CANADIAN FIRE SAFETY ASSOCIATION

CFSA NEWS

Fire Safety is Everybody's Business

WINTER 2013

Mass

Notification Systems

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CFSA NEWS
CANADIAN FIRE SAFETY ASSOCIATION
Fire Safety is Everybody's Business
WINTER 2013

Inside This Issue

Editor: Lesley-Anne Coleman
The CFSA News Magazine is published 4 times per year: Winter, Spring, Summer and Fall.

Advertising Rates
Membership has its benefits, and advertising is a key advantage to getting your company and product information out to other members in the industry. The CFSA has decided to make advertising in the CFSA Newsletter a definite advantage for members. Pricing has been revised to include the following rates:

	Member Rate	Non-Member Rate
Back Cover	$250	$750
Full Page	$200	$600
1/2 Page	$100	$300
1/4 Page	$50	$150
Business Cards	$25	$75

Prices listed are for each issue and do not include HST. Corporate members receive a 10% discount.

For more information regarding advertising in the CFSA News please contact Mary Lou Murray at (416) 492-9417 or maryloum@taylorenterprises.com.

All general inquiries and advertising materials should be directed to the CFSA Office. We welcome your comments, suggestions and articles. To submit information, please contact us at maryloum@taylorenterprises.com attention of The Editor

Views of the authors expressed in any articles are not necessarily the views of the Canadian Fire Safety Association. Also, the advertisements are paid advertising and in no way recognized as sponsored by the CFSA.

CFSA Chapters
Interested in forming a new chapter?
Call CFSA at (416) 492-9417

President's Message

We are nearing the beginning of spring and I don't know about you, but I am personally looking forward to the eventual "big thaw".

Preparations are well under way for the CFSA 2013 Annual General Meeting and Education Forum; a reminder to keep April 3, 2013, open on your calendar for this important event. This year's Annual Education Forum is entitled "Vulnerable Occupancies" and consists of an array of topics and speakers from across the fire and life safety industry, expertly assembled by our Annual Education Forum chair, Susan Clarke. Registration information can be found in this edition of the CFSA News as well as online at www.canadianfiresafety.com.

The Technical Session and Training & Partnerships Committees have done an excellent job so far this year in coordinating a variety of presentations on a diverse range of fire safety issues. These have included:

- a review of NFPA 13 changes,
- an overview of the Orillia Student Housing recent court case, and
- a practical approach to compliance with OFC Part 4.

Future events will address such topics as elevators and fire alarm systems, explosion protection, and a workshop on inspections of fire alarm systems.

The CFSA continues to promote a fire safe environment in Canada by disseminating fire and life safety information to our members and the community. Thank you to all the members whose active participation in the fire and life safety industry allows us to succeed at this objective.

There are currently some vacant positions on the CFSA Board of Directors. If you would like to become more active in the CFSA please contact myself or any member of the CFSA executive for further information.

I look forward to seeing you at the Annual Education Forum.

Matteo Gilfillan, B.A.S., C.E.T., CFPS
CFSA President

New Members

Corporate Member

Electrical Safety Authority

Individual Members

Dianne Elgie, H.H. Angus & Associates
Fred Muldowney-Brooks, Northbridge Financial
Saskia Holditch, Pelham Fire Dept.

Mark your Calendars

April 3, 2013
CFSA Annual Education Forum

June 10-13, 2013
NFPA Conference & Expo,
McCormick Place Convention Center
Chicago, IL

October 23-24, 2013
Security Canada Central
Toronto Congress Centre
Toronto, ON

December 4-6, 2013
Construct Canada
Metro Toronto Convention Centre, South Building
Toronto, ON

Recent Past Events

Feb 6, 2013
Changes to NFPA 13, 2013 Edition

Feb 20, 2013
Hilda House Student Resident
Orillia, ON

March 4, 2013
Construction Specifications Canada No Frills Show
Metro Toronto Convention Centre
Constitution Hall, North Building
Toronto, ON

March 6, 2013
"A Practical Approach to Compliance with the Fire Code, Div. B, Part 4 Flammable and Combustible Liquids."

Please visit www.canadianfiresafety.com for updates to all upcoming events.

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Record Number of Ontario Fire Departments Participate in "12 Days of Holiday Fire Safety" Campaign

Article provided by Patrick Folliott, Kidde Canada Marketing/Safe At Home

In mid-December, the Fire Marshal's Public Fire Safety Council launched its second annual "***12 Days of Holiday Fire Safety***" campaign to help prevent fire and carbon monoxide tragedies at a time when people tend to let their guard down.

The kick-off event, held at the Toronto Fire Academy, attracted strong media attention with 11 TV cameras and over 20 journalists attending. The agenda included a live burn to demonstrate the right and wrong ways to combat a stovetop grease fire.

"Our team of investigators knows too well the deadly consequences of fire safety fundamentals left unattended," said Ted Wieclawek, Ontario Fire Marshal and Chair of the Fire Marshal's Public Fire Safety Council. "Our 12 Days of Holiday Fire Safety campaign focuses on one dozen that we know can have the biggest impact on reducing devastating fires and carbon monoxide exposures."

Fire Marshal's Holiday Wish

The Fire Marshal called upon fire departments and communities across Ontario to support his Holiday Wish for "the most fire-safe December on record." The Council's goal was to engage at least 100 fire departments and their surrounding communities in the campaign, to get the public to join in the program. That goal was shattered, with 275 fire departments signing on to participate.

The 12 Days of Holiday Fire Safety offered simple tips ranging from replacing smoke alarms every 10 years to keeping space heaters at least one metre away from anything that can burn. The public was encouraged to review the tips at www.safeathome.ca and put the essential safeguards in place at home.

"Fire tragedies have declined in 2012 in this province - 25 fewer deaths so far this year," said Wieclawek. "While fire can happen anywhere at any time, it most often strikes when people let their guard down - when individuals are distracted by the hustle and bustle of the holidays, by the telephone, by the kids or by deliveries to the front door. All it takes is for a pot to be left on the stove, or a candle left burning unattended, and a family's holiday celebrations can turn tragic."

12 Days of Holiday Safety Tips

Homeowners were urged to follow these 12 Days of Holiday Fire Safety tips:

1. Water fresh trees daily. Keep the base of the trunk in water at all times.
2. Check all sets of lights before decorating. Discard any sets that are frayed or damaged.
3. Make sure you have working smoke alarms. Remember, they wear out, so replace them every 10 years.
4. Make sure you have working carbon monoxide alarms. Remember, they wear out, so replace them every 7-10 years depending on the manufacturer.
5. Make sure everyone knows how to get out safely if a fire occurs. Develop and practice a home fire escape plan.
6. Use extension cords wisely. Extension cords should be used only as a temporary connection.
7. Give space heaters space. Keep them at least one metre away from anything that can burn.
8. When you go out, blow out! Remember to always blow out candles before leaving the room.
9. Keep matches and lighters out of the sight and reach of children. Matches and lighters can be deadly in the hands of children.
10. Watch what you heat! Always stay in the kitchen when cooking.
11. Encourage smokers to smoke outside. Careless smoking is the leading cause of fatal fires.
12. There's more to responsible drinking than taking a cab home. Alcohol is all too often a common factor in many fatal fires.

Hardwired Alarms Must Also Be Replaced

Carol Heller, a home safety expert with Kidde Canada, a long-time partner to the Fire Marshal's Public Fire Safety Council said, "As another year draws to a close, we need to be mindful that smoke alarms and carbon monoxide alarms do not last forever. One of the most persistent issues we see is that homeowners continue to be unaware that smoke alarms need to be replaced every 10 years, and carbon monoxide alarms, every 7-10 years, whether battery operated or hardwired."

THE FIRE MARSHAL'S PUBLIC FIRE SAFETY COUNCIL was established in 1993 to promote fire prevention and public education through partnerships with various groups and individuals with an interest in public safety. The Council also provides opportunities for members to participate in shaping the direction of fire safety strategies across the province by enabling them to have input on fire safety initiatives and share ideas, information and resources toward the common goal of improved fire safety.

Call for Nominations for the Canadian Fire Safety Association

CANADIAN FIRE SAFETY ASSOCIATION
ASSOCIATION CANADIENNE DE SÉCURITIÉ INCENDIE
2175 Sheppard Avenue East, Suite 310, Toronto, Ontario M2J 1W8
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The Canadian Fire Safety Association provides many benefits and services to their members. Serving on the Board of Directors is an excellent way to give something back to the Association while reaping the rewards of greater involvement. The CFSA Nominating Committee invites interested parties to put their name forward for nomination to the Board of Directors.

Directors hold office for a one-year term from the closing of the Annual General Meeting until the next Annual General Meeting.

Nominees must be members in good standing of the Canadian Fire Safety Association, and must be nominated by a member in good standing of the Canadian Fire Safety Association. The Nominating Committee Chair will contact all nominees to confirm that he/she consents to putting his/her name forward to serve as a Director of the Association. Nominations must be received no later than Friday, March 22, 2013. A 1-page resume indicating relevant fire safety experience would be appreciated. Nominations may be sent to Susan.clarke@ontario.ca.

Nomination Form

I, _____, being a member in good standing of the CFSA, am pleased to put my name forward to serve on the CFSA Board of Directors.

_____ **Nominee**

_____ **Nominator**

Nominations must be received no later than Friday, March 22, 2013.

Please return to:
Nominating Committee
Canadian Fire Safety Association
2175 Sheppard Avenue,East, Suite 310
Toronto, ON M2J 1W8
Telephone: (416) 492-9417
Fax: (416) 491-1670

ULC STANDARDS UPDATE: ON CAN/ULC-S576, Mass Notification Systems

February 27, 2013

A Working Group was formed to develop CAN/ULC-S576, Mass Notification Systems under the purview of S500F, ULC COMMITTEE ON FIRE ALARM AND LIFE SAFETY EQUIPMENT AND SYSTEMS.

The CAN/ULC-S576 standard is based on the published UL 2572, Mass Notifications standard. The requirements in the ULC standard have been aligned to the UL 2572 document to the best extent possible. Development on the Canadian standard began January 2012.

The document has completed the pre-ballot review stage and is currently under the comment resolution phase with the ULC-S576 Mass Notifications Working Group. Members of the working group include Manufacturers, Regulators, and Users of the standard. The next stage will be the Technical Committee Letter Ballot and public review by S500F.

Underwriters Laboratories Inc.®

This standard covers discrete electrical control units, communication units, transport circuit products which manipulate the data packets, interfaces, and accessories for mass notification systems. The target publication date for CAN/ULC-S576 is Q4 2013. A complimentary standard is also currently under development, CAN/ULC-S573, Installation of Ancillary Devices, which is proposed to cover installation of Mass Notification Standards.

Should anyone be interested in participating in standards development, please feel free to contact Valara Davis at: Valara.Davis@ul.com.

The "Secret Sauce" in Mass Notification Systems

Taken from the Article by Jason Falbo, P.Eng, M.B.A for FSAI India.

Abstract

This article aims to give insight into why your mass notification system should be UL 2572 approved and what distinguishes a UL 2572 approved mass notification system from all the rest. The article begins with a historical perspective on the evolution of Fire Alarm Control Panels and Detection Systems and the various notification platforms that have evolved over time. The article also discusses where technology will be taking systems in the future and parallels the development of fire alarm/mass notification systems with that of the modern internet. Finally, a survey of the applicable mass notification codes and standards, main system features and characteristics, typical applications and a few notes on maintenance, extendibility, and testability are discussed.

Historical

Fire Alarm Systems with Bells

In the beginning, fire alarm systems used simple principles to notify occupants of a specific event such as the activation of a sensor or manual station in a facility. Early control panels were mainly used as an electronic replacement for "fire watch" personnel. During the fire watch, guards would walk around facilities monitoring for fires; if something was amiss, they would literally pull out their cowbell and run up and down the corridors alerting people to the danger. The foundation of the early electronic control panels was the relay logic that would tie through wiring a current sensing input to a bell circuit for global notification.

Fire Alarm Systems with Speakers and Tones

Speaker based emergency audio annunciation has been steadily growing in use over the last 40 years. This has come mainly from the need to provide live voice instructions to tenants in buildings, especially for high-rise units where the uncontrolled evacuation of people could be more dangerous than most of the events at the source of the alarm initiation. At the time they were introduced for Fire-Alarm use, speakers also had several technical advantages over bells such as higher reliability and lower current consumption. Since then, piezo horns have filled the gap but speakers still have the advantage of reproducing live or pre-recorded voice messages.

Fire Alarm Systems with 1-way Audio (Live Paging)

Fire-alarm voice evacuation systems grew evolved from simple paging systems and they adopted similar characteristics: In the US, systems using a 25VRMS distribution voltage were popular but 70.7VRMS was also used, and the latter was mostly standard in Canada. Great-Britain in contrast favored 100VRMS. As with power distribution systems, higher voltages limited losses in distribution wiring but voltages higher than 25VRMS did raise some safety concerns.

Speakers have low impedance: It is mostly lower than 16 Ohms for power units, with 8 Ohms being the most common. A power range of ¼ to 2 Watts is sufficient to produce high level alarm tones in most conditions. As a result, the required excitation voltage for low impedance speakers is way lower than even the minimum 25VRMS in use. This mandates the use of a transformer on each speaker to provide a low loss voltage conversion. In addition, transformers can be fitted with "taps" meaning that the lowered voltage may be adjusted on site to provide the most useful speaker power output.

With the proliferation of speaker circuits throughout a facility, integrated paging from the fire alarm control panels including the ability to play live and pre-recorded

Continued on Next Page

messages, "Voice Evac "systems were becoming essential components of the of the Life Safety installations beginning in the early-mid 1980s.

Fire Alarm Systems with 2-way Audio (Telephony)

As computing power increased in step with major developments in integrated circuit (IC) technology, more advanced microprocessors and even digital signal processors (DSP) were frequently being introduced as core architecture components in the fire alarm systems. The introduction of the DSP gave way to advanced telephony operations that allowed for both offsite communications to central monitoring stations, and two-way conversations within a protected facility. In many types of emergencies such as electrical fires or when building power was degraded, traditional communications means such as telephone would not be operational, and only the dedicated battery backed up operation of the firefighters' phone system isolated in its 2-hour fire rated cable jackets could be relied upon to communicate both to and from a central command center.

Fire Alarm Systems with integrated Mass Notification

In the late 1990s and especially in the early 2000s after the terrorist attacks in the world trade center in New York City, system designers began to focus on improved emergency notification options to satisfy life safety concerns.

Fire alarm systems often work with worst case scenarios. This is different form many other systems where peak performance criteria, aesthetics, and/or cost efficiencies may often be the top-priority design goal. Therefore, there is much research on how the systems should be designed to maximize protection of people and property in an emergency. The first priority for an audio notification solution is to ensure that people asleep in their bed during an emergency will be awakened by the tones/outputs of the system. Thus, a minimum level of 85dB is usually judged sufficient for any tones or messages coming out of a fire alarm system. The minimum output level varies and is dependent on the ambient noise level in an environment. At the same time, tones that are too loud may damage hearing of people. Therefore, a skilled designer should be employed to design an appropriate solution for every facility.

At installation time, speaker power is measured and adjusted with the "taps" mentioned above to provide an acceptable compromise. The ability for the minimum sound level to be achieved is a combination of choosing the right equipment and designing the speaker/zone layout effectively to ensure that when measured with a sound pressure level meter from any point in the protected facility the minimum threshold is achieved. Audibility however is just the beginning. Finally, NFPA and other code authorities have been taking action to ensure that not only are the systems loud enough to be heard, but also that pre-recorded and live messages that are played over the system are ***intelligible***.

A note on Intelligibility in Mass Notification Systems

Intelligibility is an industry hot topic that has been garnering a lot of attention in recent years as new tools are introduced to both assist with the design of the voice systems and to properly test the output throughout facilities. Intelligibility codes and standards are being driven by the recent changes proposed in NFPA 72® 2010, The U.S. based National Fire Alarm Code.

There are many factors that affect the intelligibility in voice evacuation design, including: the factors of reverberation for the various materials and furnishings of a facility; speaker properties such as sensitivity, power output, and coverage, but most importantly, intelligibility is affected by the layout of the speaker matrix in a facility.

A recent report titled "Intelligibility of Fire Alarm & Emergency Communication Systems" prepared by Casey C. Grant, P.E. for the Fire Protection Research Foundation found some striking deficiencies in most modern voice evacuation systems including the following:

- There currently exists no standardized test protocol to which application designers and manufacturers are consistently validating their designs with and therefore true intelligibility cannot be guaranteed for most installations.
- The Speech Transmission Index (STI) and Speech Transmission Index for Public Address (STIPA) metrics are not well understood and very rarely used for most designs.
- Even when metrics such as STI or STIPA are applied and field testing proves an application design is poor, action is rarely taken to combat the main irritants to intelligibility including Signal-to-Noise (S/N) ratio, Distortion of amplifier equipment and Decay properties of the environment (echoes, reverberation, etc…)

It is clear then that our industry needs to focus on ensuring that not only are voice evacuation systems loud enough to bring awareness to the situation at hand, but more development must take place to ensure that messaging is intelligible enough to be useful for occupants and emergency response teams. Additionally, more investment must be made in the early stages of a project to design system properly such that problems that may be too costly to overcome at the end of a project when the budget is usually expired don't get brushed aside for "the next time". It is much easier and less costly to correct a problem in the design phase than it is to correct during the commissioning phase.

....to be continued next edition (Part 2 of 3)

File: ULC Subject C100
ULC-G.5.2
CCF7
S500F/SC2

January 10, 2013

CERTIFICATION BULLETIN 2013-01

Second Edition – ULC/ORD-C100-12 – Smoke Control System Equipment

To: Members of the ULC Advisory Committee
Members of the Canadian Council of Fire Marshals and Fire Commissioners
Members of the ULC Standard Subcommittee on Control Units
Subscribers to ULC's Certification Service for UUKLC, UUKL7, UUKL8 and Other Interested Parties

ULC is pleased to announce the publication of the Second Edition - ULC/ORD-C100-12 – Smoke Control Systems Equipment. ULC/ORD-C100-12 specifies requirements cover the design, construction and performance of Smoke Control System Equipment, including such devices as the system control unit, remote control units, operator interface devices and firefighter's smoke control. This Second Edition is a revised version with updates as the content of the First Edition was partially incorporated into CAN/ULC-S527-11.

The Scope of ULC/ORD-C100-12 provides the requirements that cover the design, construction and performance of Smoke Control System Equipment, including such devices as the system control unit, remote control units, operator interface devices and firefighter's smoke control stations

These requirements for Smoke Control Systems Equipment are effective immediately. All submittals for Smoke Control Systems Equipment will be investigated to the requirements in ULC/ORD-C100-12.

This ORD can be ordered for $165.00 CAN (PDF) or $198.00 CAN (Hardcopy) from the ULC Standards website at www.ulc.ca and then click on purchase ULC Standards Material.

This Certification Bulletin may be forwarded to others who may have an interest in the publication of this document.

Any questions concerning the above should be directed to Mr. Gunsimar Paintal at 416-288-2217 or by e-mail at: Gunsimar.Paintal@ul.com.

Sincerely,

Underwriters Laboratories of Canada Inc.

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ULC Mark Program Owner

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Technical Changes to the 2013 Edition of NFPA 13, the Standard for the Installation of Sprinkler Systems

Larry Keeping, P.Eng, Senior Technical Specialist, Professional Loss Control

On Wednesday, February 6, 2013, I had the pleasure of speaking at a Breakfast Meeting at the Delta Markham Hotel, on the subject of the Technical Changes to the 2013 Edition of NFPA 13, the Standard for the Installation of Sprinkler Systems. The following is a brief summary of the more significant items spoken about:

Chapter 3 – Definitions

- The definition of a "Sprinkler System" was adjusted to help clarify that each system riser serving a portion of a single floor of a facility or where individual floor control valves are used in a multistory building should be considered a separate sprinkler system.
- New definitions of "Continuous Obstructions" and "Noncontinuous Obstructions" were added to help users work with the obstruction rules.
- A new definition for "Premixed Antifreeze Solution" was added, because with the new requirements for antifreeze systems, the solutions must be provided by a manufacturer using with a quality control procedure to insure that the correct concentration is provided and that the that the antifreeze solution remains homogeneous.

Chapter 4 – General Requirements

- Guidance was added concerning the use of reclaimed or recycled water.
- It was clarified that where air is used to charge, maintain, or supervise sprinkler systems, nitrogen or other approved gases mayl also be permitted to be used.
- The concept that non-system components cannot be supported from sprinkler systems was actually put into print for the first time.

Chapter 5 – Classification of Occupancies and Commodities

- For Group A plastic commodities, text was added to specify that If a cartoned commodity is more than 40 percent by volume expanded plastic then it must be protected as a cartoned expanded plastic and if exposed commodities containing greater than 25 percent by volume expanded plastic then it must be protected as an exposed expanded plastic.

Chapter 6 – System Components and Hardware

- Because of compatibility concerns the listing instructions for new materials are required to identify which components and fluids they are compatible with. When nonmetallic pipe is used in combination systems utilizing steel pipe, cutting oils and lubricants used for fabrication of the steel piping must be compatible with the nonmetallic pipe materials.
- Text was added to specify that if a sprinkler is been removed for any reason, it must not be reinstalled. Only new sprinklers may be installed.
- Text was added to clarify that it is not permitted to use of caulking or glue to seal the penetration or to affix the components of a recessed escutcheon or concealed cover plate.
- Text was added to allow underground pipe (including non-metallic pipe) to extend into the building through the slab or wall not more than 24 in.
- Pipe, fittings and valves by different manufacturers may be joined with couplings that conform with or are listed in compliance with "standardized" groove specifications.
- Text was added to allow the use of brass pipe and bronze fittings.

Chapter 7 – System Requirements

- Sprinkler system pressure gauges are no longer required to be listed. Now they only need to be approved (ie. acceptable to the authority having jurisdiction).
- It was clarified that all dry pipe systems protecting dwelling units must be able to deliver water to the system test connection within 15 seconds or less,
- The installation requirements for subdividing dry pipe systems with check valves was clarified.
- Text was added permit an additional control valve to be installed in the riser assembly, above a preaction or deluge valve, to permit full function trip testing without allowing water to enter the system piping beyond.
- Antifreeze solutions must now be listed and a placard must be installed at the antifreeze system to identify the manufacturer, the type and brand of the antifreeze solution, the concentration by volume of the antifreeze solution, and the total volume of the antifreeze solution used in the system.
- Additives to the water supply and internal pipe coatings for the control of microbiological or other corrosion must be listed for use within sprinkler systems.

Chapter 8 – Installation Requirements

- Clarification was provided that sprinklers are not required within electrical equipment, mechanical equipment, or air handling units.
- The table for sprinkler temperature ratings in specified locations was revised to require intermediate temperature rate sprinklers in all attics, whether they are ventilated or not. Ordinary-temperature sprinklers are no longer to be used in ventilated attic spaces.
- The concept that sprinklers must be minimum K-5.6, except under special circumstances, has now been actually put into print for the first time.

Continued on Next Page

- The text was revised to clarify that when residential sprinklers are used in a compartment, all of the sprinklers in that compartment must also be residential.
- Clarification was added that extended coverage sidewall sprinklers may only be installed under sloping ceilings with a slope rate greater than 4 on 12 if they are listed for such use.
- Clarification was added that extended coverage sprinklers may only be installed under obstructed construction consisting of solid structural members when sprinklers are installed in each bay and the members extend below the deflector of the sprinkler deflectors.
- ESFR sprinklers may now be used above solid shelf racks, but only if the racks are also protected with in-rack sprinklers.
- Text was added to explain that ESFR sprinklers cannot protect open top containers.
- Text was added to explain that ESFR and quick response CMSA sprinklers can also protect light hazard and ordinary hazard occupancies. Standard response CMSA sprinklers can also protect ordinary hazard occupancies.
- Tables were added to specify the minimum barrel length of dry sprinklers on wet pipe systems, to avoid freezing of the water-filled pipes due to conduction along the barrel.
- A new rule was added to allow closets up to 400 ft^3 to be protected by a single sprinkler at the highest ceiling space without regard to obstructions or the minimum distance to the wall.
- A new rule was added to allow standard sprinkler spacing, instead of the special requirements for sprinklers under a roof or ceiling in combustible concealed spaces of wood joist or wood truss construction with members less than 3 ft (0.91 m) on center and a slope having a pitch of 4 in 12 or greater, if the exposed combustible sheathing in the roof or ceiling space are constructed of pressure impregnated fire-retardant treated wood as defined by NFPA 703.
- A new rule was added to allow sprinklers at the ceiling to protect under obstructions at the wall, up to 24 in. wide, without requiring additional sprinklers below the obstructions.
- A new rule was added to clarify that the “beam rule” must be followed for solid continuous obstructions, where the top of the obstruction is even with or above the plane of the sprinkler deflectors.
- The exceptions that allow library book stacks and medical records on shelves along the wall above the 18 in. deflector clearance distance were extended to allow other types of storage on the shelves, as long as the sprinklers are not also above the shelves.
- The requirements for baffles between sprinklers were revised. They no longer must be noncombustible, all they need to be of solid and rigid material that will stay in place before and during sprinkler operation.
- The obstruction rules for sidewall sprinklers will now allow obstructions on the opposite wall up to 2 ft high and 2 ft deep.
- The rules for CMSA sprinklers and obstructed construction were extended, to allow them to be installed below solid obstructed noncombustible or solid obstructed limited combustible construction, rather than just for wood joist and composite wood joist.
- Based on FM Global findings, the obstruction rules for CMSA sprinklers were revised. Now they can be installed directly onto pipe up to 4 in. in size, or be supplied from a sprig 12 in. from the centreline, for any pipe over 4 in. diameter.
- The text was changed to allow ESFR sprinklers to be offset to ovoid other structural elements such as wind bracing, instead of just for trusses and bar joist.
- Because testing at FM Global has demonstrated that upright ESFR sprinklers are less susceptible to obstructions than the pendant variety are, an exception was added to allow them to be installed over the bottom chords of bar joists or open trusses that are 4 in. maximum in width.
- When filling a combustible concealed space with insulation to avoid having to install sprinklers, the space no longer has to be filled entirely. Now a 2 in. air gap at the top of the space is permitted.
- Horizontal combustible concealed spaces with bar joist construction is now required to be protected with specially listed concealed space sprinklers, in lieu of the standard spray sprinklers, which were previously allowed.
- The rules for where sprinklers are too be installed in combustible stair shafts and under the landings were clarified.
- For noncombustible stair shafts, an exception was added to allow omission of sprinklers below the lowest landing, when the space under the stairs at the bottom, is blocked off so that storage cannot occur.
- Sprinklers may now be omitted from elevator machine rooms, when the rooms are dedicated to elevator equipment only, the rooms are protected by automatic fire detection, fire resistance ratings of the rooms comply with the applicable building code, no materials are stored within and the elevator machinery is not of the hydraulic type.
- The rule for sprinklers in bathrooms was revised. Under certain conditions they may be omitted from bathrooms in hotels and motels, but they must be now installed in all bathrooms in other occupancies.
- An exception was added to allow sprinklers to be omitted from small closets in hospital rooms. They will still be required in nursing homes and other care facilities however.
- Text was added to acknowledge that a listed backflow assembly can serve as a control valve (ie. In the system riser), so an additional control valve will not be required.

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- A new requirement was added that calls for valve stations to be installed on each floor in buildings that are more than 2 stories high.
- Where sprinklers are installed in racks, and separate indicating control valves and drains are provided and arranged so that ceiling and in-rack sprinklers can be controlled ndependently, the racks and the adjacent aisles must occupy no more than 8000 ft^2.
- When the size of a dry-pipe or double interlock preaction system is to be verified by testing, details concerning test manifolds for 1, 2 or 3 sprinklers were added
- To allow for flexibility and local requirements, the spacing for first aid fire hose stations fed from sprinkler systems will be allowed to exceed the standard requirement of 100 ft of hose plus 30 ft of hose stream distance, with the permission of the authorities having jurisdiction.

Chapter 9 – Hanging, Bracing and Restraint of System Piping

- Requirements were added for the construction of shared support structures (pipe racks).
- The tables for trapeze hangers were expanded to address spans up to 16 ft long.
- An exception was added so that mains that have welded or mechanical outlets no longer require a hanger between each pair of branch lines.
- Clarifications were added for when branch lines or mains are offset. Short sections of pipe will not require a hanger. The sections of pipe are considered adequately supported by the hangers on the adjacent pipe sections, when the overall distance between hangers does not exceed the maximum allowable spacing.
- When seismic protection is needed, a new rule was added to put a practical limit on how long a riser nipple can be. When it becomes too long, longitudinal bracing becomes necessary.
- A new requirement was added for where seismic protection is provided. When concrete anchors are used to secure hangers to the building structure, the anchors must be seismically qualified.

Chapter 10 – Underground Piping

- To clarify the rule about not running underground pipe below buildings, text was added to allow the fire mains to enter the building within 10 ft of the outside edge of the structure.
- To protect underground piping when it enters a building, a rule was added that it must be run at least 12 in. below the bottom of the foundations.
- A new section was added to the Contractor's Material and Test Certificate for Underground Piping, for recording the forward flow testing of backflow preventers.

Chapter 11 – Design Approaches

- To co-ordinate with a provision in Chapter 12, new text was added to clarify that a more demanding criteria does not need to be extended into an adjacent area, if the adjacent area has a ceiling height that is at least 2 ft lower.
- Based on the results of recent testing, sprinklered buildings with high volume low speed (HVLS) fans must have fan blades no more than 24 ft in diameter, the fans must be centred between four sprinklers, clearances of at least 3 ft from the sprinkler deflectors are required, and the fans must be interlocked to shut off when the sprinkler system waterflow switch actuates.
- Because the previous requirement for a 3000 ft^2 design area for residential sprinklers in buildings with unsprinklered combustible concealed spaces has been causing significant problems, due to dramatic increases in costs, it was revised to only require 8 sprinklers in the design area, based on the good experience that has been found with residential sprinklers over the last 30 years.

Chapter 12 – General Requirements for Storage

- Some changes were needed for the directions for when clearance to storage exceeds 10 ft, because as in the 2010 edition, when some of the guidelines were followed, no increase in the level of protection was achieved.
- It was necessary to delete the provisions for using K-14.0 ESRF sprinklers for ceiling only applications in 40 ft high buildings. Recent fire test data has been found that justifies a restriction for these sprinklers to a maximum building height of 35 ft.
- To correlate with the 3000 ft^2 maximum area for wet systems, densities and areas will now be selected so that the final area of operation for dry pipe and preaction systems, after the 30% increase, will not be greater than 3900 ft^2.
- To avoid having densities in storage areas becoming less than that for ordinary hazard, new text was added to prescribe that the minimum design density for any sprinkler system installed in a storage occupancy must be no less than 0.15 ft^2, after all adjustments are made.
- Hose stream allowances and water supply durations for storage applications were standardized, based on the size of the demand area or the number of sprinklers expected to open during a fire event.

Chapter 13 – Miscellaneous Storage

- To align with other provisions in the standard, where K-11.2 or larger sprinklers are used with the EH1 or EH2 design curves from Figure 13.2.1, the design area will be allowed to be reduced by 25 percent, but not below 2000 ft^2, regardless of temperature rating.
- Rules and a new table were added, for the spacing of in-rack sprinklers in miscellaneous storage applications.

Continued on Next Page

Chapters 14 to 20 – Chapters for Specific Types of Storage

- Rules were added for encapsulated storage from 15 to 20 ft in height.
- Revisions were made to clarify the horizontal spacing and the discharge criteria for situations where in-rack sprinklers are installed under solid shelves.
- For the protection of Class I to IV commodities that are stored on racks, sections were revised to put the in-rack sprinkler requirements adjacent to the ceiling sprinkler requirements.
- For the protection of plastic and rubber commodities that are stored on racks, Chapter 17 was rewritten to put the in-rack sprinkler requirements in the same sections as the ceiling sprinkler requirements, to add in-rack sprinkler criterion that was missing, as well as to clarify which of the protection scenarios apply to exposed plastics.
- To align with other provisions in the standard, text was added to Chapter 17, to clarify that where multiple-row racks of any height have no longitudinal flue or where double-row racks with storage up 25 ft in height have no longitudinal flue, the situation is not to be considered to be solid shelves where there are transverse flues at maximum 5 ft intervals and additional in-rack sprinklers will not be required.
- For the protection of solid shelf racks, a new provision was added to state that the water demand for in-rack sprinklers is not required to be balanced to the ceiling sprinkler demand, when additional face sprinklers are installed under each solid shelf at the rack uprights and the in-rack sprinklers are calculated to discharge at least 60 gpm from 8 sprinklers.
- For the protection for rack storage of plastics, sections were added to address exposed nonexpanded plastics stored up to 25 ft in height, protected with standard spray sprinklers.
- For rubber tire storage, Table 18.4(d) was modified to also include on-side and on-tread storage configurations, where laced tires are referenced in the piling method.

Chapter 21 – Alternative Sprinkler System Designs for Chapters 12 Through 20

- This new chapter was added to standardize the approach for the development of new storage sprinklers, so that the designs are based on: the number of sprinklers operating at a minimum operating pressure, the characteristics of the sprinkler (K-factor, orientation, RTI, spacing & temperature rating), the actual test results for the conditions the sprinkler was tested to, with a minimum 768 ft^2 design area and a 50% safety factor from test results.

Chapter 22 – Special Occupancy Requirements

- Previously addressed under Chapter 21 of the 2010 edition.
- All extracted dated from other codes and standards updated to the latest editions.
- A new section was added containing sprinkler requirements extracted from NFPA 400, Storage of Organic Peroxide Formulations and for the Storage of Liquid and Solid Oxidizers, to replace the data that was inadvertently dropped from NFPA 13 during the last cycle, when NFPA 430 and NFPA 432 were discontinued in favour of NFPA 400.

Chapter 23 – Plans and Calculations

- Previously addressed under Chapter 22 of the 2010 edition.
- The requirement for a flow test to be conducted within 1 year prior to the submission of working plans, has been a problem in cold climate areas, due to freezing conditions or in other areas, in times of drought. Also, in some areas, environmental laws forbid the discharge of water into the sewers and require that all water be reclaimed. Therefore it was decided to revise the requirement to allow the authority having jurisdiction to accept older data.
- Guidance was added to address how to determine the water demand, for those situations where the area of an occupancy is smaller than the minimum prescribed design area.
- Based on new FM Global findings for ESFR sprinkler designs, it was decided to delete the requirement for adding in the discharge of up to two sprinklers below obstructions into the hydraulic calculations.
- For the hydraulic calculation of antifreeze systems, it was decided to delete the requirement to adjust k-factors for the fluid properties, because the requirement imposed a level off academic purity beyond the precision provided by the overall methodology.
- It was determined that galvanized piping can have similar levels of corrosion as black steel pipe in wet, dry and preaction systems. Therefore it was decided that hydraulic calculations should use the same C-factors for both galvanized and black steel piping.

Chapter 24 – Water Supplies

- Previously addressed under Chapter 23 of the 2010 edition.
- Because some authorities having jurisdiction have been asking that water supplies be based on special calculations based the least remote areas, text was added to clarify that the water supplies only need to be sufficient to satisfy the most remote design areas.
- Text was added to specify that where biocides and corrosion inhibitors are used in a sprinkler system, they must be compatible with the system components. When different chemicals are used together, they must also be compatible with each other.
- A list of the types of acceptable water supplies for sprinkler systems was added.

Continued on Next Page

Chapter 25 – Systems Acceptance

- Previously addressed under Chapter 24 of the 2010 edition.
- A new section was added to the Contractor's Material and Test Certificate for Aboveground Piping, for recording the forward flow testing of backflow preventers.
- The information required on General Information Signs was revised, to include data for the chemical injections systems for the treatment of MIC or other types of corrosion. The type of chemical, the concentration of the chemical, and where information can be found as to the proper disposal of the chemical are now to be shown.

Chapter 26 – Marine Systems

- Previously addressed under Chapter 25 of the 2010 edition

Chapter 27 – System Inspection Testing, and Maintenance

- Previously addressed under Chapter 26 of the 2010 edition.

Please refer to the actual standard for the actual wording of all of the requirements.

CENTENNIAL COLLEGE

Media Release

Centennial College assumes assets of the Canadian Centre for Emergency Preparedness

Toronto, January 23, 2013 — After 20 years as Canada's leading advocate for disaster resilience, the Canadian Centre for Emergency Preparedness (CCEP) is "passing the torch" to a new champion of emergency management and public safety. Effective January 31, CCEP will cease operations and will award its assets to the Emergency Management and Public Safety Institute (EMPSI) of Centennial College.

"CCEP has done what it set out to do," said Sean Tracey, Chair of the CCEP Board of Directors, "and now it's time to hand over the benefits of our collective knowledge, expertise and experiences to an organization that will not only uphold CCEP's heritage and mandate, but also build on our accomplishments for a safer and more resilient Canada."

Through a comprehensive proposal process, the CCEP Legacy Working Group has chosen an organization that has committed to preserving the centre's emergency management and business continuity products, including its unique B-Ready Now software, a web-based business disruption-planning program that has been adopted by emergency planning practitioners across Canada and around the globe to help organize resources in advance of any natural or manmade disaster.

"We are excited by the opportunity to integrate CCEP's body of work and technical knowledge in our own curriculum, while ensuring CCEP's legacy endures and thrives well into the future," says EMPSI Manager Ginette Soulieres. "EMPSI will explore the feasibility of further developing the B-Ready Now software and identifying new business applications and audiences for its use."

Among EMPSI's commitments to CCEP are: to enhance the Canadian Centre for Emergency Preparedness Awardsin conjunction with the World Conference on Disaster Management (WCDM); to establish the Canadian Centre for Emergency Preparedness Scholarship Endowment Fund; and to nurture the Emergency Management Public Safety Institute into a centre of excellence.

Since its inception in 1993, CCEP has been at the forefront of the training and development of emergency management and public safety professionals in Canada, and has increased the public's awareness of the need to be resilient. EMPSI and Centennial College are committed to continuing education through the development of many programs and pathways that include degrees and certificates, professional development and applied research and innovation.

Media Contacts: Ginette Soulieres, Manager, Emergency Management and Public Safety Institute, 416-289-5000 ext. 8373, gsoulieres@centennialcollege.ca

Sean Tracey, Chair, Canadian Centre of Emergency Preparedness, 613-830-9102, stracey@rogers.com

CANADIAN FIRE SAFETY ASSOCIATION
ASSOCIATION CANADIENNE DE SÉCURITIÉ INCENDIE
Annual Education Forum – Wednesday April 3, 2013
"Vulnerable Occupancies"

2175 Sheppard Avenue East, Suite 310, Toronto, Ontario M2J 1W8 Tel: (416) 492-9417 Fax: (416) 491-1670 Website: www.canadianfiresafety.com

Who is this Forum For?

This forum should appeal to property owners/ managers, designers and consultants, and those in the building and fire safety industry.

DOOR PRIZES

Grand Draw at Closing Ceremonies!!!

Where?

Paramount Conference & Event Venue
222 Rowntree Dairy Road, Woodbridge
NE corner of Hwy 407 and Hwy 400

When?

Wed April 3, 2013
7:45 a.m - 4:15 p.m

Early-Bird Discount

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Inquiries

Please contact Mary Lou Murray
maryloum@taylorenterprises.com
416-492-9417

- Sponsorship Opportunities available
- Advance Table Booking
- Donating Door Prizes (*mention in CFSA News*)
- Please advise if special dietary needs

Keynote Speaker: Randal Brown, P.Eng.

Program at a Glance (Tentative)

7:30 a.m. – 8:00 a.m.	***Registration and Breakfast***
7:45 a.m. – 8:00 a.m.	***Annual General Meeting*** Speaker: Matteo Gilfillan, CFSA President
8:00 a.m. – 8:15 a.m.	***Welcome Address***
8:15 a.m. – 8:45 a.m.	Fire Marshal Ted Wieclawek **Technical Advisory Committee: A Model of Integration**
8:45 a.m. – 9:30 a.m.	Keynote Speaker: Randal Brown President, Randal Brown & Assoc. **"Resultant Life Safety Effects of Code Changes"**
9:30 a.m. – 10:15 a.m.	***Ontario Building Code Update*** Speaker: Ministry of Municipal Affairs and Housing
10:15 a.m. – 10:30 a.m.	***Refreshment break & door prizes***
10:30 a.m. – 11:15 a.m.	***Ontario Fire Code Update*** Speaker: Al Suleman, P.Eng., ADFM Technical Services Section Office of the Fire Marshal
11:15 a.m. – 12:00 p.m.	***OFM Guideline: Staffing Levels for the Emergency Evacuation of Residents in Care Occupancies*** Speaker: Kim Bailey, P.Eng. Office of the Fire Marshal

Program at a Glance (cont'd.)

12:00 p.m. – 1:30 p.m. ***LUNCHEON***
Awards
Outdoor Display

1:30 p.m. – 2:30 p.m. ***Fire and Building, Working Together***
Speaker: Tom Ruggle,
Chief Fire Prevention Officer,
Kitchener Fire Department

Speaker: Robert Schipper,
Manager,
Kitchener Building Department

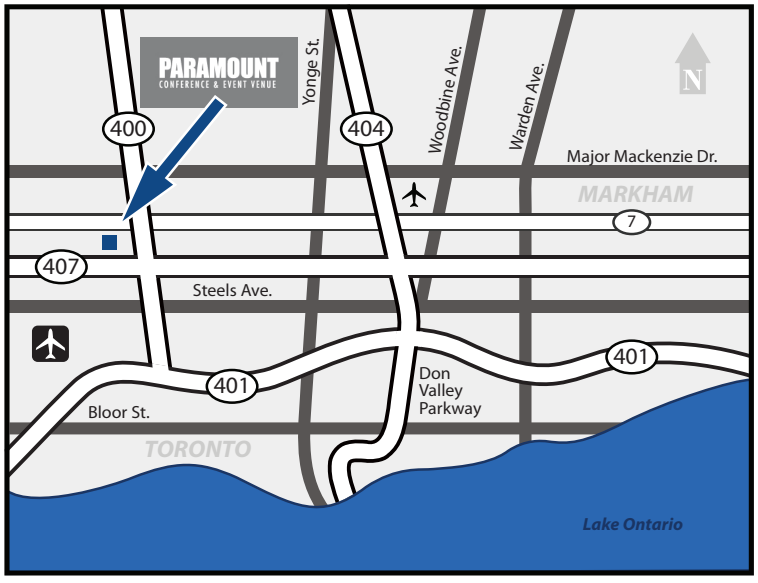
2:30 p.m. – 3:15 p.m. ***Photoluminscent Exit Signage***
Speaker: Lloyd Lawrence,
Thomas & Betts Canada

3:00 p.m. – 3:15 p.m. ***Refreshment break & door prizes***

3:15 p.m. – 4:00 p.m. ***Fire Investigations - Lessons Learned***
Speaker: Chris Williams,
Assistant Deputy Fire Marshal,
Fire Investigation Services,
Office of the Fire Marshal

4:00 p.m. – 4:15 p.m. ***Grand Draw***

This symposium qualifies for professional development towards NFPA/CFPS Recertification. This Symposium also counts for Self-Directed Learning Points under the OAA Continuing Education Program.



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Would you like your confirmation sent by:

☐ Email ☐ Fax ☐ Regular Mail

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Early Bird	$175.00	_____
After February 28, 2013	$200.00	_____
Non-Member Rate		
Early Bird	$225.00	_____
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OTHER OPTIONS		
Sponsor a table for the day (6 seats)	$900.00	_____
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Students	$60.00	_____
HST Registration #12620 8610 RT0001	+ 13% GST	_____

Cancellations will be accepted until March 27, 2013.
After March 27, 2013, only substitutions will be permitted.

Total $ _____

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CANADIAN FIRE SAFETY ASSOCIATION
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2013 Annual Education Forum

"Vulnerable Occupancies"

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CANADIAN FIRE SAFETY ASSOCIATION
2013 SCHOLARSHIP ENTRY FORM
$8,500.00 in Scholarships

THE SCHOLARSHIPS:

- **$1,000.00 CFSA Peter Stainsby Award**
  Presented to the TOP GRADUATE of a 3 year full-time Fire Protection Technology Course, who has excelled with outstanding leadership, motivation and technical skills and an overall academic proficiency ≥ 3.3 GPA.

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  Presented to the TOP STUDENT having completed year 2 of a 3 year full-time Fire Protection Technology Course with outstanding leadership, motivational and technical skills and overall academic proficiency ≥ 3.3 GPA.

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QUALIFICATIONS AND RULES:

1) The recipients must be enrolled in a Fire Protection Technology Course at a Canadian college or university.
2) All CFSA Scholarship Award entries (c/w academic grades) must be submitted by March 25th to:
   Attention: 2013 Scholarship Form
   Canadian Fire Safety Association,
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3) Submit a written response of up to 300 words in paragraph form, providing a brief description of:
   a. Your interest in fire safety and knowledge of CFSA and the donor organization,
   b. The course you are enrolled in and how you would like to utilize your education (ie. fire service, consulting, sales etc.)
   c. Any experience you have in fire safety either work related, attendance at conferences, CFSA functions etc. and a statement on your extracurricular involvement (i.e. student clubs, mentoring, tutoring, athletics & community volunteering)
4) All entries become the property of the CFSA. Awards Ceremony will take place on April 3, 2013 at the CFSA Annual Education Forum. All Award Recipients are encouraged to attend the full day CFSA Education Forum, as a guest of the CFSA and its distinguished Scholarship Sponsors.

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Construction Specification Canada Show

Construction Specification Canada – CSC – held its annual trade show on Monday March 4, 2013, at the Metro Toronto Convention Centre.

It is known as the best one-day show in the construction industry.

The show had a turnout of a 225 exhibitors, most of which are set up on table top exhibits. The exhibitors welcomed architects, designers, specification writers, engineers, technologists, property owners, contractors and developers.

This is a great show to grow existing business relationships and establish new relationships.

If you are not a member of CSC, you may discover great benefits by joining. They are a national association dedicated to furthering the interest and knowledge of everyone in the construction industry.

Their goal is the improvement of communication, contract documentation and technical information through publication, education and professional development.

The Toronto Chapter holds monthly technical meetings (in the form of a dinner & program) the first Tuesday of every month, along with educational seminars and social events throughout the year.

For more information on the CSC organization please visit their website www.toronto.csc-dcc.ca

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Membership Application Form

Why Corporate Membership?

Corporate Membership is cost effective because it allows any number of individuals from your organization to participate in the many functions provided by CFSA throughout the year. Any number of persons can attend our monthly dinner meetings/ technical sessions or our annual conference at the preferred member's rate. Your advertisement in the CFSA journal is circulated to CFSA's membership of over 250 professionals in the Fire Safety Industry.

Corporate
Includes 3 individual memberships; Company recognition in each of the four issues of the CFSA journal.

Corporate Plus
Includes 6 individual memberships; Company recognition and a 1/2 page advertisement in each of the four issues of the CFSA journal.

Individual Member:
Includes four issues of the CFSA journal and discounted rates at Association functions.

Student Member:
Includes four issues of the CFSA journal and discounted rates at Association functions.

Associate Member:
For individuals and companies located beyond a radius of 150 km from the Greater Toronto Area. Includes four issues of the CFSA journal and discounted rates at Association functions.

Provincial/Territorial Chapter:
For groups of members within a province or territory. Includes 4 individual memberships; member rate for all staff at dinner meetings, technical seminars and Annual Education Forum; Recognition in each of the four issues of the CFSA journal. Contributes articles in CFSA journal.

canadianfiresafety.com

CFSA Application for MEMBERSHIP

HOW TO APPLY: You can either apply by mail/fax or simply by downloading our printable registration form (PDF format).

Name: _____

Title: _____

Company: _____

Address: _____

City: _____

Province: _____ Postal Code: _____

Business Phone: _____

Fax: _____

Email: _____

Please indicate in the appropriate box the category that best describes your vocation:

- ○ Architect
- ○ Building Official
- ○ Insurance Industry
- ○ Fire Protection Manufacturer/Supplier
- ○ Other (please specify)
- ○ Engineer
- ○ Fire Service
- ○ Fire Consultant
- ○ Building Owner/ Developer/Manager

2013 Membership Fees

	Fee	HST	Total
○ Corporate	$ 398.23	$ 51.77	$ 450.00
○ Corporate Plus	$ 774.34	$ 75.66	$ 850.00
○ Individual Member	$ 80.00	$ 10.40	$ 90.40
○ Student Member	$ 25.00	$ 3.25	$ 28.25
○ Associate Member	$ 53.10	$ 6.90	$ 60.00
○ Provincial/ Territorial Chapters	$ 176.99	$ 23.01	$ 200.00

Cheque Enclosed $ _____ ☐ VISA ☐ MasterCard ☐ AMERICAN EXPRESS

Card # _____ Exp Date / _____

Name on Card (*please print*) _____

Signature _____

Please make cheques payable to:

Canadian Fire Safety Association
2175 Sheppard Ave. E., Suite 310, Toronto, ON M2J 1W8
Telephone (416) 492-9417 Fax (416) 491-1670

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Assets.
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Reputation.

WHY WASTE TIME WITH SO MUCH AT STAKE?

Xtralis is the pioneer and leading manufacturer of air-sampling smoke detection (ASD) solutions. By being alerted to an impending fire at the start, **VESDA detectors** buy time to protect personnel, assets and business continuity.

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- » First purpose-built detector for industrial applications
- » Smoke detection without compromise
- » Offers consistent, repeatable performance
- » Option for gas detection and environmental monitoring
- » Centralized or remote detector placement for lower TCO

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Les plaques d'extension SpectrAlert Advance permettent de disposer des fonctions de deux stroboscopes et d'un haut-parleur et peuvent facilement être raccordées et installées par une seule personne.

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