unlined Hose.

Unlined fire hose shall be replaced with an approved lined fire hose when service testing is required.

*This change to the standard was made in 1998 and the maximum time between tests should not exceed five (5) years. Therefore, all hose in building hose cabinets in British Columbia should have been changed to the new standards by now. ■*

## RECOMMENDATIONS FROM MANUFACTURER VS. CODE REQUIREMENTS

I have recently received a note from a concerned fire inspector. He states: *"Lately we have had service companies make recommendations to customers that work was needed on their systems as it was a code requirement. This is not the case as it has been a recommendation from the manufacturer for maintenance or they have discontinued parts.*

*Provided the equipment still passes inspection/testing, there is no code requirement to upgrade.*

*This message is 'lost in translation' between the onsite technician and the company representative.*

*For example Kidde has discontinued older control heads for the agent tank. This has not been de-listed from UL/ULC, and provided that it tests ok, it can stay in service indefinitely. The down side is if there is a failure the restaurant owner might be out of service for several days as an upgrade in equipment might be required. This may include the need for permits from municipalities and lead times for parts delivery. I would agree that the owner should address this issue and plan to upgrade his equipment, however to imply that an upgrade was necessary to be code compliant is not the way to go either.*

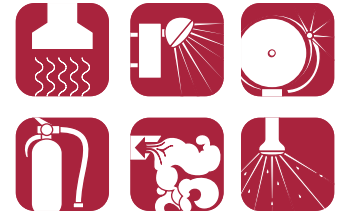
*I have also had reports that a service company is recommending that Fire Alarm Panel and Emergency Lighting Units are required to have their batteries replaced at 3-5 year intervals. My understanding is that if the batteries are passing the load test specified in CAN/ULC-S536-04 and/or NFPA 72 then the units can stay in service.*

*I think the service technicians have good intention, however the information is not quite correct. The business owners should not feel bullied into performing maintenance that is just a recommendation when the equipment is passing the required testing."*

The following definitions may help the technician understand the differences between manufacturer recommendations and code requirements.

**Shall:** indicates a mandatory requirement.

**Should:** indicates a recommendation or that which is advised but not required.



## FORMAL INTERPRETATIONS

### Formal Interpretation NFPA 10 Portable Fire Extinguishers

1998 Edition

Reference: 5-2

F.I. 84-1

**Background:** A 12-year testing interval has been used when Portable CO<sub>2</sub> Fire Extinguishers have not been discharged. Consequently, this procedure has saved a considerable amount of time and money.

**Question:** Is it the intent of Section 5-2 that all Portable CO<sub>2</sub> Fire Extinguishers be hydrostatically tested every 5 years, regardless of whether or not they have been discharged?

**Answer:** Yes.

**Issue Edition:** 1984

**Reference:** 5-2

**Date:** June 1984

The bottom line is that the technician should make the building/business owner aware of manufacturer changes/recommendations. The technician can inform the building/business owner that if the equipment fails, there may not be parts available and/or there may be downtime while waiting for parts and/or new equipment. But, if the code requirements don't indicate replacement, the decision to replace or not replace will have to be made by the building/business owner. ■

## GIANT STEPS

**The soon-to-be-published 2010 edition of NFPA 72 includes revised and expanded provisions affecting a broader audience than ever before. NFPA's staff liaison for the code walks us through some of the highlights.**

*NFPA Journal®, September/October 2009*  
by **Lee F. Richardson**

**I**N JUNE, NFPA MEMBERS at the Technical Meeting in Chicago voted to adopt the 2010 edition of NFPA 72®, National Fire Alarm and Signaling Code®. The new version of the code has taken giant steps in scope and content, changes that will undoubtedly expand the interest base of the code more than any previous edition.

Its creation has also underscored the need to develop further guidance and criteria for visible and audible emergency messaging strategies to address the wide range of situations that emergency communications systems are expected to handle.

Although there will always be future problems to solve, both new and experienced users of the 2010 edition of NFPA 72 will benefit from the extensive efforts of all those who took part in its development. Here are a few critical areas that will be affected by the newly expanded NFPA 72.

### Mass Notification

For many years, NFPA 72 included provisions for voice message systems used to communicate important information to building occupants during a fire. These systems are required in high-rises and other buildings where complete evacuation may not be possible. In these situations, occupants are instructed to relocate

or evacuate only from floors or areas in accordance with the building's fire emergency response plan.

Recently, however, increased emphasis has been placed on the need to communicate important life safety information in a much broader range of emergencies, including weather emergencies, terrorist threats, and biological, chemical, or nuclear emergencies. The latest edition of NFPA 72 includes requirements and guidance addressing the design and installation of systems used to provide emergency information to people in buildings and in outdoor campus areas, and to selected individuals or groups in various locations, such as during the management of regional emergencies. These are referred to in the industry as mass notification systems.

Mass notification systems are being installed in many U.S. Department of Defense (DoD) buildings throughout the world a result of DoD antiterrorism standards established in 2002. The requirements and guidance for mass notification systems in NFPA 72 were initially developed in response to the needs of those implementing DoD requirements for these systems, including members of the DoD and U.S. military.

Mass notification systems are also being installed at some colleges and universities in response to recent campus violence. In addition, mass notification systems can be used in any number of commercial, industrial, and governmental applications where there is a need to inform or instruct people during an emergency. Any time these systems are installed, the requirements of NFPA 72 apply.

Although it still focuses on fire alarm systems, the new NFPA 72 has been revised and reorganized so its requirements apply more generally, addressing mass notification and other emergency communications systems, as well as fire alarm systems. It is important to note that fire alarm signals are no longer always the highest priority. The requirements of the code have been coordinated, addressing signal and messaging priorities and allowing these systems to function in a more integrated manner. Fire alarm and mass notification systems can be installed as separate systems, but they are more commonly installed as an integrated system to take advantage of the economy of using a single system to perform

multiple functions. Code users will find that the 2010 edition embraces this integrated approach.

### Voice Intelligibility

The 2010 edition has also tackled the related issue of voice intelligibility. Whether they are used for fire or mass notification, systems that provide voice messages must be designed and tested to ensure that messages can be understood.

Revised requirements and extensive new guidance have been added to the code to provide users with a clearer understanding of how to handle this difficult issue. This will be of universal interest to designers, installers, inspection authorities, and owners of any system that provides emergency voice messages.

### Signaling for Deaf and Hard-of-hearing

New provisions for signaling to the deaf and hard-of-hearing will also broaden interest in the 2010 edition of the code. Households in which fire alarm systems or smoke alarms are being installed to signal those with mild to severe hearing loss will be required to provide a low-frequency alarm signal in sleeping rooms. The low-frequency signal must be square wave, having a fundamental frequency of 520 Hz, or provide equivalent waking ability.

A square wave includes multiple odd harmonics that result in a complex tone including a range of frequencies. The low-frequency signal can be produced by a separate notification appliance or by a smoke alarm. In addition, where these installations are intended to signal those with profound hearing loss, a tactile notification appliance—one that, by definition, uses touch or vibration—will be required, in addition to the usual high-intensity strobes located in sleeping rooms.

Beginning January 1, 2014, where commercial fire alarm systems are being installed, audible notification appliances installed to signal any sleeping area will be required to produce the low-frequency audible alarm signal.

### Digital Alarm Communicator Systems

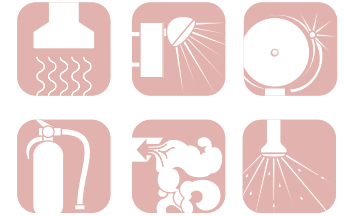
Another significant area of interest in the 2010 edition of NFPA 72 involves one of the common means of transmitting signals from a fire alarm system to an offsite monitoring facility: digital alarm communicator systems. The code requires that these systems be connected to the public switched telephone network. In recent years, telephone service has been provided not only by the traditional telephone company but also by other service providers, such as those providing television service or access to the Internet. Revisions to the definition of the term "public switched telephone network" will clarify the type of telephone network permitted to transmit fire alarm signals.

It is recognized that the performance of these telephone networks is not under the control of NFPA 72, but information has been included in the code to explain the performance and features expected of these networks if they are to be used with digital alarm communicator systems.

One of the expected features is that at least eight hours of standby power be provided for field-deployed communications equipment. By contrast, the code requires at least 24 hours of backup power for the fire alarm system itself.

Where fire alarm system signals are sent offsite to a supervising station, these revisions to the code, and the information contained in it, will help system designers, system owners, and inspection authorities to better understand what constitutes a public switched telephone network, and they will help users determine what performance to expect. ■

**Lee F. Richardson** is senior electrical engineer at NFPA and staff liaison for NFPA 72.



## INTERESTING WEB SITES

BCIT - Fire Protection Inspection and Testing

<http://www.bcit.ca/study/programs/675facert#>

SimplexGrinnell

<https://www.simplexgrinnell.com/index.jsp>

NOTIFIER by Honeywell

<http://www.notifier.com/main.htm>

Kidde

<http://www.kidde.com/utcms/Templates/Pages/Template-46/0,8060,pagelid%3D794%26siteid%3D384,00.html>

FM Global

<http://www.fmglobal.com/>

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## Where can the technician work and/or which disciplines can the technician work with?

When your application for certification in any of the disciplines is approved, you receive a letter from ASTTBC notifying you that you have full certification in the discipline applied for.

The first paragraph of the second page of the letter states: "Your certification is granted on the condition that you will only inspect and test in those disciplines in which you are certified and are within the scope of your competencies."

This means that if you are certified in Water-Based Fire Protection Systems, you can work with your certification in a municipality regardless of whether that municipality has an inspection, testing, and maintenance of Fire Protection System Bylaw in place or not.

Remember, once you are a registered fire protection technician or trainee, it is against the Code of Ethics and Practice Guidelines to work in any of discipline that you do not have certification in or are not registered as a Trainee.

The technician and/or trainee shall follow the Code of Ethics and Practice Guidelines in any municipality, regardless if there is a bylaw in place or not.

### It should also be noted that:

The Registered Fire Protection Technician (RFPT) or Interim Fire Protection Technician shall stamp all applicable documents regardless of whether the Municipality has enacted a bylaw that requires certified technicians.

## NEW MUNICIPAL BYLAWS

Since the publication of the last Suppress Newsletter, one more Lower Mainland Municipality has enacted a bylaw that requires the inspection, testing, and maintenance of fire protection systems to be done by ASTT certified technicians.

The new municipality is the City of Coquitlam, bringing the total to 13 municipalities that have enacted bylaws.

### Municipalities that have enacted a Municipal Bylaw and joined the Fire Protection Certification Program include:

Abbotsford	Richmond
Chilliwack	Sechelt
City of North Vancouver	Squamish
Coquitlam	Surrey
Courtenay	Vancouver
District of North Vancouver	Whistler
Pitt Meadows	

## RE-SETTERS (Blackbox)

I have been asked if a single technician can test, inspect, and maintain a fire alarm system using a re-setter. The answer is **NO!**

Underwriters' Laboratories of Canada also answered this question with a resounding "NO". See the email I received from ULC below

### Hi Brian,

Fri 4/24/2009 11:25

In CAN/ULC-S536-04 Clause 5.7.1.2 - it states what is required by the Standard when testing field devices annually,

*"Each enabled function/feature of a field device shall be tested and annunciation confirmed while connected to the control unit or transponder."*

This means that the technician must test the system as configured and the technician must check annunciation at the fire alarm control unit.

Resetting devices are not acceptable anywhere in Canada.

Hope this helps.

Thanks

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The issue is also addressed in the City of Vancouver Bulletin 2006-001-F1 - Fire Alarm Inspection and Testing – Annual Test Procedures in conformance with CAN/ULC S536 issued May 12, 2006.

...cont'd on page 7

## The Bulletin states:

This Bulletin clarifies the provision of ULC S536 with respect to the use of a Re setting Device or 'Black Box' during the inspection and testing of a Fire Alarm System.

In accordance with the interpretation obtained from ULC, under ULC Certificate Service for Fire Alarm Systems, resetting devices or "black boxes" shall not be used for testing Fire Alarm System components. These resetting devices are frequently used to remotely test fire alarm components (smoke or heat detectors, pull stations) without manually resetting the Fire Alarm System control unit. As these resetting devices are intended for convenience purpose in lieu of a second technician on site during the annual testing of a Fire Alarm System, such use of these devices is not acceptable for the purpose of conformance to CAN/ULC S536. The audible signal devices may not sound upon actuation of a fire alarm initiating device and therefore confirmation of the fact that a fire alarm initiating device is activated cannot be accurately verified.

All fire alarm systems are required to be tested annually in accordance with CAN/ULC S536 as mandated by the Vancouver Fire By-law.

Section 5 of CAN/ULC S536 (Clause 5.1 Documentation) states that all inspections and tests required by this Standard shall be documented in a report similar to Appendix E.

Appendix 'E', Part 'E3.2', Individual Device Record, shows several columns that must be filled out, and they are as follows:

- Alarm Confirmation Confirmed
- Alarm Annunciation Confirmed
- Zone Circuit Number or Address

The above noted items can only be confirmed at the fire control unit or the annunciator. If the technician using a resetting device does not return to the panel for confirmation of each device tested, the annual test is not considered as being preformed in accordance with CAN/ULC S536, as the technician is only assuming that actuation of the device is properly annunciated at the panel and properly zoned. ■

[http://vancouver.ca/Fire/fire\\_prev/Bulletin\\_2006-001-F1.pdf](http://vancouver.ca/Fire/fire_prev/Bulletin_2006-001-F1.pdf)

## NFPA CHANGES (FUTURE STANDARDS)

### Changes to the 2008 Edition of NFPA 25

The 2008 edition of NFPA 25 – *Inspection, Testing and Maintenance of Water-Based Fire Protection Systems*, is now available from the National Fire Protection Association. This is the 5th edition of the standard that was first published in 1992. The 2008 edition continues a trend toward clarity in the responsibilities associated with a system inspection, and greater consistency in assuring proper system operation. The new changes include several new thresholds to clearly indicate when remedial action is required. Some of the highlights of the changes to the 2008 edition:

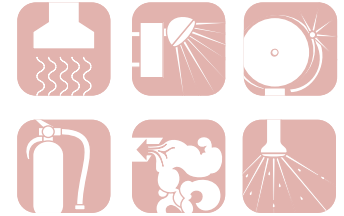
#### Component Replacement Tables –

Throughout the document, tables were added to show what inspections or tests need to be performed when a specific component is repaired or replaced. One table that was omitted, for valves in Chapter 13, will likely be the subject of a proposed Tentative Interim Amendment.

**3.3.18 – "Impairment" Definition** – An annex note was added to explain that the system should not be considered "impaired" if it was shut down for testing or maintenance with qualified people in attendance and located so that they can restore the system to service quickly in the event of a fire.

**3.3.30 Definition of "Qualified"** – For individuals or companies charged with performing the inspection, testing and maintenance required by the standard, the new definition of "qualified" is "a competent and capable person or company that has met the requirements and training for a given field acceptable to the Authority Having Jurisdiction."

**4.1.4 Recalled Products** – An addition to the annex note addressing recalled products indicates that it is acceptable to handle a product recall situation by entering into a program for scheduled replacement.



## CHALLENGE EXAMS

Please be advised that the ASTTBC Council approved a request to change the passing grade for all challenge exams from 70% to 80%. This change came into affect on January 1, 2009.

## TECHNICIAN'S STAMP

The technician's stamp was changed on July 1, 2001. All technician's were informed of this change and required to return their old stamp and apply for the new stamp. This means that the old stamp can no longer be used. The intent was that technicians would start using the new stamp on all documents and tags.

As Manager – Fire Protection Registrations and having been involved in the fire protection industry for many years, I always look at tags on fire protection equipment. I like to know that fire protection systems have been inspected, tested and maintained properly and, especially, serviced by ASTTBC certified technicians.

I recently attended a conference and noted that the fire extinguisher in my motel room had a tag showing that it had been serviced, or at least I think it had been serviced. By this, I mean that the tag was in hand writing showing the years 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

*...cont'd on page 9 sidebar*

**4.1.8 Valve Location** – A new requirement requires the owner to tell responsible occupants of the location of shut-off valves and the procedures for shutting down the system.

**4.1.9 Information Signs** – Requirements were added for information signs on dry-pipe, pre-action and antifreeze systems to indicate the area served by the systems, the location of auxiliary and low point drains and the presence and location of antifreeze systems. The provision is retroactive.

**4.3.4 Retention of Original Documents** – Hydraulic calculations and manufacturer's data sheets were added to the list of documentation that the building owner is required to maintain for the life of the building.

**4.3.5 Retention of Periodic Inspection/Test Documents** – Records will be required to be kept by the owner for one year past the next inspection or test of that type required by the standard. This means that records of annual activities will need to be kept for two years and that records of activities performed every fifth year will need to be kept for six years.

**4.5.1 Performance Alternative** – A performance-based alternative approach was accepted that will allow any building owner to develop different frequencies for inspection, testing and maintenance required by the standard if they can show that system reliability is being maintained.

**4.5.2 Fire Pumps in Service During Testing** – Consistent with the annex note to 3.3.18, the pump will still be required to be kept operational during testing unless qualified personnel are in attendance to be able to turn the pump back on quickly if there is a fire. Another option is to consider the system impaired and follow the impairment procedures while taking the pump out of service during testing.

**5.2.1.1 Sprinkler Orientation** – A clarification made to the inspection procedures for sprinklers requires that the sprinkler deflector be properly aligned with the ceiling slope.

**5.2.1.2 Sprinkler Inspection** – The language with respect to inspecting sprinklers for obstructions to spray patterns was revised such that the inspector is not expected to check all of the obstruction criteria of NFPA 13, only the minimum clearance between the sprinkler deflectors and the top of storage.

**5.2.2.1 Piping Misalignment** – The term "misalignment" was dropped from the list of procedures to follow when inspecting pipe, leaving only the requirement that pipe appears to be "in good condition and free from mechanical damage, leakage and corrosion."

**5.3.3.2 Pressure Switch Testing** – The testing frequency for pressure switch type water flow detectors was changed from quarterly to semi-annually (twice each year).

**5.3.4.3 Antifreeze Testing** – Solutions will be required to be tested at the most remote location and at the interface with the water. If the antifreeze system has a total volume of more than 150 gallons (570 liters), then an additional sample has to be drawn for each 100 gallons (380 liters) of solution. If unacceptable results are obtained, the entire solution must be drained and corrected and the system then refilled.

**6.1 Standpipe Inspection** – The inspection frequency for pipe and hose connections was changed from quarterly to annually.

**6.3.2.1 Hydrostatic Tests of Manual and Dry Standpipe Systems** – A hydrostatic test will be required every 5 years for all automatic dry and manual standpipe systems, including manual-wet systems.

**6.3.2.1 Hydrostatic Test of FDC** – Hydrostatic testing of standpipe systems will clearly include testing the fire department connection and intervening piping.

**8.3.5.3 Annual Pump Test** – Two options are now provided for passing a fire pump during its annual flow test. Either the net pressure of the pump at rated flow and rated speed must be within 95% of the initial unadjusted field acceptance test value, or the net pressure of the pump must be within 95% of the performance characteristics stamped on the pump's nameplate.



**12.2.6.2 Main Drain Test** – If the pressure during the full flow portion of the test drops more than 10% below previously recorded tests (including the original acceptance test), then the cause for the reduction needs to be identified and corrected if necessary.

**12.4.4.2.9 Dry System Air Leakage** – An air leakage test once every three years has been added to the requirements for dry-pipe systems, with two options for passing the test. Either the system must lose a maximum of 3 psi during a two-hour test at 40 psi (280 kPa), or the low air pressure alarm must not sound within four hours when the system air supply is shut off at normal system air pressure.

**12.6.2.1 Backflow Device Forward Flow Test** – The test must be conducted at the "design flow rate of the system" but no pressure measurements are required to be taken.

**14.5.2 Impairment Procedures** – Some special action (like evacuating the building, providing a fire watch or setting up a temporary water supply) is required only if the system is going to be out of service for more than 10 hours in a 24 hour period. Previously, the requirement referenced an outage of more than four hours in a 24 hour period. Since an earlier edition of NFPA 25 may be officially adopted in a jurisdiction, caution should be used when considering the use of the new criteria. This is especially true for provisions such as the implementation of impairment procedures, where the 2008 edition contains a less demanding requirement than prior editions. Legally adopted fire and building codes may also override NFPA 25 in areas where they are more restrictive. ■

## CHANGES TO THE 2007 EDITION OF NFPA 10

### Notable Changes from the 2002 Edition

The entire document has been changed in accordance with a new NFPA mandated "Manual of Style". As a result, Chapters have been renumbered and paragraphs have been moved from one Chapter to another as deemed appropriate under the mandated "Manual of Style".

A direct comparison of a numbered paragraph in the 2002 Edition with the same numbered paragraph in the 2007 Edition will in most cases be impossible. No paragraph is allowed to have more than one sentence so many paragraphs containing multiple sentences in the 2002 Edition of NFPA 10 now have the exact same wording but are split into multiple paragraphs.

Any wording that was not considered "enforceable" has been either changed to enforceable language or has been moved to the Annex which is meant for informational purposes only.

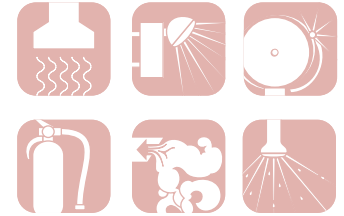
No "exceptions" are allowed and as such some of the paragraphs had to be changed, renumbered or expanded in order to comply with this mandate. In the past, any new Edition of an NFPA Standard would have a solid bar next to a paragraph that was changed or if the paragraph was a new requirement, making it easy to spot the differences between the previous Standard and the new Edition. Since the entire Standard has been changed, there are no solid bars indicating new material in the 2007 Edition of NFPA 10.

### Chapter 3 Definitions:

A definition for Certified Person has been added and is an extremely important item later in the Standard.

Definitions for Maintenance, Inspection, Hanger, Cabinet and Bracket are now found as "Extinguisher Maintenance", "Extinguisher Inspection", etc. Other definitions have also been moved within this chapter as sub headings under broader definitions. The definition for "Automatic Residential Fire Extinguisher Unit" has been dropped.

*cont'd on page 10*



*...cont'd from page 8 sidebar*

## TECHNICIAN'S STAMP ...cont'd

That's using a tag to the max, but improperly, but what really grabbed my attention was the stamp. At first glance, it appeared that someone was using a look-alike ASTTBC stamp, but in fact it was one of the old technician's stamps.

Please be reminded that tags should be changed at each annual inspection and, if you still have and are using the old style stamp; apply for a new one right away (and return your old one. ■

## FM GLOBAL PROPERTY LOSS PREVENTION Data Sheets

FM Global Property Loss Prevention Data Sheets, your 24/7, self-service source for engineering guidelines to help reduce the risk of property loss due to fire, weather and/or equipment failure. For nearly two centuries, businesses across the globe have relied on FM Global and its data sheets—property loss prevention engineering standards—to reduce risk at their existing facilities, and to ensure any new facilities are built to FM Global standards, reflecting world-class property protection.

**Please note these engineering guidelines are available at no cost to you, and as such, are provided "as is"; additional engineering interpretation of our data sheets is available to policyholder-clients of FM Global only.**

**<http://www.fmglobal.com/fmglobalregistration/>**

*cont'd from page 9*

## CHANGES TO THE 2007 EDITION OF NFPA 10

### Chapter 4 - General Requirements (New Chapter):

Paragraph 4.4 (formerly paragraph 1.5.4) "Obsolete Extinguishers" has added 5 new categories of obsolete extinguishers:

9. Pressurized water fire extinguishers manufactured prior to 1971. This will coincide with material specifications that became mandated at the time.
10. Any extinguisher that needs to be inverted to operate. Soda-Acid/ Two Part Chemical Foam and Cartridge Operated Water extinguishers have been obsolete for some time. However, there were other types of extinguishers that required being inverted to operate and these extinguishers have also been added to the list so only extinguishers that operate upright are allowed.
11. Stored pressure extinguisher manufactured prior to 1955 will take many extinguishers using the old UL rating System out of service to avoid confusion regarding the applicable ratings.
12. Any extinguisher with 4B, 6B, 8B, 12B, and 16B fire ratings. This will have a similar effect as above.
13. Stored pressure water extinguishers with fiberglass shells (pre-1976).

### Two new important paragraphs have also been added in this Chapter:

- 4.4.1 Dry Chemical stored pressure extinguishers manufactured prior to October 1984 shall be removed from service at the next 6 year maintenance interval or the next hydrotest interval, whichever comes first.
- 4.4.2 Any extinguisher that can no longer be serviced in accordance with the manufacturer's maintenance manual is considered obsolete and shall be removed from service. If the extinguishing agent or parts – either manufacturer's recommended

replacement parts or parts specifically listed for use in the fire extinguisher - are not available, then the extinguisher cannot be serviced according to the manufacturer's manual.

### Chapter 5 - Selection of Portable Fire Extinguishers:

**5.4.2** Selection by Occupancy. Fire Extinguishers shall be provided for the protection of both the building structure and the occupancy hazards contained therein regardless of the presence of any fixed fire suppression systems.

**5.5.1.1.2** Large capacity dry chemical extinguishers of 10 lb. (4.54 kg) or greater and a discharge rate of 1 lb. /sec. (0.45/kg/sec) or more shall be used to protect these certain hazards. This same requirement is listed for "Three-Dimensional Fires". Previously the only guidance was to "consult the manufacturer of this specialty equipment", this wording gives much better guidance.

**5.5.4** Obstacle Fires have been added requiring the same flow rates and capacity as above along with the options of multiple extinguishers to be used simultaneously or foam extinguishers.

**5.5.7** Areas Containing Oxidizers – has been added requiring only water type extinguishers be used and specifically barring the use of ABC dry chemical in these hazards.

### Chapter 6: Installation - (formerly Chapter 5: Distribution of Fire Extinguishers):

**6.6.3** All solid fuel cooking appliances (whether or not under a hood) with fire boxes of 5 ft 3" (0.14m<sup>3</sup>) volume or less shall at least have a listed 2-A water-type fire extinguisher or 1.6 gal (6 L) wet chemical extinguisher listed for Class K fires.

## Chapter 7 Inspection, Maintenance, and Recharging of Portable Extinguishers – (formerly Chapter 6):

Personnel performing service of portable extinguishers must now be certified. The definition for "certified person" in Chapter 3 is: *"A person that has been certified by a recognized organization through a formal certification program or by an equipment manufacturer that has a certification program, that is acceptable to the authority having jurisdiction."*

**7.1.2.3** The certification of service personnel shall be required after August 17, 2008."

There are now 6 steps in the inspection procedures instead of 9. The requirement for checking the safety seals and tamper indicators; checking to see if the HMIS label is in place; examination for obvious physical damage, corrosion, leakage or clogged nozzle are all no longer included in the inspection procedures (although these most of these items remain in the procedures if certain circumstances are present). Those requirements have been moved to the procedures for annual maintenance. Also, "hefting" or weighing extinguishers to determine fullness during the inspection is confined to only self expelling, cartridge operated extinguishers and pump tanks.

An entire section on electronic monitoring, where it can specifically be used and requirements for its use has been added including 5 paragraphs. Other paragraphs have been added specifying when electronic monitoring may not be used in lieu of a physical inspection.

A new table has been added showing the frequency of internal examination intervals, including an annual internal examination and a paragraph has been added that requires a annual internal examination for some extinguishers that are exposed to temperatures in excess of their listing.

Annex Material: As in previous standards, the items in the Standard marked with an asterisk (\*) will have supplementary material in the Annex. The Annex is still for informational purposes only and is not considered to be part of the Standard – therefore the Annex material is not enforceable. ■

## EXIT SIGNS

The British Columbia Building Code Regulations require that exit signs be installed in buildings. Every exit door from a building shall have an exit sign placed over or adjacent to it if the exit serves:

- a building more than 2 storeys in building height,
- a building having an occupant load of more than 150, or
- a room or floor area that has a fire escape as part of a required means of egress.

Exit signs give the occupants of the building direction during an emergency as to the best means of egress from the building. The exit signs can be found in:

- an exterior doorway,
- an exterior passageway,
- an exterior ramp,
- an exterior stairway,
- a fire escape,
- a horizontal exit,
- an interior passageway,
- an interior ramp, or
- an interior stairway.

Exit signs shall:

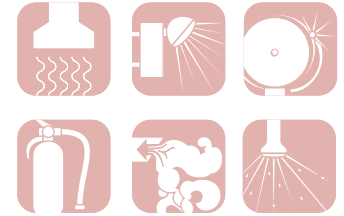
- be visible from the exit approach,
- have the word EXIT displayed in plain legible letters, and
- be illuminated continuously while the building is occupied.

The word in an Exit signs shall consist of:

- red letters on a contrasting background or contrasting letters on a red background, with the letters not less than 114 mm high and having a 19 mm stroke, if the sign is internally illuminated, and
- white letters on a red background or red letters on a contrasting background that is white or a light tint, with letters not less than 150 mm high and having a 19 mm stroke, if the sign is externally illuminated.

If illumination of an exit sign is provided from an electrical circuit, that circuit shall:

- serve no equipment other than emergency equipment, and
- be connected to an emergency power supply.



cont'd on page 12

## **What is the correct procedure to use when testing a 347-volt battery pack (Unit Emergency Lighting)?**

This question stems from a discussion I had with a technician recently. WorkSafe BC (and similar organizations in a number of other jurisdictions) stipulate that you may NOT work on live circuitry above 250VAC without their express written consent.

In BC, **OHS Regulation, Part 19 – Electrical Safety**, Section 19.10 (3) states:

*"Work must not be done on energized parts of electrical equipment associated with lighting circuits operating at more than 250 volts-to-ground without the prior written permission of the Board."*

This means that you cannot work on a 347-volt pack while it is under power. You must use the circuit disconnecting means (turn OFF the circuit breaker) to initiate the standard thirty-minute test. You should not attempt to disconnect one of the live leads.

You must identify those packs that are part of a 347-Volt circuit and coordinate with building management to shut down power to those areas which are serviced by the equipment while testing or repair is underway.

*...cont'd on page 13 sidebar*

*cont'd from page 11*

## **EXIT SIGNS ...cont'd**

Originally, exit signs were illuminated by the conventional incandescent light bulb. Today LED and non-electrical exit signs are being used. LED (light emitting diode) exit signs are electrically powered and use 90% less electricity than incandescent light bulbs. The LED light usually has a life-span of approximately 8 to 10 years. This greatly reduces the maintenance costs to the building owners, who are responsible for ensuring that the exit signs are luminescent when the building is occupied.

It should be noted that LED exit signs can be an easy retrofit installation for existing incandescent exit signs.

Non-electrical exit signs are the most efficient and the longest lasting exit sign being manufactured. Photoluminescent exit signs have a 25 year life-span and are illuminated using an industrial strength glow-in-the-dark pigment. They are popular for low-level applications providing the foot candles of ambient light present on the face of the exit sign at all times meet the requirements of BCBC and/or CAN/ULC

If the foot candles of light (present at all times) meet the requirements of the BCBC and/or CAN/ULC, then self-powered or self-luminous signs using tritium technology, a glowing form of hydrogen gas, can be used. Self-powered exit signs are said to be the most reliable exit signs produced today. They require no external power source, no electrical wiring, nor are there any batteries to be replaced. Self-powered exit lights provide an effective maintenance free exit system, will provide luminescent lighting even during extended power outages, and have a life-span of ten or twenty years.

### **What Is Tritium?**

Tritium is an isotope of the chemical element hydrogen, contains one proton, two neutrons and is naturally present in the atmosphere. Light hydrogen or protium is a hydrogen isotope with one proton and no neutrons. If we were to add one neutron, the result would be a heavy hydrogen isotope called deuterium.

Adding a second neutron would result in the creation of the isotope tritium. When isotopes are stable, they retain their molecular structure indefinitely. However, certain isotopes are

subject to decay and are, therefore unstable in nature. Unstable isotopes are referred to as radioactive isotopes. In radioactive isotopes, the nucleus, or center, decays to form a different nucleus and a nuclear particle. The nucleus in tritium decays by emitting an electron called a beta particle. The rate at which a radioactive element loses its radioactivity (decays) determines its half-life the time it takes the element to decay to half its original activity level. Tritium has a half life of approximately 12 ½ years which is very short compared with many isotopes.

### **How Does a Tritium Exit Sign Work?**

Self-luminous signs use the electron from the tritium to provide illumination without the need for a source of electrical power. The process is very similar to that in an old television set picture tube where an electron is used to illuminate the front screen of the tube. The electron from tritium however has only about ¼ of the energy of the electron in a color TV picture tube. That is why self-luminous signs are not visible in daylight while TV pictures are. Because of the low energy level, tritium is one of the safest and most benign of all radioactive materials and is therefore approved for use in self-luminous signs in commercial buildings.

To produce the illumination, the tritium gas is contained within a hermetically sealed glass tube. The inside surfaces of the tube are coated with a phosphor (a) just like the inside surface of a television picture tube. Electrons emitted by the tritium (b) bombard the phosphor causing it to produce illumination.

### **Is the Sign Bright Enough?**

When the normal lighting is on in a building, you will not see the tritium lamps. However, the regulatory agencies require contrast ratio of the face colors, making the exit sign very visible. When the power has gone out, the sign becomes very visible. The brightness of a tritium exit sign is more than twice the Underwriters Laboratories (UL) minimum requirement.

## What if a Tube Breaks?

Self-luminous signs have a number of individual tritium-filled tubes contained within a protective case. The tubes in exit signs are shock-mounted inside a high-impact plastic case designed to be tamper-resistant and vandal-resistant. A clear high-impact plastic shield across the face of the exit sign provides additional protection and serves as another barrier against accidental damage. To meet the regulations of the Nuclear Regulatory Commission, exit signs are extensively tested to ensure that, when properly installed, they will not fail under normal usage conditions.

If the protective shield and case are penetrated and a tube should break, releasing the tritium gas, there is no hazard. Because it is hydrogen and therefore lighter than air, when released, the tritium gas is dispersed rapidly and harmlessly into the atmosphere to join the naturally occurring tritium already dispersed. In the highly improbable event that all of the multiple tubes should fracture, the effect is still less than half of that received from naturally occurring radioactive sources during a year. The chart below compares the unlikely complete release of all tritium gas in a self-luminous exit sign to some familiar comparisons we encounter in our daily lives.



*Disposal of the exit sign after it has reached its life span or the tube breaks?*

The necessary paperwork and detailed instructions on the disposal process should be

included with the manufacturer's specifications and instruction for installing the exit signs.

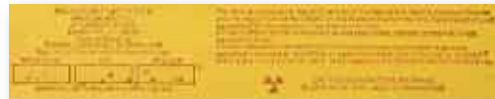
The disposal process will assure that the product is recycled and reclaimed and not dumped or stored in landfills or other storage sites.

The manufacturer's specifications for self-powered exit signs state that the inspection, testing, and maintenance shall be in accordance with the local requirements, which in British Columbia Fire Code Regulations and CAN/ULC Standards.

## How to Identify Self-Powered EXIT Signs

1. Look for the words "Caution Radioactive Materials" and/or the radiation symbol. All radioactive EXIT signs have these markings, such as the one shown below, when manufactured and sold. The markings are most often found on the bottom, but may be on the side, back or, rarely, on the inside. They may not be visible in the sign's installed position.

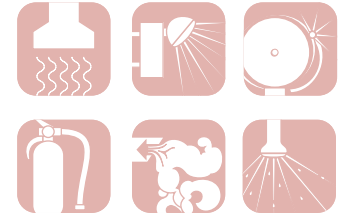
This is an example of a U.S. manufacturer's label. A Canadian label may be slightly different, but the radioactive symbol will be the same.



2. Note that electrically powered EXIT signs have wires or electrical connectors attached, and a fixture for a fluorescent or incandescent bulb; they do not contain radioactive materials.
3. "Photoluminescent" signs are another type of self-powered sign (typically flat plastic signs about 1/8" thick) and do not contain radioactive materials.

It should also be noted that CSA introduced mandatory implementation of CSA-C860-01 Performance of Internally Lighted Exit Signs in 2004.

The standard states that the exit signs must be manufactured to the new specifications.



...cont'd from page 12 sidebar

## What is the correct procedure to use when testing a 347-volt battery pack (Unit Emergency Lighting)? ...cont'd

What are the consequences of not following this direction? Your employer may be held liable for any injuries you might suffer, in which case WorkSafe BC may levy a very hefty fine. In addition, your claim for any injuries sustained could be adversely affected.

The two important things to remember here are: **STAY SAFE! WORK SAFE!**

cont'd on page 14

## Answers to the questions on page 1

1. Alarms such as water motor alarm gongs and pressure type flow switches must be tested quarterly; vane type water flow devices must be tested semi-annually.
2. The flow and design pressure for systems installed after 1993 must be 946 L/min (250 gpm) for each of the top two hose valves at 6.9 bar (100 psi) for the hydraulically most demanding riser and 1893 L/min (500 gpm) at 4.5 bar (65 psi) for systems installed prior to 1993.
3. The pump must be tested at minimum, rated and peak flows, commonly referred to as churn, rated capacity, and overload.
4. According to the requirements of 12.5.1, 2 and 12.5.2.2. in NFPA 25 these valves must be flow tested every five years.

cont'd from page 13

## EXIT SIGNS ...cont'd

CSA-C860-01 code has four major requirements:

1. Improve Energy Efficiency
2. Legibility of EXIT Stencil/Legend
3. Standardization of EXIT Stencil/Legend
4. Standardization of Arrows/Chevrons

One cost effective solution to meeting the requirements for improved energy efficiency is LED based signs. This change has forced the industry to stop manufacturing and selling incandescent exit signs.

All new exit signs must meet C860 illumination ratings and legend size requirements (the size of the letters and their spacing on the exit signs)

All new exit signs must also meet C860 maximum wattage ratings of:

- 5 watts per legend face (e.g. single face EXIT = 1 legend)
- 10 watts double face (2 legends), single face bilingual
- 20 watts double face bilingual (4 legends)
- Add 5 watts for self-powered models ■

## WHY IS TESTING IMPORTANT

Fire protection systems have been installed in buildings as a life safety measure for the building occupants. History has shown that there is a need for fire protection systems in buildings, is illustrated by the number of historical fires that have occurred over the last century.

Inspection, testing and maintenance is the only way to ensure the reliability of the fire protection system in the event of an emergency. Over the years regulatory bodies such as the Canadian Commission on Building and Fire Codes (CCBFC), NRC Institute for Research in Construction, Underwriters Laboratories of Canada, (ULC) and the National Fire Protection Association (NFPA) have developed codes and standards to improve the installation, inspection, testing, and maintenance of these life saving systems. Organizations such as those mentioned above

have investigated fires that have occurred where there is large loss of life and/or property. They research the construction materials used in these buildings, and try to determine what methods and/or systems should be used to ensure that when a fire occurs the equipment installed in the building will protect the occupants until they can reach a safe refuge and protect the building from any major damage.

Engineers design the fire protection systems that are to be installed in the building, but it is the ASTTBC technician that ensures the continued operational reliability of the fire protection systems. This can only be done by periodic testing of the systems.

In British Columbia inspection, testing, and maintenance of these life safety systems is regulated by the British Columbia Fire Code Regulations, which refers, to CAN/ULC and NFPA Standards. It is these standards that tell the technician what is required when inspecting, testing and maintaining fire protection systems. The building owners, the service agencies, and the technicians do not have the authority to change the intent of the requirements of these standards. The only person who has the authority to make these determinations is the authority having jurisdiction for the municipality the technician is working in.

During the time I performed the duties of an authority having jurisdiction, I encountered a number of occurrences:

- a. where the owner determined that he/she was not going to follow the standards by either not having the systems serviced or repaired when notified by the service company/technician that the system was in need of repairs.
- b. the service company/technician had made short cuts during the inspection and testing because they thought the codes and standards didn't make sense.

In both cases; the individuals involved were in violation of the codes and standards. If it is felt that the codes and standards are creating hardships, individuals have the recourse of applying to have the codes/standards changed.

Occupants of buildings usually do not know who the technicians are. They usually are too interested in their own lives to care. But those who are aware of the different types of protection within a building have a feeling of comfort that these life safety systems will work as they are designed to.

Think back to when you were last in a movie theater, especially when the theater was crowded. Because of the nature of your work, you probably looked around and noted that the building was protected by a sprinkler system, the exit signs were brightly lit, the fire extinguishers were in the proper locations, and the emergency lighting was ready for action, if required, and the pull stations were located at each of the exits. You had a comfortable feeling ... you and your family are protected in the event of a fire.

But what if this had happened? The technician had been in that day to inspect and test the fire alarm system. It was determined that the common control assembly was not functioning properly, fortunately, the technician had a spare unit and replaced it. But the technician was in a hurry or was new on the job. He/she left the building without having a proper verification done on the system as is required by CAN/ULC S536-04.

My question to you now is: How comfortable would you feel sitting in that movie theater with your family, not knowing if the system would work or not in case of fire.

It is the owner's responsibility to ensure that the fire protection equipment in a building is operable 24 hours a day. It is the technician's responsibility to ensure the continued operational reliability of the fire protection systems.

This can only be done by periodic testing of the fire protection systems following the appropriate standards. If that inspection, testing, and maintenance is done correctly the fire protection system will be reliable and will operate properly in the event of an emergency. ■

## BC SAFETY REGULATIONS – ELECTRICAL WORK – THE FIRE ALARM TECHNICIAN

The British Columbia Safety Authority - Electrical Safety Regulations are very clear that only TQ Electricians can install fire alarm systems in British Columbia. What, then, can an ASTTBC-certified technician actually do with regard to the inspection, testing and maintenance of fire alarm systems?

If the technician is also a TQ, he/she can do everything within his/her certification, assuming that the proper permits have been obtained.

The question remains, however, as to exactly what a technician who is not a TQ, but who is certified in the inspection, testing & maintenance of fire alarm systems can actually do with these systems.

CAN/ULC-S536-04 is clear about the definition of "inspect/inspection/inspected": a visual examination to determine that the device or system will apparently perform in accordance with its intended function.

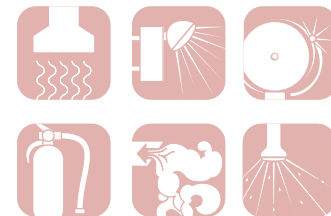
The Standard is also quite clear about what "test/tested/testing" means: operation of the device or system to determine that it will perform in accordance with its intended operation or function.

CAN/ULC-S536 clearly states that the technician can visually examine and operate the fire alarm system, but term "maintenance" is not defined within the Standard.

So, let's try to determine what maintenance means.

**NFPA 10 – Standard for Portable Fire Extinguishers, 2002 Edition** defines maintenance as:

**3.3.18 Maintenance.** A thorough examination of the fire extinguisher. It is intended to give maximum assurance that a fire extinguisher will operate effectively and safely. It includes a thorough examination for physical damage or condition to prevent its operation and any necessary repair or replacement. It will normally reveal if hydrostatic testing or internal maintenance is required.



*cont'd on page 16*

## BC SAFETY REGULATIONS ...cont'd

**NFPA 25 – Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, Edition 2002** defines maintenance as:

**3.3.22 Maintenance.** Work performed to keep equipment operable or to make repairs.

It's obvious that the above mentioned standards do not have anything to do with the inspection, testing, and maintenance of fire alarm systems, but they do give us an idea about what maintenance means, such as - a thorough examination of a system for physical damage or condition to prevent its operation and any necessary repair or replacement. The key words here are repair or replace to make the part operational.

The debate about what a technician can actually do with regard to maintenance and electrical work has been going on for several years.

In Ontario, for example, the Electrical Safety Authority developed a Bulletin (Bulletin 2-15-0 Inspection Requirements for Fire Alarm Systems, May 03) which gives the following direction:

An application for inspection to the Electric Safety Authority is not required for the following.

- Control unit components, transponder component and/or field device component replacement;
- Like for like active field device and supporting field device replacement;
- Removal and replacement of devices for testing, and maintenance purposes.

An application for inspection is required when repair, replacement and alterations of fire alarm system components require compliance with CAN/ULC-S524, "Installation of Fire Alarm Systems". Examples of this are:

- Extension of the existing fire alarm system;
- Replacement of Control unit and or transponder;
- Relocation of field devices, control units and/or transponders;
- Replacement of fire alarm system wiring.

The inspection and testing of fire alarm systems is required to conformance with CAN/ULC-S536, "Inspection and Testing of Fire Alarm

Systems" This means that all fire alarm inspection and testing excluding alterations or addition of components fall under this category. ESA would rely on the record keeping that is required under the Fire Code and associated standards as the application for inspection, as permitted by Subrule 2-004 (5). These records would be available to the Electrical Safety Authority upon request.

### But what about British Columbia?

With respect to testing and inspection of fire alarm systems in accordance with ULC S536, the following provisions of the BC Safety Standards Act and Regulations should be noted:

1. Safety Standards Act (SSA) defines "regulated work" as the assembly, manufacture, construction, installation, operation, testing, maintenance or repair of a regulated product, and the alteration of a regulated product".
2. SSA also defines term "inspect" as follows: "inspect includes investigate, monitor and audit".
3. Electrical Safety Regulation (ESR) defines "electrical work" as "regulated work in respect to electrical equipment".
4. ESR also defines "testing" as "the evaluation and verification of electrical equipment by means of instruments and testing devices".

Therefore, it appears that, for the purpose of the SSA and ESR, "testing" represents a specific type of electrical work, and in accordance with Section 4 of the ESR, such electrical work must be done by a qualified person.

One of the criteria for such qualification [Section 4(1)(e) of the ESR] recognizes a manufacturer's technical representative as a "qualified person". Thus, a technical representative who is considered by a fire alarm system manufacturer to be qualified for such electrical work is deemed to be 'qualified person' to work on that manufacturer's system, in accordance with the ESR.

### In summary, in British Columbia:

- a) the technician can't extend the existing fire alarm system; replace control units and or transponders; relocate field devices, control units and/or transponders; replace



fire alarm system wiring; and definitely can't work with or around high voltage equipment.

- b) the technician can replace control unit components, transponder components and/or field device components which are damaged and/or not working as intended; replace like-for-like active field devices and supporting field devices; and remove and replace devices for testing and maintenance purposes.

**The technician needs to understand the difference between units and components. Components are the parts within the unit itself. The unit is the entire package, such as a fire alarm panel.**

**When inspecting, testing and maintaining fire alarm systems by replacing components and/or devices, the technician must comply with the requirements of CAN/ULC S-536-41 and CAN/ULC S524-01. All new components and devices must be verified in accordance with CAN/ULC-S537-04 using a third party acceptable to the AHJ in the municipality in which the technicians are working.**

**In every case, the technician needs to contact the AHJ in the municipality in which he/she is working to determine whether a permit is required to do the repair and/or replace the part/device. ■**

## **CSA PLANS CHANGES TO CANADIAN ELECTRICAL CODE TO ALIGN WITH U.S. COUNTERPART**

December 1, 2008

**Canadian Standards Association**  
VINCE VERSACE  
staff writer

Future upgrades to the Canadian Electrical Code will help bring the code closer to its American counterpart and incorporate new safety improvements, states the Canadian Standards Association (CSA).

*"There will be greater clarity improvements and harmonization (with the new code),"* said Stephen Brown, electrotechnical director at CSA.

CSA recently held a webcast and teleconference to highlight new areas in the CSA 2009 Canadian Electrical Code, which will undergo upgrades after a little more consultation.

The code is considered a must-have safety tool and it has now been moved to a three-year production cycle, similar to the American National Electrical Code, noted Brown.

Canada's code was previously in a four-year cycle.

He said the stakeholder consultation was the most extensive consultation ever undertaken by the CSA.

Utilities, home builders, product manufacturers, designers, installers and government officials were involved in the process.

The 10 main areas for code upgrades are: requirements for tamper resistant receptacles; passenger ropeway requirements; new bonding requirements for servicing pools; new requirements for primary seals; equipment requirements for certain class and zone hazardous locations; new cable types; motor overload protection requirements; kitchen microwave and range hood hookups; connection of non-mandatory equipment to emergency power supplies; and electrically connected carbon monoxide alarms.

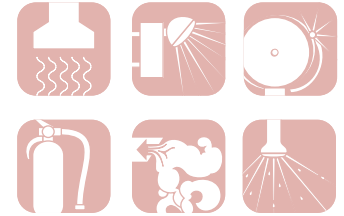
New technology and immediacy for improving electrical hazard safety are two of the drivers behind the review. However, the proposed upgrades will go through an additional stakeholder engagement process to help gather more input and rank priorities.

Lance Novak, sales VP at CSA, said that along with the upgrades to the code, the CSA will also use new tools to provide and understand the code.

*"We will offer the standards in a handy mobile device format,"* said Novak.

This will allow users to download a software reader and the 2009 code right to their mobile device. The code will also be available on a CD, which will include the guide and a handbook.

CSA will offer a conference series on electrical safety, which are specifically designed to provide provincial regulatory bodies the opportunity for input on their issues



### **CSA PLANS ... cont'd**

and concerns. Burnaby, Edmonton, Winnipeg, Toronto and Moncton are the sites for the conference series.

Training via e-learning methods through a Web browser will also be available. This feature allows people access to self-training and assessment anytime, from anywhere, said Novak. ■

## RECALLS

NOTE: The following recalls were found by browsing the internet, there are others which have not listed here. In the next SUPPRESS a list of the manufacturers will be listed so you can do your own research. We will continue to post in Suppress any future recalls that are found to keep the technicians up-to-date.

### Recall Alert: PI2000 Smoke Alarm

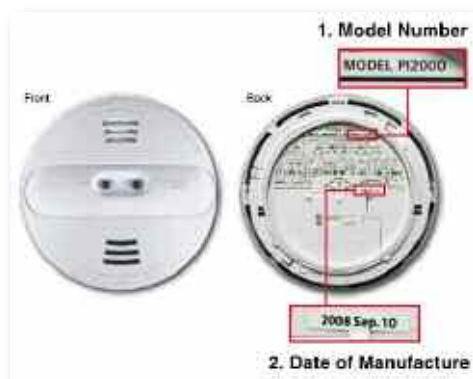


Kidde, in conjunction with the Consumer Product Safety Commission (CPSC), is announcing a voluntary recall to replace certain Model PI2000 Smoke Alarm units manufactured between August 2008 and May 2009, that may not respond to smoke or push to test.

This page will help you determine if you have a smoke alarm that is affected, and will explain how to register for a replacement product if your unit qualifies.

<http://www.kidde.com/utcs/Templates/Pages/Template-66/0,8070,pagelId%3D64200%26siteId%3D384,00.html>

Description of Affected Item:



### UL Warns of Counterfeit Automatic Fire Sprinklers

NOTE: This information is from a previously printed press release, newsletter, or other dated document. It is presented here for archival purposes only.

**NORTHBROOK, Ill., September 11, 2008** – Underwriters Laboratories (UL) is

notifying consumers, distributors and property owners of automatic fire sprinklers that bear a counterfeit UL and cUL Mark have been reported in Kuwait. At this time UL has received no reports that these counterfeit sprinklers have been found in the United States or Canada. Although marked with the word "Globe," these sprinklers are not manufactured by Globe Fire Sprinkler Corp. a Michigan manufacturer and have not been evaluated for safety by UL. This information supersedes a public notice released by UL on July 14, 2006.

**Name of Products:** GL 5651 Pendant type fire sprinklers

GL 5661 Upright type fire sprinklers

GL 5626 Horizontal Sidewall fire sprinklers

GL 5681 Concealed type fire sprinklers

**Units:** Unknown quantity

**Date of Manufacture:** January of 2004 to present

**Manufacturer:** Unknown

**Identification:** *On the product:* The word "Globe" appears on the product. Sprinklers with the counterfeit UL Mark are manufactured with a slot-head screw and Job F5 or Job FR glass bulb. Non-counterfeit UL-listed sprinklers manufactured by Globe Fire Sprinkler Corp. contain a hex-head screw and a Job G5 or F3 glass bulb.

In addition, identifiable markings are found on the counterfeit sprinklers' deflectors on the following models:

**Pendant type automatic fire sprinkler**  
SSP, cULus in a circle, GL 5651, 2004,  
155°F/68°C

**Upright type automatic fire sprinkler**  
SSU-1, cULus in a circle, GL 5661, 2004,  
155°F/68°C

**Horizontal sidewall type automatic fire sprinkler**  
cULus in a circle, GL 5626, 2004,  
155°F/68°C, Flow, Sidewall Top

**Concealed type automatic fire sprinkler**  
cULus in a circle, GL 5681, 2006,  
155°F/68°C

**What You Should Do:** UL recommends that the sprinklers be replaced by qualified service personnel and returned to the place of purchase.



## Recall Alert

**U.S. Consumer Product Safety  
Commission  
Office of Information and Public Affairs  
Washington, DC 20207**

**December 30, 2008  
Alert #09-717**

Fire Alarm Control Panels Recalled by Notifier  
Due to Alert Failure

The following product safety recall was voluntarily conducted by the firm in cooperation with the CPSC.

**Name of Product:** Notifier Fire Alarm  
Control Panels

**Units:** About 2,000

**Manufacturer:** Notifier, of Northford, Conn.

**Hazard:** The software in the fire alarm system could fail to process an alarm condition which could result in the system failing to respond in the event of a fire.

**Incidents/Injuries:** None reported.

**Description:** This recall involves the Notifier brand operating system firmware control panels in fire alarms. The control panel is black or red with a silver screen. The panels control display and emergency communications. "NOTIFIER" or "NOTIFIER by Honeywell" is printed on the front of the fire alarm unit. This recall includes the following model numbers: Firmware version 11.2.2 for NFS2-640 and NFS-320 control panels and firmware version 3.14.1 for and NFS-640 control panels.

**Sold by:** Authorized distributors to commercial end-users. The products were not sold at retail, but version 11.2.2 was available for download on [www.magni-fire.com](http://www.magni-fire.com), a secure Web site accessible only to Notifier customers from May 2008 through July 2008 at no charge.

**Manufactured in:** United States

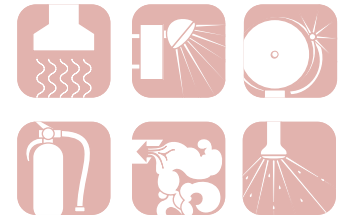
**Remedy:** Distributors should immediately contact the company for replacement software. All known users of have been contacted.

**Consumer Contact:** For additional information, contact Notifier at (800) 289-3473 between 8 a.m. and 5 p.m. ET Monday through Friday or visit the company's Web site at [www.notifier.com](http://www.notifier.com)

### NFS2-640



*cont'd on page 20*



cont'd from page 19

## Recall Alert ...cont'd

### NFS-320



notification appliances powered by these supplies may not operate.

### This is a life safety issue.

**Corrective Action:** Fire-Lite is asking for all product that was purchased through November 10, 2002 to be returned for credit. As of this date, all stock on this product was manufactured correctly. To locate the date code on the product, refer to the photo shown. Date codes are read as week and year (WW/YY). Since November 10 falls within week 46 of 2002, products with any date code earlier than 4602 will be part of the recall.

### NFS-640



Product that is still in the original carton can be identified by an alphabetical letter code on the end of the carton. Letter codes

less than P, such as L, M, N or O will be part of the recall and should be returned for credit. Cartons with two yellow O stickers (as shown in photo) have been checked and are not part of the recall. When replacing installed product order FCPS-24S6RBRW or FCPS-24S8RBRW replacement PC boards. This product will be remanufactured and tested to factory standards. Customers are advised to contact Fire-Lite customer service or the distributor from whom they purchased the unit to request a RETURN MATERIAL AUTHORIZATION (RMA). NOTE: For installed product, only return the electronic PC board!

We apologize for any inconvenience this may cause. To assist our distributors with reinstallation costs, following return via RMA of each previously installed defective board; your account will be credited for the original power supply board plus an additional \$50.00. Unopened and unused returned goods will receive a product credit only.

**If you have any questions regarding this matter, please contact your FireLite customer service representative at 203-484-7161.**

## Safety Recall Bulletin

### Fire-Lite - FCPS-24FS6 and FCPS-24FS8 Power Supplies

We have found an anomaly in the FCPS-24FS6 and FCPS-24FS8 manufacturing process. We are aware of several instances where the product may have missing solder joints along the bottom of the right hand edge of the main processing board.

**Issue:** Over time, these non-soldered resistors could fail creating a condition where

## CP355 Addressable Ionization Smoke Detector

November 24, 2008

Document FLTB08-11-01

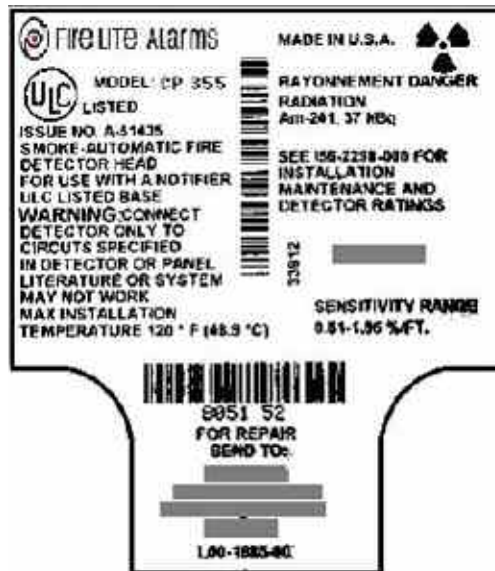
Dear Valued Customer,

Fire-Lite has been notified by System Sensor of an issue that may result in a trouble condition with ionization smoke detector model CP355 built between March 2008 and October 2008. The issue is related to the detector's trouble thresholds and in no way affects device performance to detect smoke and report an alarm condition.

The drift compensation features of Fire-Lite's detectors are designed to operate normally despite slight changes within the product and the environment. It has been determined that a small percentage of the ionization detectors built during this time may erroneously drift into a maintenance trouble condition due to the detector's trouble threshold settings. System Sensor has recently implemented a change that addresses this problem beginning with units manufactured on November 1, 2008.

To date Fire-Lite has identified a small percentage of ionization detectors that exhibit this trouble condition. Any ionization detectors manufactured with a date code between 8031 and 8105 (see below) that drift into a maintenance trouble condition should be returned and replaced by contacting Fire-Lite Customer Service and obtaining a warranty RMA number. Ionization detectors that have been installed and are not exhibiting any trouble conditions need not be replaced. Note that units that exhibit the trouble condition will continue to operate normally and detect smoke, thus ensuring continued protection of the area by the detector.

We apologize for any inconvenience this situation may have caused. Please contact Fire-Lite Customer Service 1-800-627-3473 or your Regional Sales Manager should you have any questions.



**Date code is located just below the bar code, a four digit code. Affected units are those with date codes from 8031 to 8105.**

### News from CPSC

**U.S. Consumer Product Safety Commission  
Office of Information and Public Affairs  
Washington, DC 20207**

#### FOR IMMEDIATE RELEASE

**March 12, 2009**

**Release # 09-151 Firm's Recall**

**Hotline: (888) 345-4407**

**CPSC Recall Hotline: (800) 638-2772**

**CPSC Media Contact: (301) 504-7908**

Kidde Recalls to Replace Fire Extinguishers Due to Failure to Operate

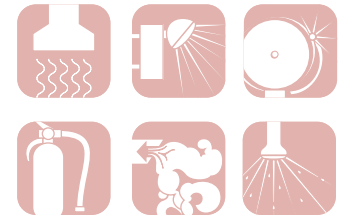
WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission, in cooperation with the firm named below, today announced a voluntary recall of the following consumer product. Consumers should stop using recalled products immediately unless otherwise instructed.

**Name of product:** Kidde XL Fire Extinguishers

**Units:** About 167,000

**Distributor:** Walter Kidde Portable Equipment Inc., of Mebane, N.C.

*cont'd on page 22*



cont'd from page 21

## News from CPSC ...cont'd

**Hazard:** The pressurized cylinders in the recalled fire extinguishers could lose pressure and fail to operate. In the event of a fire, this failure could put a consumer and property at risk.

**Incidents/Injuries:** None reported.

**Description:** This recall involves the Kidde XL Fire Extinguishers with model numbers FX340SC, FX340H, FX340GW, XL5MR, FX210R, FX340SC-2, FX210W, XL2.5TCZ-4, E-340-3 and with manufacture dates between October 2007 and April 2008. "Kidde" and the model number can be found on the label on the front of the extinguisher. The manufacture year is on the bottom of the extinguisher. If your extinguisher is one of the listed model numbers and is marked with the year 07 or 08, contact Kidde to determine if you have a recalled extinguisher.

**Sold at:** Department, home, and hardware stores nationwide from October 2007 through April 2008 for about \$35.

**Manufactured in:** Mexico

**Remedy:** Consumers should immediately inspect the pressure gauge. If it points to the red zone, contact Kidde to receive a free replacement extinguisher. If the gauge is not in the red zone, but you have questions about an extinguisher within the listed model numbers, please contact Kidde for additional information.

**Consumer Contact:** For additional information, contact Kidde at (888) 345-4407 between 8 a.m. and 5 p.m. ET Monday through Friday or visit the firm's Web site at [www.Kidde.com](http://www.Kidde.com)



## News from CPSC ...cont'd

**U.S. Consumer Product Safety Commission  
Office of Information and Public Affairs  
Washington, DC 20207**

### FOR IMMEDIATE RELEASE

**May 15, 2008**

**Release #08-267 Firm's Recall**

**Hotline: (888) 879-3906**

**CPSC Recall Hotline: (800) 638-2772**

**CPSC Media Contact: (301) 504-7908**

Maple Chase Co. Recalls Carbon Monoxide and Carbon Monoxide/Smoke Combo Alarms Due to Alarm Malfunction

WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission, in cooperation with the firm named below, today announced a voluntary recall of the following consumer product. Consumers should stop using recalled products immediately unless otherwise instructed.

**Name of Product:** FireX Branded 10000 Series Carbon Monoxide (CO) Alarms and 12000 Series CO/Smoke Combo Alarms

**Units:** About 280,000

**Manufacturer:** Maple Chase Company, of Plain City, Ohio

**Hazard:** The recalled alarms can sound a "double chirp"/fault alarm in the presence of CO, prior to going into full alarm. Upon hearing a double chirp, the Owner's Manual instructions recommend a consumer take the alarm out of service, which could expose consumers to hazardous levels of CO and suffer injury or death.

**Incidents/Injuries:** None reported.

**Description:** The recall includes FireX branded 10000 and 12000 series alarms with item numbers: 10000, 12000, 12000C, 12000-6, 12200, 12220, 12400, 12400C manufactured between June 1, 2007 and February 1, 2008. The date code appears on the back of the unit with a four digit year, three digit month followed by the day (ex: 2007JUN1 for June 1, 2007). Units with a manufacture date code prior to June 1, 2007 are not included in this recall.

**Sold:** Commercial electrical distributors and electrical contractors and builders for installation into new home construction. A limited number of units were sold at Menard's nationwide from June 2007 through February 2008 for about \$20 (10000 series) and \$30 (12000 series).

**Manufactured in:** Mexico

**Remedy:** Consumers should contact Maple Chase immediately to receive a free comparable replacement alarm and make arrangements to return their recalled alarms. Consumers should not take the alarms out of service until they receive the replacement alarm.

**Consumer Contact:** For more information, contact Maple Chase toll-free at (888) 879-3906 between 8 a.m. and 6 p.m. CT Monday through Friday or go to the firm's Web site at [www.firexsafety.com](http://www.firexsafety.com)

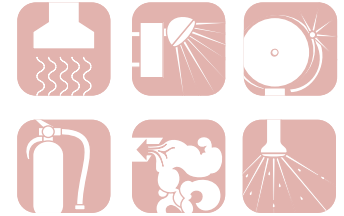
### 10000 Front and Back



### 12000 Front and Back



The U.S. Consumer Product Safety Commission is charged with protecting the public from unreasonable risks of serious injury or death from thousands of types of consumer products under the agency's jurisdiction. The CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical, or mechanical hazard. The CPSC's work to ensure the safety of consumer products - such as toys, cribs, power tools, cigarette



## News from CPSC

...cont'd

lighters, and household chemicals - contributed significantly to the decline in the rate of deaths and injuries associated with consumer products over the past 30 years.

To report a dangerous product or a product-related injury, call CPSC's hotline at (800) 638-2772 or CPSC's teletypewriter at (800) 638-8270, or visit CPSC's web site at [www.cpsc.gov/talk.html](http://www.cpsc.gov/talk.html). To join a CPSC email subscription list, please go to

<https://www.cpsc.gov/cpsclist.aspx>.

Consumers can obtain this release and recall information at CPSC's Web site at [www.cpsc.gov](http://www.cpsc.gov).

## RECALLS

May 21, 2009

### RECALL RCL09-42 Fluke Corp. Announce Recall of Clamp Meters Due to Electrocutation Hazard

Toronto, ON – The Electrical Safety Authority is notifying the public that Fluke Corp. has announced a voluntary recall of the following consumer product. Consumers should stop using recalled products immediately.

**Name of Product:** Fluke 33X series Clamp Meters

**Units:**

Model	Ontario	Canada
333	35	326
334	52	180
335	226	303
336	39	1252
337	330	2026
Total	682	4087

**Manufacturer:** Fluke Corporation, of Everett, Wash.

**Hazard:** The display may indicate a low or no voltage reading on a circuit energized with a hazardous voltage. This could create a hazardous situation if the user were to contact live voltage based on an erroneous instrument reading.

**Incidents/Injuries:** No injuries or damage has been reported.

**Description/Models:** The following models are affected:

- Model 337 (S/N 96310001 to 98890607)
- Model 336 (S/N 96360001 to 98900400)
- Model 335 (S/N 97160001 to 98860104)
- Model 334 (S/N 97180001 to 98870101)
- Model 333 (S/N 97170001 to 98880240)

**Sold by:** Fluke Corporation and various retailer and resellers across Canada.

**When was distributed:** January – June 2008.

**Manufactured in:** Shilu, China

**Remedy:** Consumers should stop using the recalled products immediately and return to Fluke for free replacement.

**Consumer Contact:** For additional information, contact Fluke toll-free at (800) 363-5853 Monday through Friday, or visit the firm's Web site at:

<http://ca.fluke.com/caen/home/default.htm>

**Remarks:** The recalled units are certified to Canadian Standards by Canadian Standards Association (CSA). For more information about CSA product certification process please visit: <http://www.csa.ca>



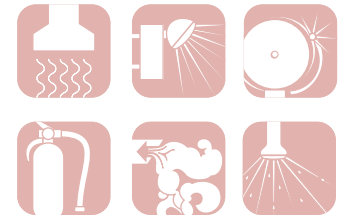
## END OF LINE RESISTORS

An end-of-line resistor (ELR/EOL) is a device that reduces the voltage of the circuit by creating resistance for the incoming voltage, allowing less voltage to leave the resistor than the amount entering it.

How is it possible for the fire alarm control panel to differentiate between a non-alarm state and an open wiring fault? This is accomplished by means of an end-of-line resistor.

The end-of-Line Resistor/EOL – A resistor placed in an alarm zone circuit, ideally at the last device on the loop, allowing the control panel to “supervise” the circuit (i.e., make sure that everything in that circuit is intact), and allow functions such as mixing normally open and normally closed devices in the same circuit/loop. Many systems now provide an option for turning off the requirement for these resistors, but they are usually still required for zones set as fire/smoke loops.





A fire alarm system operates in one of three (or more) states: normal, alarm, and trouble. The state is reported at all times on the alphanumeric display. If the system goes into alarm, the indicating appliances throughout the building go off. These could be very loud horns for some occupancies, or softer chimes in others, such as a nursing home.

The control panel monitors the initiating device circuits at all times for shorts and open wiring by means of the applied DC voltage. The initiating devices are normally open. In the event of a fire, they become conductive at close to zero ohms.

### How to Use End-of-Line RELAYS (EOLR)

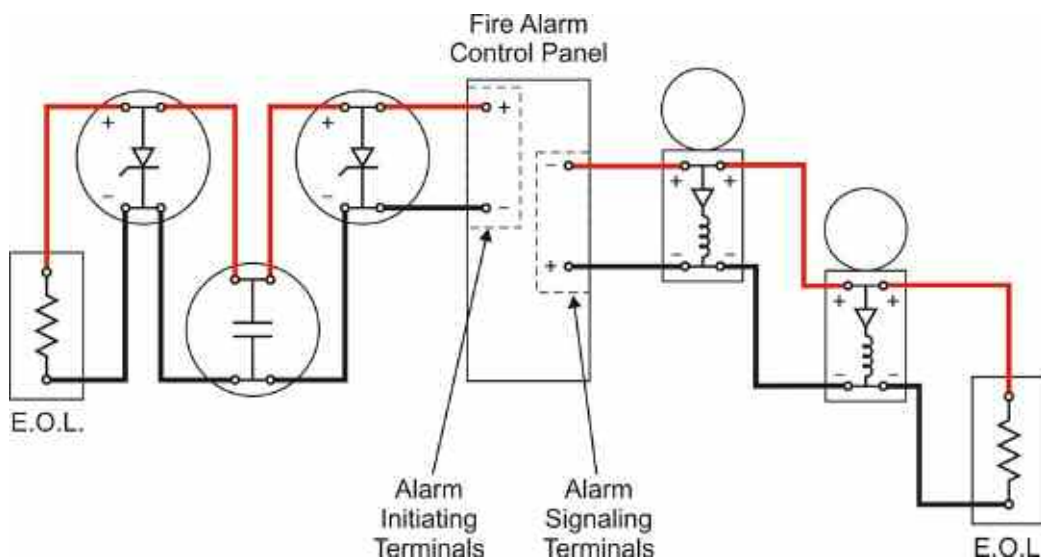
When a fire technician (electrician) installs a 4-wire smoke detector, an end-of-line relay (EOLR) must be installed at the end of each 4-wire initiating circuit. An EOLR is used to maintain supervision of smoke detectors up to, and beyond, the last detector.

Unfortunately, novice fire technicians often do not understand the importance of the EOLR.

An EOLR is a device designed to supervise the DC power that feeds one or more 4-wire smoke detectors. Usually, from an outward appearance standpoint, an EOLR looks like a small box with five or six wires protruding from it.

Power monitoring takes place through a set of dry, normally closed (NC) contacts inside the EOLR module. These contacts are magnetically linked to a coil (see drawing). This coil is in turn powered by the same 12VDC or 24VDC that operates the smoke detector(s).

Here is how it works. As long as power is provided to the last 4-wire smoke detector, the coil within the EOLR will remain energized. This will keep the NC contacts in their closed position, thus maintaining the integrity of the circuit. As long as this state of affairs continues, the fire alarm panel will continue to "see" the end-of-line (EOL) resistor.



## Where can you purchase codes and standard referenced in the British Columbia Fire Code Regulations.

### **Annex BookStore**

#### **Canadian Association of Fire Chiefs**

105 Donly Drive South, PO Box 530  
Simcoe, ON N3Y 4N5  
Tel: +1 877 267-3473  
Fax: +1 877 624-1940  
E-mail: bookstore@annexweb.com

### **Fire Safety Canada**

100 Strowger Blvd  
Brockville, ON, K6V 5W7 Canada  
Tel: 866-379-6668  
E-mail: peter.townshend@firesafetycouncil.com

### **NFPA**

#### **CUSTOMER SALES**

custserv@nfpa.org  
800-344-3555 Toll Free  
617-770-3000 Int'l  
8:30 am - 7:00pm (EST)  
Monday - Friday

### **BCIT Bookstore 604-432-8379**

- |                 |  |
|-----------------|--|
| <b>NFPA 10</b>  | Standard for Portable Fire Extinguishers   |
| <b>NFPA 13</b>  | Standard for the Installation of Sprinkler Systems   |
| <b>NFPA 20</b>  | Standard for the Installation of Stationary Pumps for Fire Protection                        |
| <b>NFPA 25</b>  | Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems |
| <b>NFPA 90A</b> | Standard for the Installation of Air-Conditioning and Ventilating Systems                    |

<http://www.sarec.ca/books/nfpa.htm>

### **Alberta Fire Chiefs Association**

#### **The AFCA Bookstore**

5008 142 St Nw, Edmonton, AB, Canada  
Phone: (780) 437-0982

[http://www.afca.ab.ca/index.php?option=com\\_virtuemart&Itemid=8](http://www.afca.ab.ca/index.php?option=com_virtuemart&Itemid=8)

### **Canadian Fire Alarm Association**

#### **CFAA Publications**

1-800-529-0552

<http://www.cfaa.ca/AN-EFFECTIVE-FIRE-ALARM-SYSTEM-SAVES-LIVES.html>

### **Canadian Standards Association**

#### **CSA Standards**

Vancouver

General Queries - (604) 273-4581

Standard Sales & Seminars - (604) 244-6652

1-800-463-6727

Fax: (604) 244-6508

13799 Commerce Parkway

Richmond, British Columbia

<http://www.shopcsa.ca/onlinestore/?gclid=CN-ppvWRmJwCFSMSagodiUFadQ>

### **Underwriters Laboratories of Canada**

#### **CAN/ULC Standards**

#### **Vancouver Engineering Laboratory**

130 - 13775 Commerce Parkway

Richmond BC V6V 2V4

Tel: 604-214-9555 or 1-866-937-3852

Fax: 604-214-9550

[http://www.ulc.ca/ABOUT\\_ULC/Order\\_STANDARDS.asp](http://www.ulc.ca/ABOUT_ULC/Order_STANDARDS.asp)

## **Application for Certification – Notification Process**

Applications for certification are presented at the Fire Protection Certification Board (FPCB) meetings. The FPCB meets five or six times a year; usually in January, March/April, June/July, September, November/December. Applications usually take a minimum three months to process. All outstanding information must be received at least two weeks before the scheduled meeting to give the Reviewer time to evaluate the file.

## Fire Protection Certification Board Members – February, 2009

### Stuart Affleck

**Monty Armstrong, RFPT**  
Fire Inspector  
DNV/Fire and Rescue Services

**Robert Barrett, RFPT**  
VICE-CHAIR  
Bartec Fire Safety Systems Ltd.

**Rick Critchlow**  
Manager, Fire Protection Services  
City of Vancouver Fire & Rescue Services

**John Harder, RFPT**  
Cummins Western Canada

**Claude Larabie, RFPT**

**Dale Maranda, RFPT**  
CHAIR  
Metro Fire Prevention Ltd.

**Jeff Martin, RFPT**  
Elite Fire Protection Ltd.

**Wayne McLeod**  
SEMS  
Consulting Services  
Fire Protection Safety & Emergency Planning

**Brett Morris**  
Assistant Fire Chief – District of Maple Ridge  
Fire Prevention Officer

**Paul Morrison, ASCT**  
Associate Dean - BCIT

**Brian Stegavig**  
Manager, Fire Protection Registrations

**Costa Vlachias, ASCT, RFPT**  
Contec Fire and Safety Ltd.

**Stephen Watt**  
Office of the Fire Commissioner  
Codes and Standards Coordinator

**Marv Woolley, ASCT**



## Number of technicians that are currently certified in a discipline

### Full Certification

AL	CO	EM	EX	GS	SM	SP	WA	VI
344	43	341	431	56	37	115	294	0

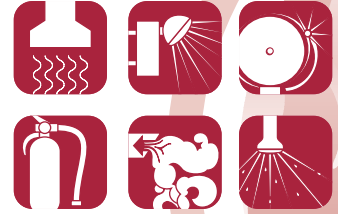
### Interim Certification

AL	CO	EM	EX	GS	SM	SP	WA
16	1	18	15	5	5	3	6

**The total number of Fire Protection Technicians = 717**

# TECHNICIAN'S WORKSHOP SURVEY

graphic(s) to suit



1. As a technician, are you interested in attending workshops?

Yes \_\_\_\_\_ No \_\_\_\_\_

2. If you are interested in work shops, would you prefer to attend:

Week day \_\_\_\_\_ Evenings \_\_\_\_\_ Weekends \_\_\_\_\_

3. What do you consider a resemble time frame for a workshop?

4 hours \_\_\_\_\_ 8 hours \_\_\_\_\_

4. Are there any subjects you would like to see covered in workshops?

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### Your input is appreciated.

As stated in the last SUPPRESS Newsletter, the Fire Protection Certification Board would like to hear from you. We need your input to improve and assist you in your work. We would appreciate hearing from you about concerns and/or complaints. If we don't hear from you, the assumption is that every thing is fine and that you are satisfied with the way the program is going.

We will reply to your emails promptly. Emails of general interest may be published in the next SUPPRESS Newsletter, with the author's permission.