CANADIAN FIRE SAFETY ASSOCIATION

CFSA NEWS

Fire Safety is Everybody's Business

Winter 2015/2016

"A New Direction in Fire & Life Safety"

CFSA NEWS
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Fire Safety is Everybody's Business
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Inside This Issue

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

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President's Message

When I was asked to provide a message for this edition of the CFSA News, my thoughts turned to the year in review; what has impacted both CFSA and the membership in 2015. First and foremost was the release of the 2015 Ontario Fire Code Compendium by the Office of the Fire Marshal and Emergency Management. This compendium includes amendments to both the Fire Protection and Prevention Act and the 2007 edition of the Ontario Fire Code including the following significant changes:

- **Ontario Regulation 150/13** - This regulation amends the 2007 Fire Code (O. Reg. 213/07) with new provisions for Care Occupancies, Care and Treatment Occupancies and Retirement Homes. In addition to changes to individual articles throughout the Fire Code, there is a new Retrofit section requiring mandatory upgrading of buildings with Care Occupancies and Retirement Homes.

- **Ontario Regulation 194/14** - This regulation amends the 2007 Fire Code (O. Reg. 213/07) with new provisions for the installation, maintenance, testing and replacement of carbon monoxide alarms in existing residential buildings. Amendments to smoke alarm provisions are also included, aligning requirements with those introduced for carbon monoxide alarms.

- **Ontario Regulation 256/14** - This regulation amends the 2007 Fire Code (O. Reg. 213/07) with approximately 120 technical changes, including: a new section in Part 5 pertaining to hot surface applications typically used in roofing operations; new fire safety planning requirements for buildings with contained use areas and impeded egress zones; new requirements for double wall construction for flammable and combustible liquid storage tanks and piping systems; a relocation of code requirements to more closely align with National Fire Code and references to more current editions of standards and other documents.

- **Ontario Regulation 275/14** - This regulation amends the 2007 Fire Code (O. Reg. 213/07) with new provisions that clarify requirements for licensed child care programs in schools, provided for children enrolled in full-day kindergarten and higher grades.

- Fire Code Supplement FCS-1

These changes which were phased in over the last few years indicate the Provincial Governments commitment to Community Safety. The Ontario Fire Marshal stated that "while the changes encompass a number of priorities including implementation of inquest recommendations, harmonization with the National Fire Code and Carbon Monoxide safety and Vulnerable Occupancies". For those of us in the industry these changes are a welcome addition to the Code that governs the Fire Safety of all Ontarians.

With the release of the Compendium, CFSA has ensured again that this year's training and annual symposium reflected the new amendments by providing not only training but bringing the subject matter experts to you the membership for an opportunity to absorb the material and ask questions.

I would also like to congratulate all students from both Seneca College and Durham College who were awarded scholarships at this year's education forum. I would also like to thank all the sponsors and benefactors who continue to support this program

As I close, I would like to wish you and your families a happy and fire safe holiday season and we will see you all in 2016.

Nicholas Webb, CD, C.F.E.I, CMMIII
President, CFSA

CFSA Presentation Summary

2015 CFSA Annual Education Forum

Presentation by James Douglas, MMAH

James Douglas, delivered a presentation on the new Building Code Training & Qualification requirements.

The presentation reminded delegates that under the Building Code Act, 1992 and the Building Code, a range of building practitioners must meet qualification requirements:

- Individuals must pass Building Code technical and administrative examinations to perform prescribed duties
- Individuals or firms must register with MMAH
- The Qualification and Registration Tracking System (QuARTS) includes a web-based registry of practitioners and online access to accounts

Practitioners in the fire safety community who are affected by this include:

- Individuals appointed as municipal building officials
- Design firms that provide services to the public
- Independent designers who undertake "in house" design work for their employers

Licences architects and professional engineers are exempt from the designer qualification requirements, because they are governed by their own professional statutes.

Historically MMAH has developed training on the Building Code to support practitioners, however it is not mandatory. Currently MMAH is modernizing its training and qualification/registration, as follows:

- New partnerships for the delivery of Building Code examinations and training have been established
- Changes in administrative processes to promote efficiency and date security have been implemented
- A new fee structure to promote program financial sustainability have been established, and
- A new IT system is under development

Training

Effective November 20, 2013, responsibility for the development and delivery of Building Code training was transferred to George Brown College, who are now responsible for:

- Updating MMAH overview courses and certain detailed technical courses to reflect the requirements of the 2012 Code
- Delivering courses for in-class and on-line delivery, across Ontario
- Selling self-study manuals
- Sub-licensing in-class delivery to other Ontario Community Colleges and other organizations to meet stakeholder demand
- Establishing a Building Code Training Advisory Committee to help inform training curriculum and material

At the same time, MMAH is responsible for:

- Providing assistance on Building Code content
- Auditing materials and delivery
- Sitting as an ex-officio member on the Advisory Committee
- Approving sub-licensees that are not Community Colleges

Examinations

Effective November 2014, responsibility for delivering Building Code examinations was transferred to Humber College, who are responsible for:

- Creating and maintaining a web portal where candidates register for examinations
- Offering Building Code examinations:
- In test centres across Ontario
- Through "virtual proctoring" to allow candidates to take exams in their home or office

Humber College is responsible for returning results for entry into QuARTS by MMAH, and managing appeals.

MMAH Role

MMAH continues to be responsible for developing examination questions and releasing marks to candidates through their QuARTS account and deciding on appeals.

OBC edition used

Currently examinations delivered by Humber have not been revised to reflect the January 1, 2015 changes:

- Accessibility
- Mid-rise wood construction

However, updated examinations will be released shortly. This information will be available on the Humber website and the Building Code section of the MMAH website.

Annualized Registrations

In December 2013, the Building Code was amended to require that all building practitioners must register annually, for the purpose of keeping the public registry of building officials and designers current. Registration renewal was required by March 31, 2015.

A BCIN is now required before a candidate can register with Humber College for an exam. BCINs and account user names/passwords may be obtained from MMAH online or by mail; details are available on the MMAH website. A BCIN holder can then access QuARTS online to register for an examination, and to review examination results and other information.

2015 CFSA Annual Education Forum

Summary of presentation by Kim Bailey, OFMEM: Fire Code Update

Kim Bailey, Fire Protection Engineer for the Office of the Fire Marshal and Emergency Management (OFMEM) delivered a presentation on the new 2015 edition of the Fire Code Compendium

The presentation identified that amendments to the Fire Code were made under three Regulations:

- O. Reg. 194/14 Carbon monoxide alarms
- O. Reg. 256/14 Technical and editorial amendments
- O. Reg. 275/14 School Day Care Facilities

Of the technical and editorial amendments, approximately 95 are Ontario driven while 40 are based on changes to the 2010 National Fire Code. Some editorial changes were made including relocation of requirements:

- Indoor and outdoor storage is now in Part 3
- Hazardous processes are in Part 5
- Consolidation of all "spray coating operations" are in Section 5.12
- Open-air burning is moved to Subsection 2.4.4.

Some notable changes were identified, amd including the following from Division B:

Part 1 Referenced Standards

- Standards updated in Table 1.2.1.A. to be consistent with 2010 National Fire Code and 2012 Ontario Building Code
- Obsolete standards were deleted
- 1.2.1.1.(2) revised – existing appliances, equipment, systems, installation or construction that complies with the 2007 OFC Table 1.2.1.A. is deemed to comply with the 2015 edition of this Table

Part 2 Cooking Operations

- Replacement of phrase "commercial cooking equipment" with "cooking operations" to harmonize with OBC
- Exception to application of NFPA 96 if equipment is in an individual suite of residential occupancy or where insignificant quantities of grease laden vapours are produced and controlled by approved methods

Part 2 Other changes – see the Fire Code for exact changes

- Motion Sensors
- Photo luminescent exit signs
- Fire Safety Plans to take into account risks from demolition or construction
- Day Care Centres – exempting before after school programs in schools
- Smoke alarms – updated reference to ULC-S531-02
- Abandoned optical fibre cables
- CO Alarms – See the new Section 2.16 for details

Part 3 Indoor General Storage

- Now includes requirements for storage exceeding 6.4 m in height; requires sprinklering in conformance with NFPA 13

Part 4 Flammable Liquids and Combustible Liquids

- Container storage and handling - provides exemption for alcohol-based hand sanitizer dispensers
- Assembly and residential occupancies – prescribed quantity limits per 1-hr fire compartment
- Storage tanks - new installations require double-walled underground tanks
- Piping - new underground installations must be double-walled
- Fuel-dispensing stations - prescriptive requirements replaced with reference to NFC

Part 5 Hazardous Materials, Processes and Operations

- Spray Applications – several changes
- Hot Works – new requirements in Section 5.17

Part 6 Fire Protection Equipment

- Class K extinguishers required to protect cooking operations
- Smoke Alarms – several changes, clarifications
- Carbon Monoxide alarms – new subsection 6.3.4.
- Standpipe hose- inspection requirements
- Decommissioning requires CFO approval

Part 8 Demolition

- New requirements and clarifications

Part 9 Retrofit

- Clarification that fuel-fired appliances serving a single dwelling unit do not have to be in a service room (Sections 9.5 and 9.6)

The new 2015 Fire Code Compendium is now available for sale through ServiceOntario Publications. It is available in binder, soft cover, CD and USB format. The Compendium consists of the Fire Protection and Prevention Act, 1997 with amendments current to January 1, 2015, All Regulations filed under the FPPA, the Fire Code (O. Reg. 213/07 with amendments current to January 1, 2015), Index, Fire Code Supplement FCS-1, and Appendices.

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2015 Scholarships

Introducing the New Founders Award

The Canadian Fire Safety Association (CFSA) is delighted to recognize the academic achievements of students who excel and have impacted their communities. For the past 42 years the CFSA has been convinced that education has been one of our most powerful tools against fire. We know that each new generation of graduating students holds the potential for helping us achieve our mission of providing fire safe communities. The CFSA board of directors is very pleased to have an opportunity to help shape tomorrow's leaders in Fire Protection and Life Safety.

Recognition of Financial Donations:

CFSA commends and deeply appreciates the kind support and generous financial donations from CFSA Individual and Corporate members. Through our strong network of four (4) major sponsors - LRI (Leber/Rubes Inc.), Randal Brown & Associates, Nadine International Ltd., and Underwriters' Laboratories of Canada. We congratulate them for their tremendous support. Funds that have been established the memory of Stanley T. Murray and Peter Stainsby have now been fully utilized.

CFSA has acted to introduce a new scholarship that recognizes the work of such individuals called the Founder's Award for Leadership and Excellence.

2015 CFSA Founders Award for Leadership Excellence

The award honours the former scholarships of Stanley T. Murray and Peter Stainsby.

Distribution:

Presented to the TOP GRADUATE of a 3 year full time Fire Protection Technology or University Degree, who has demonstrated leadership qualities including a balance of academic excellence, outstanding leadership, motivation and community service.

Qualifications:

1. Excelled in displaying outstanding leadership
2. Displays motivation and contributes to the fire safety community
3. Achieved top academic and technical skills to impart the fire safety community
4. Outstanding Concern for others/volunteerism

Stanley T. Murrary was the 1st President of the CFSA in 1971 and showed a resolve and dedication to improving fire safety education for individuals that would in turn benefit the public. Stanley T. Murray was passionate education, applying experience and expert knowledge to assist in the never ending fight against the menace of fire.

Peter Stainsby was a director of the CFSA and a member of the CFSA Education Committee on the Fire Protection Technology Courses at Seneca College. He was also a member of the SFPE, the NFPA, the NBC Part 3 Committee and number of ULC and CSA standard committees. Peter was known for his wit, wisdom and kindness which won him the friendship and respect of his colleagues and co-workers.

Each individual qualifying for a scholarship in 2012 has submitted a written response outlining their: a. interest in fire safety and knowledge of CFSA and the donor organization, b. the course they are enrolled in and how they would like to utilize their education (ie. fire service, consulting, sales etc.), and c. any experience they have in fire safety including work related, attendance at conferences, CFSA functions etc. and a statement on their extracurricular involvement (ie student clubs, mentoring, tutoring, athletics & community volunteering).

Scholarship Initiative 2015

To assist in funding the Founders Award for Leadership and Excellence we are looking for new financial donations from CFSA Individual and Corporate members. Any amount of $500.00 or $1000.00 dollars can lead to the naming of a new scholarship fund. Any individual donations will be eligible for a tax receipt. If you, your organization or business is interested in creating a scholarship please contact us for information at, 2015 Scholarship Initiative, Canadian Fire Safety Association, 2800 14th Avenue Suite 210, Markham, ON L3R 0E4

CFSA Fire Safety Award 2015 in Memory of Rich Morris
Presented to the Top Year 2 Student of a 3 year Fire Protection Program, who has excelled with outstanding leadership, motivation, technical skills and an extraordinary overall academic proficiency.

CFSA LRI (Leber/Rubes Inc.) Award
Presented to a Top Year 2 Student of a 3 year Fire Protection Program with exceptional overall skills in Fire Alarm Systems Technology, who has excelled with outstanding leadership, motivation, technical skills and an extraordinary overall academic proficiency.

CFSA Randal Brown & Associates Award
Presented to a Top year 2 Student of a 3 year Fire Protection Program with exceptional skills in Codes/Standards Technology, who has excelled with outstanding leadership, motivation, technical skills and an extraordinary overall academic proficiency.

CFSA Nadine International Inc. Award
Presented to a Top year 2 Student in a 3 year Fire Protection Technology Program with exceptional skills in Fire Suppression Technology, who has excelled with outstanding leadership, motivation, technical skills and an extraordinary overall academic proficiency.

CFSA Underwriters' Laboratories of Canada Award
Presented to a Top year 2 Student of a 3 year Fire Protection Technology Program, with exceptional academic skills in Codes and Standards, who has excelled with outstanding leadership, motivation, technical skills and an extraordinary overall academic proficiency.

CFSA Underwriters' Laboratories of Canada Award
Presented to a Top year 1 Student of a 3 year Fire Protection Technology Program, with exceptional academic skills in all subjects, who has excelled with outstanding leadership, motivation, technical skills and an extraordinary overall academic proficiency.

$500.00 CFSA City of Markham, Buildings Standards Department Award
Presented to a TOP YEAR 1 STUDENT in Fire Protection Engineering or related Fire and Life Safety Diploma Program and an academic proficiency ≥ 3.3 GPA.

CFSA Siemens Canada Ltd. Award
Presented to a TOP YEAR 1 or 2 STUDENT in a Technician or Technology Program with a primary focus on Fire Alarm – Code and design and an academic proficiency ≥ 3.3 GPA.

I am confident that together we can support future professionals who will embrace the challenge to make this world a better place to live and work through fire protection and life safety. Join us in the challenge to make a difference in our community by shaping and developing outstanding leaders in the communities we serve.

Jim Stoops
Chair, Scholarship Committee

CANADIAN FIRE SAFETY ASSOCIATION
ASSOCIATION CANADIENNE DE SÉCURITÉ INCENDIE

Scholarship Opportunities

Opportunities exist to support College or University students in their academic endeavours, in Fire Protection programs.

Scholarships funded through membership contributions:

- Peter Stainsby Award:
  Founding member, and President 1972 – 1973
- Stanley T Murray Continuing Education Award:
  Founding member
- CFSA Fire Safety Award:
  2013 honouring the memory of Rich Morris
  Founding member, Director for 35 years, President 1975/78

Corporately-funded Scholarships:

- CFSA Leber Rubes Inc. Award
- CFSA Randal Brown & Associates Award
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- CFSA Underwriters' Laboratories of Canada Awards (2)
- CFSA City of Markham, Buildings Standards Department Award
- CFSA Siemens Canada Ltd. Award

Individual or Corporate members may support the CFSA Scholarship program, either by contributing to the **CFSA Scholarship fund**, or by initiating a **Corporate Scholarship**.

Corporately-funded Scholarships are available at $500 and $1000 levels, and may be for a fixed term or without a specified end. For inquiries, please contact Membership Chair at cfsa@associationconcepts.ca.

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Mar 3, 2016	38th Annual No Frills Trade Show Toronto, ON
Apr 5 - 6, 2016	ISC West 2016, International Security Conference & Exposition Las Vegas, NV
Jun 13 - 16, 2016	NFPA 2016 Conference & Expo Las Vegas, NV
Nov 30 - Dec 2, 2016	Construct Canada Toronto, ON

CANADIAN FIRE SAFETY ASSOCIATION

CFSA NEWS

The Canadian Fire Safety Association (CFSA) produces a quarterly News magazine which is distributed electronically to all members and is available for download from the CFSA website.

The CFSA News provides articles on industry related information, updates on codes & standards and overviews of various CFSA educational seminars provided throughout the year. In addition, Corporate Members and their selected representatives are recognized.

CANADIAN FIRE SAFETY ASSOCIATION
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Protecting Canada's Vulnerable

Jul 1, 2015 Lui Tai, P. Eng., and Anthony Fallone | Fire Protection Engineering

Canada has a rapidly growing, aging population. According to CARP, a national, non-partisan, non-profit organization advocating for seniors in Canada, in 2011, 4.3 million seniors aged 65 and over resided in Canada,1 Out of this vast number, about 8% live in a collective home such as a retirement residence or nursing home.2

This article will focus on the seemingly small percentage of seniors (estimated at 393,150 in 2011) living in collective homes. According to the Canada Mortgage and Housing Corporation (CMHC), which surveyed more than 200,000 seniors living in 2,586 senior residences and more than 110,000 seniors living in 1,343 long-term care facilities, one of the most important concerns for the residents and family alike is the safety of the seniors.3

Most seniors' mobility will slow with age, with some depending on mobility devices such as wheelchairs or walkers for their daily lives. In the unlikely but unfortunate case when a fire breaks out in a collective home, controlling the spread of the fire becomes critical to these vulnerable seniors. Automatic sprinklers have been shown to be an effective tool in controlling the spread of fire, which allows staff the opportunity to assist residents to safety. Evacuation capabilities of care occupancies can be defined as a function of both the residents' capability to evacuate and the staff's ability to assist in the evacuation. "Prompt Evacuation" is where all occupants, residents and staff from a fire compartment are evacuated within three minutes. "Slow Evacuation" is where the evacuation takes longer than three minutes but not more than 13 minutes. "Impractical Evacuation" would be where the evacuation time exceeds 13 minutes.4 In a non-sprinklered building, fire officials often require a "prompt evacuation" for all occupants, whereas in a sprinklered building, authorities would allow "slow evacuation" to take place since the automatic sprinklers are expected to control the fire spread.

In Ontario alone, 46 fire-related casualties have occurred in senior facilities since 1980. According to the Council of Canadian Fire Marshals and Fire Commissioners (CCFM/FC), risk of fire-related fatalities for seniors increases drastically as compared to the rest of the population, principally because of the seniors' mobility, mental disability and physical limitations. According to statistics published by CCFM/FC, the risk of fire-related fatalities for seniors 75 and above is 250% higher compared to the rest of the population. This risk further increases to 500% higher for seniors aged 90 and above.

However, the current codes in most provinces in Canada do not require homes built prior to 1997 to be retrofitted with automatic sprinklers. (Ontario passed a regulation to require mandatory sprinklers in all senior facilities in May 2013.) Although many agree sprinklers are a good idea, making the installation of sprinklers mandatory is difficult because a substantial amount of money would be required in a retrofit installation.

CASE STUDY: RETROFITTING SPRINKLERS IN EXISTING FACILITIES—REVERA LIVING (REVERA)

A few years ago, one of the premier senior facilities operators in Canada made the decision to voluntarily add sprinklers to all senior residences in its portfolio.

To ensure the project was completed to the highest standard in the industry and consistent across its 80 buildings, Revera retained a team of experts in the field of fire protection engineering and project management to oversee the project. The project team surveyed each building, put together site-specific performance specifications and tender documents, and in the process, mobilized a large number of fire protection contractors in the country over the project's two-year duration. The team also conducted periodic quality assurance reviews on-site, provided technical support for unforeseen site conditions, and worked with site staff and contractors to ensure minimum disruption to occupants during the construction phase. By the end of 2012, this colossal undertaking was completed within a stringent timeline and budget.

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DESIGN STANDARDS

From the start of the project, it was decided that a design model was required for the entire portfolio. It is based on:

- NFPA 13, 2007 Edition: Standard for the Installation of Sprinkler Systems
- NFPA 13R, 2007 Edition : Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height and
- FM Global (FM) standards

The classification of the building largely depends on the use of the building. The method in which the Canadian building code classifies a building differs from that of the National Fire Protection Association (NFPA) and FM Global.

In the National Building Code of Canada (NBC) and Ontario Building Code (OBC), a Group C "**Residential Occupancy**" represents the use of a building or part of a building by persons for whom sleeping accommodation is provided but who are not harbored or detained there to receive medical care or treatment or who are not involuntarily detained. The OBC classifies a building as a Group B, Division 2, "**Care and Treatment occupancy**" as an occupancy in which persons receive special care and treatment. The third focus occupancy type in the building code is major occupancy type B-3, "**Residential Care.**" This was introduced in the 2005 edition of the NBC, and is adopted in some provincial building codes. It is defined as an occupancy in which persons receive special or supervisory care because of cognitive or physical limitations, but does not include a dwelling unit.

NFPA 13's occupancy classification is generally applied to a building or portions of a building based on its normal use. For a senior care facility, most of the building would fall into **Light Hazard occupancy**, with some service rooms or parking areas classified as **Ordinary Hazard Group 1** or **Group 2 occupancies**. FM also has different classifications. FM classification HC-1 is considered similar to NFPA Light Hazard, and FM HC-2 is considered similar to NFPA Ordinary Hazard 1. Classifications provided in NFPA and FM relate to sprinkler installation and their required water supplies, and differ from building code classifications.

A "hybrid" standard was negotiated with the owner and its insurance carrier, FM Global, which included the use of some features not recognized by FM (e.g., attictype sprinklers), but at the same time the system design which provided more than the minimum NFPA requirements (e.g., residential sprinklers where not permitted). This hybrid standard was accepted by all parties and used on all buildings in this project.

KEY DIFFERENCES

While NFPA 13R allows attic spaces and open canopies to be unprotected by sprinklers, NFPA 13 requires that all attic spaces and porches, balconies, and canopies constructed of combustible construction be fully protected. The exemption would only apply in NFPA 13 to noncombustible or limited combustible attics and canopies. The hybrid standard required sprinklers in all attic spaces in buildings of combustible construction.

When an attic is required to be protected, NFPA 13 allows special application attic sprinklers to be used, but attic type sprinklers were not recognized by FM. The use of attic sprinklers saves time and money, as a pitched roof attic can be protected with a single branch line of back-toback sprinklers installed near the peak. In the traditional method, FM requires the attic to be protected with branch lines spaced and installed to cover every square inch in the attic space. The hybrid standard allows the use of attic-type sprinklers.

Under NFPA 13R, washrooms less than 5.1 m2 (55 sq. ft.) and closets less than 2.2 m2 (24 sq. ft.) located inside a suite can be exempted from sprinklers. In NFPA 13-2007, this exemption can only be applied to existing buildings of residential board and care occupancies, provided certain conditions are met in an egress study as defined by NFPA 101. The construction of the washroom and closet with a minimum fire-resistance rating also plays a role in this determination. In the recent editions of NFPA 13, this exemption was moved into the annex (appendix), which does not form part of the standard. FM also does not permit this exemption. The hybrid standard allows for this exemption.

In NFPA 13R, residential sprinkler design for hydraulic calculations is permitted. This typically requires all sprinklers within a room or compartment (up to a maximum of four sprinklers) to be included in the calculations. In NFPA 13, residential sprinklers can only be used in buildings classified as residential use, but the design must conform to the minimum design area. The hybrid standard does not allow the use of residential sprinklers

OTHER DESIGN CONSIDERATIONS

In addition to the design of the sprinkler system, the following design issues were considered for each building:

Municipal Water Supplies. Are there adequate water supplies from the municipality? Do we need an on-site water tank or reservoir to satisfy the demand?

Fire Pumps. Does it make sense to increase the main size to try to eliminate the fire pump? If a fire pump is required to provide the required water supply, is an emergency generator required by the local building code? If a generator is required, do we size it to back up the pump only or other emergency loads as well?

Impact on Fire Alarm System. Is the existing fire alarm system in the building capable of being expanded to handle the electrical supervision of the new sprinkler system? Can some of the existing thermal sensors in the building be removed as the area is now protected by sprinklers?

LESSONS LEARNED - MOST COMMON PROBLEMS

The use of CPVC pipe simplifies the installation process. However, a number of common “lessons learned” issues must be closely monitored during the installation process.

CPVC pipes can be easily cut to length, and assembled with CPVC “glue.” However, this glue is, in fact, a solvent. Historically, application of too much solvent was linked to premature failure of the CPVC pipe in a number of installations. As a result, the manufacturer’s installation guide clearly stipulates that “pooling” of the adhesive is not permitted. The pooled solvent will skin over, but the solvent inside will continue to deteriorate the pipe, causing weak spots in the pipe to crack under the normal operating pressure of the sprinkler system. To prevent this from happening, quality assurance must begin at the very start of a project, with confirmation of qualified training by all installers, and on-site spot checks at randomly selected joints by a third party consultant.

It is almost natural instinct for an installer to pre-assemble the sprinklers to a section of pipe and then attach the pipe to the sprinkler lines. This would avoid twisted or misaligned sprinklers. However, this procedure is commonly known as "pre-fab," and the sprinkler and CPVC pipe manufacturers specifically prohibit this practice. The rationale is that the pre-fabricated pipe with the sprinkler may be handled before the adhesive is fully cured. This may cause the adhesive to drip into the sprinkler, and permanently seal it from the inside, rendering it ineffective in case of a fire. To discourage this practice, a third party consultant should request randomly selected sprinklers be taken down and checked inside for possible sealing and debris.

LESSONS LEARNED - CONSTRUCTION AND OPERATIONAL CONSIDERATIONS

The installation of sprinkler protection in operating residences and homes creates a set of unique considerations for contractors that requires careful planning and much communication in order to complete projects successfully.

One of the first steps in the planning process should be to determine whether hazardous materials (e.g., asbestos or lead paints) in the building require special attention if disturbed during the project. This can be done by retaining a qualified environmental consulting firm that can perform a designated substance survey to evaluate materials that may require caution and special methods for handling if disturbed during the project.

The storage of materials, tools, and parking for trades should also be carefully coordinated. At the same time, owners need to be mindful of other projects that may be occurring within the building, such as suite renovations, common area painting, flooring replacements, etc., that are being carried out by parties outside of those installing sprinklers. In Ontario, Canada, the practice of having multiple trades retained by the owner completing various projects may cause the owner to become the "constructor" as defined by the Occupational Health and Safety Act. This significantly increases the liability associated with the work being carried out and should be considered with all parties involved prior to beginning the project.

Protection of property and resident security and safety are key factors to consider in the early planning stages. It is important to ensure that procedures are in place for door control and access, resident notification and protection of property in order to avoid the potential risk of resident elopement, and injury or damage to personal property. The continued use of living spaces makes working in dining areas and the kitchen, along with main gathering areas significantly challenging. Constant communication with management and residents will help ensure that inconveniences are kept to a minimum and help ensure the overall project is successfully performed. Quite often, these areas can be worked on after residents go to bed to minimize complex phasing or relocation strategies.

Lui Tai is with Aon Fire Protection Engineering. Anthony Fallone is with Revera Inc.

References:

1. Canada's aging population fuels retirement home boom: Census 2011, www.carp.ca.
2. Fire Losses in Canada, Year 2007 and Selected Years, Council of Canadian Fire
3. Marshals and Fire Commissioners.
4. Seniors' Housing Report 2011, Ontario, Canada Mortgage and Housing Corporation.
5. NFPA 101, Life Safety Code Handbook, 2012 edition. NFPA, Quincy, MA.

Ontario Fire Code Ticketable Offenses

The province of Ontario has created 41 new Fire Code ticketable offences (in addition to the existing five offenses). In addition the fees associated with the existing offenses have increased.

The Office of the Fire Marshal and Emergency Management (OFMEM) issued Communique 2015-05 on March 18, 2015 outlining the changes.

Web Link

There are six (6) ticketable offenses that come into effect on April 15, 2015 including:

- Fail to install carbon monoxide alarm where required
- Carbon monoxide alarm does not comply with required standards
- Carbon monoxide alarm not installed at manufacturer's recommended height
- Carbon monoxide alarm not installed on or near ceiling
- Fail to replace carbon monoxide alarm within time frame in manufacturer's instructions
- Replacement carbon monoxide alarm does not comply with required standards

The following Ontario Court of Justice website will provide more details:

Web Link

The following Ontario Court of Justice website will provide more details:

Web Link

- Fail to prepare written record of test as required
- Fail to prepare written record of corrective measure as required
- Fail to prepare written record of operational procedure as required
- Fail to prepare written record of inspection of supported group living residence as required
- Fail to prepare written record of intensive support residence as required
- Fail to retain record at building as required
- Fail to retain initial verification report for fire protection system as required
- Fail to retain initial test report for fire protection system as required
- Fail to make record available to Chief Fire Official upon request
- Fail to repair damaged closure
- Fail to main closure in fire separation as required
- Closure in fire separation obstructed
- Closure in fire separation blocked
- Closure if fire separation wedged open
- Closure in fire separation altered to prevent intended operation
- Fail to install smoke alarm where required
- Smoke alarm does not comply with required standards
- Fail to provide extinguisher where required
- Fail to repair defective extinguisher so it operates effectively and safely
- Fail to recharge defective extinguisher so it operates effectively and safely
- Fail to attach tag to extinguisher as required
- Fail to maintain extinguisher maintenance records
- Fail to replace extinguisher after use
- Fail to recharge extinguisher after use
- Fail to maintain smoke alarm in operating condition
- Fail to maintain smoke alarm's power supply in operating condition
- Fail to maintain smoke alarm's visual signalling component in operating condition
- Fail to give tenant smoke alarm maintenance instructions
- Fail to notify landlord that smoke alarm is disconnected
- Fail to notify landlord that smoke alarm is not operating
- Fail to notify landlord that operating of smoke alarm is impaired
- Disable a smoke alarm
- Fail to replace smoke alarm within time frame in manufacturer's instructions
- Fail to maintain carbon monoxide alarm in operating condition
- Fail to maintain carbon monoxide alarm's power supply in operating condition
- Fail to give tenant carbon monoxide alarm maintenance instructions
- Fail to notify landlord that carbon monoxide alarm is disconnected
- Fail to notify landlord that carbon monoxide alarm is not operating
- Fail to notify landlord that operating of carbon monoxide alarm is impaired
- Disable a carbon monoxide alarm
- Fail to replace smoke alarm within time frame in manufacturer's instructions
- Fail to maintain carbon monoxide alarm in operating condition
- Fail to maintain carbon monoxide alarm's power supply in operating condition
- Fail to give tenant carbon monoxide alarm maintenance instructions
- Fail to notify landlord that carbon monoxide alarm is disconnected
- Fail to notify landlord that carbon monoxide alarm is not operating
- Fail to notify landlord that operating of carbon monoxide alarm is impaired
- Disable a carbon monoxide alarm

Oven Warning issued by Toronto Police

TORONTO – Police are advising restaurant owners to immediately stop using any propane or natural gas kitchen equipment purchased from Kitchen Queen, located at 3001 Markham Rd. in Toronto.

The risks include gas leaks, fire and explosion and carbon monoxide poisoning.

Read the full article

SFPE Southern Ontario Chapter

On Thursday November 12, 2015, the Society of Fire Protection Engineers celebrated their 50th Anniversary.

This tremendous milestone was celebrated with an Anniversary Event that included a full day of technical seminars and opportunities for members and non-members to network within the fire protection community.

For more information regarding the SFPE, please visit:

www.sfpesoc.com

ULC Standard Updates

Standards Bulletin 2015-21
Fourth Edition CAN/ULC-S104:2015, Standard Method of Fire Tests of Door Assemblies.

ULC announced the publication of this Fourth Edition in August 2015. This fire test method is applicable to door assemblies of various materials and types of construction, for use as closures in openings in walls and partitions that are fire separations in accordance to the National Building Code of Canada. This test method is also applicable for evaluating individual components intended as part of a fire test assembly.

Standards Bulletin 2015-22
Third Edition CAN/ULC-S106:2015, Standard Method of Fire Tests of Window and Glass Block Assemblies.

This new edition, published in August 2015, includes additional test requirements for Window Assemblies, new Reference Standards and editorial modifications throughout to harmonize with CAN/ULC-S104, Standard Method for Fire Tests of Door Assemblies.

Standards Bulletin 2015-23
Fourth Edition CAN/ULC-S129:2015, Standard Method of Test for Smolder Resistance of Insulation (Basket Method)
Announced in August, 2105, this Standard applies to thermal insulation suitable for indoor use in building construction within the temperature range of -50 to 80 °C.

Standards Bulletin 2015-24
Fourth Edition CAN/ULC-S548:2015, Standard for Devices and Accessories for Water-Type Extinguishing Systems

Published in September 2015, this new Edition expanded the scope to cover supervision of ball valves, as well as enhanced requirements for components, wiring and testing for radio frequency and electromagnetic radiation.

Standards Bulletin 2015-25
Amendment 1 to Second Edition CAN/ULC-S656:2014, Standard for Oil-Water Separators

Published in September, 2015, Amendment 1 provides venting requirements for oil-water separators installed in buildings. This Standard applies to thermal insulation suitable for indoor use in building construction within the temperature range of -50 to 80 °C.

Decorating for the Holidays?

- Be careful with holiday decorations. Choose decorations that are listed and flame resistant or flame retardant.
- Keep lit candles away from decorations and other things that can burn.
- Some lights are only for indoor or outdoor use, but not both.
- Replace any string of lights with worn or broken cords or loose bulb connections. Read manufacturer's instructions for number of light strands to connect.
- Use clips, not nails, to hang lights so the cords do not get damaged.
- Keep decorations away from windows and doors.

ULC Standard Updates Cont'd

Standards Bulletin 2015-26
Fourth Edition CAN/ULC-S533:2015, Standard for Egress Door Securing and Releasing Devices

Published in September, 2015, this Standard covers the physical and performance requirements for egress door securing and releasing devices that are intended to hold a door in the closed position and releasing the door to permit free egress when operated.

Standards Bulletin 2015-27
Second Edition CAN/ULC-S655:2015, Standard for Aboveground Protected Tank Assemblies for Flammable and Combustible Liquids

The publication of the new edition was announced in September, 2015. This Standard provides minimum requirements for shop fabricated aboveground protected tank assemblies that are used for the storage of flammable and combustible liquids with a specific gravity not greater than 1.0, that are compatible with the material of construction. These protected tank assemblies consist of primary tanks provided with secondary containment and protective encasement constructed to meet this standard and shall be tested to demonstrate a 2 h fire rating and provide limited resistance to impact and ballistic attack.

Standards Bulletin 2015-29
First Edition CAN/ULC-/S674:2015, Standard for Unvented Alcohol Fuel Burning Decorative Appliances

This First Edition was published in November, 2015. The Standard applies to factory-built unvented appliances that are intended to be fixed / non-movable and that use ethyl alcohol (ethanol) or isopropyl alcohol (isopropanol) in liquid or gel form as fuel. The appliances are intended to be decorative in nature and limited to a maximum output of 3 kW (10,000 BTU/hour).

In addition to the list of Standards published, there is a call for Working Group members pertaining to the following:

- Development of the 4th Edition CAN/ULC-S527, Standard for Control Units for Fire Alarm Systems;
- Development of the 6th Editions CAN/ULC-S536, Standard for Inspection and Testing of Fire Alarm Systems; and CAN/ULC-S537, Standard for Verification of Fire Alarm Systems.

If you are interested in volunteering for these working groups, please send an email together with your resume to theresa.espejo@ul.com. These two Working Groups are expected to be constituted by January 2016.

For further information please visit www.canada.ul.com or contact 1-866-937-3852.

Holiday Entertaining Safety Tips

- Be careful with holiday decorations. Choose decorations that are listed and flame resistant or flame retardant.
- Keep lit candles away from decorations and other things that can burn.
- Some lights are only for indoor or outdoor use, but not both.
- Replace any string of lights with worn or broken cords or loose bulb connections. Read manufacturer's instructions for number of light strands to connect.
- Use clips, not nails, to hang lights so the cords do not get damaged.
- Keep decorations away from windows and doors.

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- **William Pang**
- **Jamie Zimmerman**
- **Pat Twohey**

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- Jamie Zimmerman
- Pat Twohey

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