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### **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	Non-Member
	Rate	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 mary-loum@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





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## **President's Message**



As I complete my first year as the President of the Canadian Fire Safety Association, many changes have taken place, not only within the Association, but also within the Codes and Standards we work within every day.

Before I go any further I would like to take a moment to thank Past President Matteo Gilfillan for his outstanding leadership and efforts during his two years as President, his efforts have strengthened the Association, enabled it grow and enhanced fire safety throughout Canada.

This past year we have seen many changes to the way we as Consultants, Building Code Officials, or Fire Prevention Officers do business with the introduction of the new Legislation and new building and fire codes. These changes where designed to protect not only Vulnerable Ontarians, but all Ontarians from the treat of fire. Some of these new changes include the new Registry of Vulnerable

Occupancies, mandated observed fire drills with approved scenarios by the Fire Department and inspections of all buildings where there is a complaint or assistance is requested. These changes also include mandatory carbon monoxide alarms and the introduction of section 9.7 in retrofit dealing with buildings with a care occupancy or retirement home. Most recently Regulation 256/14 to amend the Fire Code with over 120 technical changes. These new regulations have been brought about to help eradicate tragedies that we have seen in the past.

I would like to take this time to introduce the 2014/2015 Board of Directors.

- Nicholas Webb, Whitby Fire & Emergency Services
- Matteo Gilfillin, Randall Brown & Associates Engineering Ltd.
- David Morris, Firetronics 2000 Inc.
- Anthony Van Odyk, Seneca College of Applied Arts and Technology
- Dean Brown, City of Vaughan, Building Department
- David Dobromilsky, Oshawa Fire & Emergency Services
- Susan Clarke, Office of the Fired Marshal and Emergency Management
- Lesley-Anne Coleman, Toronto Fire Services
- Randy de Launay
- Nadim Khan, Ministry of Municipal Affairs and Housing
- Sandy Leva, Underwriters Laboratory of Canada
- Allison McLean, Atomic Energy Canada
- Mike Norris, Aon Fire Protection Engineering Corporation
- Janet O'Carroll, Innovative Fire Inc
- Zahid Rashid, Leber Rubes Inc.
- Jim Snoops, Toronto Fire Services
- CFSA Administrator, Carolyn Vigon
- Events Coordinator, Mary Lou Murray

As in the past, the Board of Directors has worked diligently to strengthen the Association during the past year, this emphasis must continue in the future so that we can not only maintain to promote fire safety through the dissemination of fire safety information, but pass the torch to the next generation.

I would like to welcome Seneca College Fire Protection Students Association and our new CFSA Student Chapter, Durham College.

The involvement and participation of the Student Association and Student Chapter are important to the Association as these ladies and gentlemen are the future of Fire Safety not only within Ontario, but also the remainder of Canada.

As I close, I would like to thank Carolyne Vigon and Mary Lou Murray from Association Concepts for all their hard work behind the scenes to ensure the Association can continue to operate. I would also like to take this opportunity to personally thank the membership, corporate membership, sponsors and our other partner associations for their support not only with our scholarships but also their continued efforts to promote fire safety.

Regards

Nicholas Webb President, CFSA



### **CANADIAN FIRE SAFETY ASSOCIATION**

ANNUAL EDUCATION FORUM • April 8, 2015

### Program at a Glance (cont'd.)

12:00p.m.—1:00 p.m.	<i>LUNCHEON</i> Awards Outdoor Display
1:00pm.—1:45p.m.	<i>New Addressable</i> <i>Notification Appliances</i> Speaker: Gerry Bourne, Troy Life & Fire Safety / Simplex
1:45 pm.—2:30 p.m.	<i>Installation of CPVC pipe and</i> <i>the benefits for sprinkler retrofit</i> Speaker: Antenor Mejilla, & John Pritchard Lubrizol / Blazemaster
2:30 p.m. – 2:45 p.m.	Refreshment break & door prizes
2:45p.m3:30 p.m.	<i>Change of Use and Retrofit</i> Speaker: Melinda Amador, Aon Fire Protection Engineering
3:30pm.—4:15pm.	<i>Case Study – Performance Based</i> <i>Design for High Bay Warehouses</i> Speakers: Leslie Morgan, Arencon
4:15p.m4:30 p.m.	Closing Comments & Grand Draw
This symposium qua towards NFPA/CFPS	alifies for professional development S Recertification. This Symposium

also counts for Self-Directed Learning Points under the OAA Continuing Education Program.

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## **Registration Form**

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<ul> <li>Sponsorship Includes:</li> <li>Six (6) registrations to the AEF</li> <li>Full page ad in the AEF program</li> <li>Promotional material/item in registration package</li> <li>Recognition in the CFSA news</li> <li>Logo on event brochure</li> <li>Signage at the AEF</li> <li>One (1) year website recognition</li> <li>One (1) table top display</li> </ul>	<ul> <li>Sponsorship Includes:</li> <li>Four (4) registrations to the AEF</li> <li>Full page ad in the AEF program</li> <li>Promotional material/item in registration package</li> <li>Recognition in the CFSA news</li> <li>Logo on event brochure</li> <li>Signage at the AEF</li> <li>Six (6) month website recognition</li> <li>One (1) table top display</li> </ul>	<ul> <li>Sponsorship Includes:</li> <li>Two (2) registrations to the AEF</li> <li>Half page ad in the AEF program</li> <li>Promotional material/item in registration package</li> <li>Recognition in the CFSA news</li> <li>Logo on event brochure</li> <li>Signage at the AEF</li> <li>Three (3) month website recognition</li> <li>One (1) table top display</li> </ul>	<ul> <li>Sponsorship Includes:</li> <li>One (1) registration to the AEF</li> <li>Quarter page ad in the AEF program</li> <li>Promotional material/item in registration package</li> <li>Recognition in the CFSA news</li> <li>Logo on event brochure</li> <li>Signage at the AEF</li> <li>Three (3) month website recognition</li> </ul>	<ul> <li>Sponsorship Includes:</li> <li>Promotional material/ item in registration package</li> <li>Recognition in the CFSA news</li> <li>Logo on event brochure</li> <li>Signage at the AEF</li> <li>Three (3) month website recognition</li> </ul>
<ul> <li>And Select one of the following:</li> <li>✓ Scholarship Awards Luncheon</li> <li>✓ AEF Program</li> </ul>	<ul> <li>And Select one of the following:</li> <li>✓ Breakfast</li> <li>✓ Coffee Mug</li> <li>✓ Delegate Bag</li> </ul>	<ul> <li>And Select one of the following:</li> <li>✓ AEF Coffee Break (2)</li> <li>✓ Delegate Name Badge</li> <li>✓ Dual Ballpoint Stylus</li> </ul>		

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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
- CFSA Nadine International Inc.
- 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.

## For Individual Donations

Please fill out the form below and mail in to:

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Contribution Level:	Signature
□ \$25 □ \$50 □ \$100 □ Other 	A tax receipt will be mailed for donations of \$25.00 or higher

## **2015 Scholarships**

## CFSA Scholarship Updates

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. For many years we have had a 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 have been fully utilized with the memories of Stanley T. Murray and Peter Stainsby Awards.

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.

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 about 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 with the Fire Protection Technology Courses at Seneca College. He was also a member of the SFPE, the NFPA, the NBC Part 3 Committee and a 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.

### **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 in the amount of \$1000.00.

### **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

Each individual qualifying for a scholarship in 2015 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 alike. An 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

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.

## **2015 Scholarships**



### \$1,000.00 CFSA Founders Award for Leadership & Excellence

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. The applicant should excel in displaying outstanding leadership, display motivation and contribute to the fire safety community, achieve academic and technical skills to impact the fire safety community and outstanding concern for others/volunteerism.



### \$1,000.00 CFSA Fire Safety Award 2014 In Memory of Rich Morris

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  $\geq$  3.3 GPA.



### \$1,000.00 CFSA LRI Engineering Inc. Award

Presented to a TOP YEAR 2 STUDENT of a 3 year fulltime Fire Protection Technology Course with exceptional overall skills in Fire Alarm System Technology and an academic proficiency  $\geq$  3.3 GPA.



### \$1,000.00 CFSA Randal Brown & Associates Award

Presented to a TOP YEAR 2 STUDENT of a 3 year fulltime Fire Protection Technology Course with exceptional overall skills in Codes/Standards Technology and an academic proficiency  $\geq$  3.3 GPA.



### \$1,000.00 CFSA Nadine International Inc.

Presented to a TOP YEAR 2 STUDENT of a 3 year fulltime Fire Protection Technology Course with exceptional overall skills in Fire Suppression Technology and an academic proficiency  $\geq$  3.3 GPA.



### **\$500.00 CFSA Underwriters' Laboratories of Canada Award** Presented to a TOP YEAR 2 STUDENT of a 3 year fulltime Fire Protection Technology Course, with exceptional academic skills in Codes and Standards and an overall proficiency $\geq$ 3.3 GPA.



### **\$500.00 CFSA Underwriters' Laboratories of Canada Award** Presented to a TOP YEAR 1 STUDENT of a 3 year full-time Fire Protection Technology Course, with exceptional academic skills in all subjects and an overall proficiency $\geq$ 3.3 GPA.

**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.

SIEMENS

### \$1,000.00 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  $\geq$  3.3 GPA.



### \$1,000.00 CFSA Aon Fire Protection Engineering Award

Presented to a TOP YEAR 1 or 2 STUDENT in a Technician or Technology Program with a primary focus on Sprinkler Technology – Code and Design and an academic proficiency  $\geq$  3.3 GPA.

Recipients will be honoured at the CFSA Awards Lunch

## Mark your Calendars!

• ISC West (Las Vegas)	Apr 14 - 16, 2015
CFSA Annual Education Forum	Apr 8, 2015
NFPA Conference &	
Expo (Chicago)	Jun 22 - 25, 2015
CANASA (Toronto)	
Security Canada Expo	Oct 21 - 22, 2015
Construct Canada Show	Dec 2 - 4, 2015

\*Stay tuned for upcoming CFSA Technical Sessions.



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 Association canadienne de Securitie incendie



PLEASE VISIT WWW.CANADIANFIRESAFETY.COM FOR UPDATES TO ALL UPCOMING EVENTS.

### **Board** of Directors

### Executive

**President** Nick Webb Whitby Fire & Emergency Services (905) 668-3312

**Past President** Matteo Gilfillan Randal Brown & Associates Engineering (416) 492-5886

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Susan Clarke, Office of the Fire Marshal & Emergency Mgmt. (416) 325-3224

Lesley-Anne Coleman, Toronto Fire Services (416) 338-9376

Randy de Launay, Office of the Fire Marshal & Emergency Mgmt. (647) 329-1241

Nadim Khan, Ministry of Municipal Affairs & Housing (416) 585-6453

Sandy Leva, Underwriters Laboratories of Canada (416) 757-5250 ext. 61521

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Janet O'Carroll, Innovative Fire Inc. (416) 221-0093

Zahid Rashid, LRI Fire (416) 515-9331

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## Commentary

## 2014 Annual Education Forum

Article by Lesley-Anne Coleman



Last year on April 2nd, the Canadian Fire Safety Association met for their annual education forum which covered topics related to the "Changing Face of Fire Safety". The forum provided the opportunity for those in the fire safety industry and members alike to learn and keep up to date with current relevant and important topics to the industry.

Fire Chief Larry Bentley of Vaughan Fire & Rescue Services welcomed the crowd to the event on behalf of the department. Annually the CFSA holds an education forum which provides fire safety professionals and other industry folks updated knowledge about minimizing and preventing the loss of life and property caused by fire.

The morning began with a "keynote" presentation from Ted Wieclawek, Ontario Fire Marshal regarding the "Changing Face of Fire Safety". Throughout the day, atten



The morning also saw, updates to the Ontario Fire Code from Al Suleman, updates to the Ontario Building Code by Nadim Khan and a presentation by Fred Leber, CEO of LRI Fire Protection and Building Code Consulting Engineers about the importance of ensuring the safety of occupants and contractors during renovations and construction.

Thanks to Whitby Fire and Emergency Services, Molly the Fire Dog joined us for an outdoor display highlighting what working with Molly is like and her contributions to the community. Participants were able to see Molly and learn about the programs she assists with.

During the lunch hour, CFSA Scholarships were presented to top students in a Fire Protection Technology Course. These awards included the CFSA Peter Stainsby Award, Stanley T. Murray Continuing Education Award, CFSA Fire Safety Award in Memory of Rich Morris, CFSA Leber Rubes Inc. Award, CFSA Randal Brown & Associates Award, CFSA Nadine International Award, two CFSA Underwriters' Laboratories of Canada Awards, CFSA City of Markham, Buildings Standards Department Award and the CFSA Siemens Canada Ltd. Award.

Afternoon speakers included Dr. Joel Moody from the Electrical Safety Authority who presented an analysis of Electrical Fires in Ontario. Emmanuel Sopeju from Underwriters Laboratories of Canada discussed ULC Certification and walked the group through confirming certification, looking at UL and ULC Listed Designs and the acceptability of UL Listed designs in Canada.

Throughout the day, attendees had the opportunity visit tables set up by CFSA "Gold" sponsors to network, ask questions and learn about the services they provide. Those sponsors included, FCS Fire Consulting Services, Thomas Betts, LRI and DSC. Contact the CFSA if you are interested in sponsoring future events.

The last presentation given by Nancy MacDonald-Duncan of the Office of the Fire Marshal & Emergency Management and Cathy Robertson, Captain for the Legal Section at Toronto Fire Services on Code Compliance and Enforcement summed up the day with information on Inspection Orders and Prosecution.

The forum provided valuable information and gave participants the opportunity to get together and reflect on how the face of fire safety is changing.

On behalf of the CFSA, we extend our on-going thanks to all of the presenters who took time out of their demanding schedules to take part in last year's Annual Education Forum, to our sponsors, to those that attended and to all our CFSA members.

## Photos from the 2014 Annual Education Forum



Attendees networking and enjoying breakfast



Morning welcome



Attendees enjoying guest speakers and the relevant topics in the Industy



Attendees including Vaughan Fire and Rescue Service



Anthony Van Odyk (Seneca College) and Steve Clemens (CFAA)



Building and Fire Code Updates

## Photos from the 2014 Annual Education Forum



CFSA Board Memeber David Morris and Anthony Van Odyk at the AGM



Door Prize Winner



DSC and FCS Annual Education Forum Sponsors Booths



Product Safety Presentation by Emmanuel Sopeju of Underwriters' Laboratories of Canada



2014 CFSA Scholarship Winners



Thank You to all who attendended, looking forward to 2015

## 2014 Annual Education Forum Sponsors

The CFSA would like to thank all of the sponsors that contributed to the success of the 2014 Annual Education Forum, The Changing Face of Fire Safety.



14



DHI Canada advances the safety, security and sustainability of the Canadian built environment through promotion and education

### Did you know that:

- The 2007 version of NFPA80 (Chapter 5) requires the annual inspection of fire rated doors, frames and hardware?
- Carrying out an annual inspection requires special training and familiarity with the complexity of swinging fire doors?
- Annual inspections help reduce loss of life and property damage?

To learn more about DHI Canada and our involvement in the Fire Door Assembly Inspection initiative, contact us at

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www.dhicanada.ca



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# Seneca

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Preparing individuals to work as Fire Protection professionals... that's what the Seneca College, School of Fire Protection Engineering Technology is all about. The graduates of our Fire Protection Engineering Technician and Fire Protection Engineering Technologist Diploma Programs, are knowledgeable in all aspects of Fire Prevention practices. When you hire a Seneca graduate, you know you've hired someone with the right stuff.

> For more information, contact: Anthony H. Van Odyk, Industry Coordinator, Seneca College School of Fire Protection Engineering Technology (416) 491-5050 Ext. 6148

## **Education That Works**

## **Industry News** The Changing Face of Fire Safety of Fire Safety

By: Carol Gravelle, Public Relations Officer/Messenger Online Editor, Office of the Fire Marshal and Emergency Management



At last year's Annual Education Forum, Ontario Fire Marshal and Chief of Emergency Management Ted Wieclawek addressed the Canadian Fire Safety Association on 'The Changing Face of Fire Safety.'

Using the Office of the Fire Marshal and Emergency Management (OFMEM) and its new mandate as an example, his remarks focused on four key areas:

- The need to modernize and transform to respond to fiscal realities;
- Integration with broader community safety partners;
- Using scarce resources to provide an effective program; and,
- The need to set benchmarks, as a public safety community, to achieve our goals (i.e., phased-in compliance timelines for the retrofit of automatic sprinklers in all vulner able occupancies).

Wieclawek emphasized the public we serve has expectations and to satisfy these in fire protection and emergency management, an evidence-based approach to decision-making is required.

Community safety partners need to continue developing and raising awareness about innovative public education, prevention and risk management initiatives so that incidents can be prevented and/or mitigated. We will continue our work together building more resilient communities.



### & Summer Fire Safety Tips!

### In the House:

- Test your smoke and carbon monoxide detectors, change batteries immediately if needed.
- Check your fire extinguishers.
- Check for overloaded or damaged extension cords, replace where needed.
- Ensure you have an emergency preparedness kit in case of incidents such as power outages and flooding.
- Practice your families fire escape plan so everyone knows what to do in case of an emergency
- Windows should be checked to ensure they open and close properly, in case they are needed as an exit
- Properly store household chemicals and never mix cleaning agents
- Recycle: Get rid of old newspapers, magazines & junk mail. These items tend to pile up and can greatly contribute to the severity and spread of fire.
- Check and clean filters above stove.
- Pull refrigerator out and vacuum or dust the coils.
- Always keep stairs and landings clear for safe evacuation in event of an emergency.

### Around the House:

Make sure your address numbers are up and visible from the street.

Maintain a clear 'fire zone' of 10' around structures.

Check outdoor electrical outlets and other electrical appliances for animal nests and to ensure proper wiring.

Keep 100' of garden hose with an attached nozzle connected and ready for use.

Remove leaves and trash from carports and garages: Combustible materials are dangerous if they are exposed to heated automobile components, especially under the vehicle.

Clean up and properly store paints, pool and yard chemicals.

Check fuels containers for leaks and make sure they are properly stored.

Let power equipment sit for approximately 30 minutes before placing it inside to be sure there is no possibility of fire.

Some municipalities do not allow open air burning. Always check with your local fire department for questions, instructions and permits.

- See more at: http://www.oafc.on.ca/spring-summer-fire-safety-tips#sthash.xQUQBwr6.dpuf

## www.oafc.on.ca

## CFSA Durham College Student Chapter

Article by David Dobromilsky, Chapter Chair



September 2014 marked the creation of the Durham College Chapter of the Canadian Fire Safety Association (CFSA). Under a new initiative the CFSA partnered with the College's Fire and Life Safety Technician Program and Pre-Service Fire program to have all students become active student members to the association. In return a sanctioned chapter was created.

Over this school year the students have held two successful CFSA events on campus at Durham College. The first one back in November had Gord Yoshida of the Office of the Fire Marshal and Emergency Management speak on Fire Code changes. The seminar highlighted section 9.7 retrofit for care occupancies and was well attended.

The second one, in March 2015, the students planned and successfully held a Career Fair and Networking Luncheon. It saw many major companies attend and allowed graduating students an opportunity to meet and learn about various positions within the Fire and Life Safety Industry. Lunch followed directly after which then saw a Technical Seminar on Smoke Management Systems. Eric Esselink President at LRI Engineering Inc. educated attendees on how to manage smoke in large arenas.

The Chapter has instilled the importance of continual upgrading of education; while also teaching many life skills to the students. The benefits of the chapter go beyond the networking and skill sets gained; it also ensures that the new generation of Life Safety professionals understands the importance of associations and working to make a difference.

### **Chapter Executive Board:**

Robert Pratt – President Jason Rappos- Vice President Mason Davie Dylan Lyver Kelsey Legette Michael Sorichetti

The future looks bright for the chapter and on behalf of the board of Directors I would like to thank the students for their hard work and dedication this past school year.

See pictures below:



## **Industry News** Molly the Fire Dog

Terry Von Zuben - Whitby Fire and Emergency Services



In 1950, The Ad Council created a Public Fire Safety campaign. They approached the National Fire Protection Association (NFPA) to be the sponsor and in 1951 "Sparky the Fire Dog" was introduced to the public. Sparky and the NFPA paved the way for community fire safety education in North America. They changed the fire safety message from a negative one of consequences and danger to a positive message of safety and empowering everyone to make safe choices. Fol-

lowing in the paw prints of Sparky comes Molly the Fire Dog. Molly is a purebred Dalmatian that came to Whitby Fire and Emergency Services from The Dalmatian Rescue of South West Virginia in 2012.

Working with Molly the Fire Dog always presents exciting opportunities! The question we are asked most often is "what kind of dog is she?" Depending on the age of the learner or their relationship to the fire service we always have an answer ready.

Most children immediately recognize Molly as a "fire dog". As an educator, being approached by an excited child and an interested parent is the opportunity we all wait for! I often explain to children that Molly is in fact a real "Fire Dog" and compliment the child on recognizing her. For children, this is not happenstance. In using a live Dalmatian, we are not only evoking the image of Sparky and the fire safety message it represents, but we are also calling to mind fire service tradition and the history of horse drawn fire wagons, Dalmatians and firefighters. Making a connection with the learner is why we use a dog in our programs. In introducing Molly the Fire Dog to young learners, we provide a context for the information we are presenting and method of social learning to help them remember.

Many older adults can relate to a time when working animals were common. They often ask, "what does your dog do?" Then, depending on the age of each person we are visiting with, they may remember a time when there was a milk man or a butcher whose carts were pulled by horses. In the days of horse drawn carts, a dog would be raised in the stable and was often allowed to protect and care for the horses. This, I explain to older adults, was the origin of the "fire dog". Dalmatians were bread as coach dogs to protect and lead the horses to the fire.



Unfortunately, for a number of reasons, many older adults have had to give up their pets and often look for an opportunity to interact with a calm and gentle animal. This presents an opportunity for our fire service to ensure the life safety needs of these older adults are being met and allows us to open a discussion with them.

Bringing Molly to help at fire safety presentations has worked universally with all populations and most cultures, provided we are respectful of the individual learner if they do not wish to involve themselves with the dog in any of our fire safety programs.

Molly has become more than our Department Mascot. Mayor Pat Perkins and the Councillors of the Town Of Whitby were very supportive in the use of Molly as a Public Education Dog. The concept is simple, any behaviors we need to teach a five year old child to survive a fire Molly has been taught how to teach and with direction from a Fire Prevention Officer, Molly will "Stop, Drop and Roll", "Crawl Low" under smoke, "Check A Door" and "Test a Smoke Alarm". These are life saving skills every child must have. Molly also attends most Fire Department events, along with her duties at ceremonial functions.

Some of the programs Molly assists with are: Learn Not To Burn, Drowning Awareness, Remembering When, Community Helpers, Ever Alert/Alarmed For Life, 9.1.1. Awareness, Emergency Preparedness, Burn Prevention, Dog Bite Prevention, E.D.I.T.H. / Home Escape Planning, Fire Chief For A Day, and Road Safety Awareness. If you are interested in using Molly or her image for a Public Education Program or Fire Service Promotion please contact:

Terry Von Zuben at Whitby Fire and Emergency Services 905 668-3312 or 905 430-4300 Extension 5226 Email at: vonzubent@whtby.ca Facebook/mollythefiredog

## **Industry News** Fire Drills Understanding Barriers for People with Disabilities (PWD)

By: Nicole Cormier, AODA and Accessibility Consultant

People with disabilities face unique concerns in the event of a fire emergency. Challenges such as hearing or vision loss, cognitive impairments, or mobility restrictions can affect a person's ability to detect a fire, and evacuate independently. Consequently, people with disabilities can be more vulnerable to injury and fatalities if facing fire.

Taking proactive measures to identify specific fire hazards and barriers, selecting and implementing appropriate fire protection technology, and practicing emergency response behaviour can help mitigate risks.

### **Fire Safety Planning**

General fire safety practices apply to all people, with or without disabilities and emergency preparedness is the best defence. People with disabilities are encouraged to make their needs known to co-workers and employers, or neighbours and building management. People with disabilities should exercise their right to be included in their own emergency planning and facility fire drills.

The Ontario Fire Code requires Fire Safety Plans to include evacuation procedures with special provisions for "persons requiring assistance." Special accommodations should be made in consultation with those requiring assistance, to take into account their unique circumstances in the context of a specific facility.

Under the Accessibility for Ontarians with Disabilities Act (AODA) organizations must:

- Provide publicly available emergency procedures, plans or safety information in accessible formats or with communication supports, upon request
- Provide individualized workplace emergency response information to employees who would require support to evacuate

### When fire is detected

Cooking is the leading cause of fires in residential and commercial settings, including offices. People with disabilities may be at an increased risk for accidents involving fires and burn injuries. For example, people who are blind or have low vision may not be able see the size or exact source of a fire and would be less likely to be able to extinguish even a small fire. Attempting to do so could pose risk of serious burns. Meanwhile, fire spreads quickly, becoming a serious threat and leaving less time to evacuate.

Mobility impairments can also hinder attempts to extinguish even small fires. If clothing or nearby combustible materials have caught fire, traditional methods of extinguishing the flames are not applicable. "Stop, Drop, and Roll," the proper method for extinguishing burning clothing, may not be a viable option for persons with significant mobility impairments.

It is recommended that people at greater risk consider residences equipped with automatic fire sprinkler systems. In Ontario vulnerable persons will benefit from recent changes to the Fire Code requiring retrofit of automatic sprinklers in retirement, care and treatment facilities whose residents require assistance to evacuate<sup>2</sup>.

### **Alerting Occupants and Emergency Responders**

The first step to alert occupants to danger is the proper placement and maintenance of smoke and fire detectors. Many systems can also detect carbon monoxide. In the event that calling the fire emergency services would pose a challenge, fire notification systems can be linked to fire monitoring stations to summon help.

People with substantial hearing impairments cannot rely on traditional audible smoke and fire alarms, but can rely on visual alarms equipped with high-intensity strobe lights. Vibrating beds and pillows are also available to awaken people who are deaf or hard of hearing and alert them to the presence of a fire. To be effective, visual alarms and vibrating devices must be linked to smoke alarms located in the common areas of the building. Centrally located alarms will trigger linked alarms in other occupied areas providing early warning with maximum time to evacuate.

### **Updated Codes**

Ontario's Building Code (OBC) requires visual fire alarms and emergency notification systems in public hallways of most buildings such as arenas and stadiums, apartment dwellings, business offices, hospitals, and at least 10% of the sleeping quarters of hotels or motels, as well as seating areas of theatres and other entertainment facilities.

Recent amendments to the OBC under Ontario Regulation 368/13 require all new residential buildings – including apartments, condos, and houses – to have their smoke and fire alarms include a visual component as of January  $2015^{3,4}$ .

It is beyond the scope of this article to address who may be responsible for the cost or installation of visual fire alarms

and/or notification systems within existing residential or commercial units. Should a request for accommodation be received, employers, property owners and property managers should be aware of their duty to accommodate people with disabilities under the Human Rights Code.

### **Escape routes**

Common barriers with egress routes can include dim emergency lighting, communications, manual and power operated doors, elevators and stairs, widths of emergency doorways and force required to operate them, exit thresholds, and exterior paths and lighting.

In the event of emergency, the senses people depend on may be overwhelmed. High decibel smoke alarms may interfere with emergency evacuation communications. People may also experience wayfinding difficulties if smoke or poor emergency lighting obscure the way out.

People with cognitive, learning, or mental health disabilities are very diverse and may, or may not require assistance during emergency evacuation. A person would be considered at risk if for example, confusion or fear prevented them from responding appropriately.

Practicing fire safety is the most effective means for those with disabilities to improve chances of timely evacuation. By planning and practicing an escape plan, little time would be lost searching and feeling for unfamiliar exits in the event of an actual emergency.

### Alternate routes

In the event of a fire, people may not be able to exit a building in the same manner by which they entered. Elevators are unsafe as they can trap the user inside a burning building. Some elevator shafts can act as chimneys, funnelling smoke and toxic fumes to floors above. In addition, heat emanating from a fire may activate the button to call the elevator, thereby bringing elevator riders directly to the floor of the fire. Only "FF" Rated elevators may be operated by rescue personnel and occupants must be escorted.

Practicing exit drills is important to pre-determine likely physical limitations and barriers in crisis situations. Mobility impairments encompass more than people who use wheelchairs or scooters. Some people may have unrealistic expectations about their abilities in a real emergency situation, including people with arthritis, heart conditions, asthma, injuries and other conditions. 10% of the population would have difficulty evacuating a building using stairs. Individuals with mobility challenges may find their emergency planning is simplified if living or working on the ground floor can be arranged. When escape is not an option, fire protection devices such as sprinkler systems, fire separations and predetermined "areas of safe refuge" can all be part of approved fire safety plans when an active threat is present.

Fire and other emergencies such as floods or power failures necessitate alternative means for exiting the premises. Specialized equipment such as evacuation chairs can transport people with limited mobility down flights of stairs.

### Consult, plan and practice

It is important for all individuals, and particularly those requiring special assistance, to prepare for emergencies and practice drills. Knowing location(s) of escape routes and exits, and practicing fire evacuation plan procedures can reduce confusion in the event of a real emergency.

It is key to include people with disabilities in their own evacuation plan. Accommodations that are required will differ between individuals. Even people with similar disabilities may not need the same type of support. Consult them about their needs and expectations, and any support people they agree to involve; and maintain confidentiality.

Support with individualized emergency planning is available from a variety of experts including accessibility consultants, occupational therapists, Fire and Life Safety consultants, fire equipment providers, installers, monitoring stations and the Office of the Fire Marshal.

An earlier version of this article appeared in Abilities Magazine, Summer 2010 Edition. This article has been provided for informational purposes only and is not intended and should not be construed to constitute legal advice. © 2014 Resonance Strategic.

Nicole Cormier, AODA Compliance and Training (www.aodact.ca)

AODA Compliance and Training.ca is owned and operated by Resonance Strategic. We provide full-service support to organizations working toward accessibility and compliance with Accessibility for Ontarians with Disabilities Act (AODA) legislation.

According to the World Fire Statistics Centre, an estimated

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## Building Permits for work required to comply with the Fire Code

By Susan Clarke, P.Eng., MBA Fire Protection Engineer Office of the Fire Marshal and Emergency Management

The following information is intended to assist building officials in evaluating building permit applications for proposed construction on existing buildings, where the construction is needed to satisfy the Fire Code, or an Inspection Order issued under the Fire Protection and Prevention Act, 1997 (FPPA).

### Background

The Building Code is intended to be used for the design of new buildings, additions, renovations, and material alterations or repair of building systems. It is also used for changes of use where no construction is proposed, and where construction is proposed. The Fire Code is a set of minimum requirements respecting fire safety within existing buildings and the surrounding property. The two are intended to work together as companion regulations.

It may be necessary for work to be done on a building or a system, in order to comply with the Fire Code. If so, a building permit must be obtained to do this work. Similarly, where an Inspection Order is issued under the FPPA and work is necessary to comply with the order, a building permit must also be obtained. The work required may be to a lesser standard than what would be required for compliance with the Building Code.

### **Inspection Orders**

One of the enforcement tools available to a fire inspector is to issue an Inspection Order directing the owner or occupant of a property to take an action to ensure fire safety. These are described in Section 21 of the FPPA as follows:

**21.(1)** An inspector who has carried out an inspection of land or premises under section 19 or 20 may order the owner or occupant of the land or premises to take any measure necessary to ensure fire safety on the land and premises and may for that purpose order the owner or occupant,

- (a) to remove buildings or structures from the land or premises;
- (b) to make structural and other repairs or alterations, including material alterations, to the buildings or structures;
- (c) to remove combustible or explosive material or anything that may constitute a fire hazard;
- (d) to install and use specified equipment or devices as may be necessary to contain hazardous material on the land or premises and, in the event of a fire, to remove or transport the material;
- (e) to discontinue the manufacturing, production or fabrication of any material, device or other thing that creates or poses an undue risk of fire or explosion;

- (f) to do anything respecting fire safety including anything relating to the containment of a possible fire, means of egress, fire alarms and detection, fire suppression and the preparation of a fire safety plan;
- (g) to remedy any contravention of the fire code.

As several of these items may result in or involve construction or demolition, Section 22 of the FPPA ensures potential conflicts are averted where the building in question has been constructed to comply with the Building Code.

**22.(1)** No inspector shall make an order under clause 21 (1) (b) requiring structural repairs or alterations to a building, structure or premises that was constructed in compliance with the building code established under the Building Code Act, 1992 or under a predecessor to that Act and that continues to comply with that code as it existed at the time of construction, unless the order is necessary to ensure compliance with the provisions of the fire code relating to the retrofitting of existing buildings.

## The Fire Code – examples of requirements that may necessitate construction

Work that may be required to comply with the Fire Code may be related to repair of existing construction, for example:

**2.2.1.1.** Where fire separations between major occupancies are damaged in a manner so as to affect the integrity of their fire-resistance rating, such damaged fire separations shall be repaired so that the integrity of the fire separations is maintained.

It may also relate to the installation, repair or replacement of service equipment:

**2.6.1.12.(1)** Commercial cooking equipment shall be provided with exhaust and fire protection systems in conformance with NFPA 96, "Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations.

Or to the introduction of extinguishing systems to protect property:

**3.3.1.8.(1)** Where the floor area of a tire storage location exceeds 250 m2, the floor area shall be provided with an approved automatic fire extinguishing system installed in conformance with NFPA 13, "Standard for the Installation of Sprinkler Systems".

Part 9, Retrofit of the Fire Code, provides for upgrading of existing buildings through retrofit. At times buildings will need to undergo construction in order to meet these requirements. The term "retrofit" is defined as the minimum performance requirements for life safety for existing buildings. Currently the Fire Code includes retrofit requirements for the following occupancies:

- Assembly Occupancies
- Boarding, Lodging and Rooming Houses
- Health Care Facilities
- Buildings up to and including 6 Storeys in Building Height with Residential Occupancies
- Buildings Higher than 6 Storeys in Building Height with Residential Occupancies
- · Buildings with a Care Occupancy or Retirement Home
- Two Unit Residential Occupancies
- Hotels

Requirements for each of these occupancy types are outlined in dedicated Sections within Part 9 of the Fire Code. Each Section is further subdivided to address the four principles of life safety:

- Containment
- Means of egress
- Fire alarm and detection
- Suppression

Existing buildings containing these occupancy types are required to meet the minimum level of life safety established by the Fire Code. Often existing buildings predate the Building Code, or an important edition where particular fire safety features were introduced. Subsection 9.1.2. provides exemptions from retrofit provisions for buildings or parts that satisfy a referenced edition of the Building Code.

### **Building Code References**

Often when work is required to comply with the Fire Code, reference is made to the Building Code, such as in Part 2:

**2.6.1.4.(2)** A chimney, flue, or flue pipe shall be replaced or repaired to eliminate (a) any structural deficiency or decay

(3) Chimneys, flues and flue pipes that constitute a fire hazard shall be repaired or replaced in accordance with the Building Code.

Part 9 includes numerous references to the Building Code, for example:

**9.3.2.1.** Fire separations required by this Section to have a fire-resistance rating shall comply with Subsection 9.10.3. of the 1986 Building Code.

**9.5.3.7.(1)** Each fire escape used as an exit shall be in accordance with Articles **3.4.7.2**., **3.4.7.3**., **3.4.7.5**. and **3.4.7.6**.of the 1990 Building Code.

Retrofit requirements for existing buildings may not be as stringent as those found in the Building Code, for instance:

**9.7.5.1. (1)** An automatic sprinkler system shall be installed in each building in accordance with NFPA 13, "Standard for the Installation of Sprinkler Systems".

(3) Despite Sentence (1), in a building not greater than 6 storeys in building height, a sprinkler system may be installed in accordance with NFPA 13R, "Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height".

The question that often arises is how to provide a building permit for work that meets Fire Code standards but does not always meet Building Code standards.

### **Building Permit Process**

The Building Code Act, 1992 (BCA) provides a regulatory scheme requiring a permit from the Chief Building Official (CBO) before proceeding with construction (or demolition) in accordance with Subsection 8.(1) of the BCA. Neither the BCA nor the Building Code require that existing buildings be maintained or retrofitted, except for the maintenance of on-site sewage systems.

The CBO is required to issue permits provided several conditions are met, including that the proposal does not contravene the Building Code or any other applicable law:

**8.(1)** No person shall construct or demolish a building or cause a building to be constructed or demolished unless a permit has been issued therefore by the chief building official.

(2) The chief building official shall issue a permit referred to in subsection (1) unless,

(a) the proposed building, construction or demolition will contravene this Act, the building code or any other applicable law;

As previously mentioned, sometimes work specified in an Inspection Order issued under the FPPA or work required to comply with the Fire Code, does not meet Building Code standards. How can a building permit be issued in these instances?



Subsection **22.(2)** of the FPPA states that work done to comply with either an Inspection Order or with the Fire Code is deemed not to contravene the Building Code.

**22.(2)** If repairs, alterations or installations are carried out in compliance with an order made under subsection 21 (1) or for the purposes of complying with the fire code, the repairs, alterations or installations shall be deemed not to contravene the building code established under the Building Code Act, 1992.

Therefore, when reviewing a building permit application for construction required for these purposes, the CBO should be aware of this provision in the FPPA.

**Subsection 22.(3)** of the FPPA requires the fire inspector making the order under the FPPA to give the CBO a copy of the order. This provision ensures that the CBO is made aware that an order requiring repair, alteration or installation under the FPPA has been issued by the Fire Inspector.

**22.(3)** An inspector who makes an order requiring repairs, alterations or installations to be made to a building, structure or premises shall furnish a copy of the order to the proper chief building official appointed under the Building Code Act, 1992.

As familiarity with Fire Code requirements is helpful when reviewing building permit applications for work to comply with either an Inspection Order or with the Fire Code, consultation with the municipal fire department may be necessary to ensure the plans review and inspections processes are coordinated.

### **Checking Municipal Records**

Where an owner applies for a building permit to comply with an Inspection Order, and a review of municipal records indicates that the occupancy type is not consistent with that permitted by the zoning bylaws, s/he may issue a conditional permit as provided in the OBC reference:

**1.3.1.5.(3)** Div. C For the purposes of issuing a conditional permit under subsection 8 (3) of the Act, a person is exempt from the requirement in clause 8 (3) (a) of the Act of compliance with by-laws passed under sections 34 and 38 of the Planning Act where the construction in respect of which the conditional permit is issued is required in order to comply with an order issued under subsection 21 (1) of the Fire Protection and Prevention Act, 1997 or under subsection 15.9 (4) of the Act.

(4) A permit issued under subsection 8(3) of the Act shall indicate its conditional nature.

In this way the owner is able to satisfy the Inspection Order, but will be required to satisfy any conditions set by the CBO within a set time frame.

Where an owner applies for a building permit to comply with the Fire Code, and a review of municipal records indicates that the occupancy type on the OBC Matrix is not consistent with that on municipal records, the building official is encouraged to confer with fire and zoning officials to determine an appropriate course of action which may vary on a case by case basis, to ensure interim safety of the occupants in the building.

## ULC Standard Updates



CAN/ULC-S524-14 - Standard for Installation of Fire Alarm Systems - published Aug 2014.

CAN/ULC-S527-11 AMMENDMENT 1, Standard for Control Units for Fire Alarm Systems - published Aug 2014.

CAN/ULC-S528-14 - Standard for Manual Stations for Fire Alarm Systems Including Accessories - published Nov 2014.

CAN/ULC-S531-14 - Standard for Smoke Alarms - published Feb 2014.

CAN/ULC - S552-14 - Standard for Inspection, Testing and Maintenance of Smoke Alarms - published Feb 2014.

CAN/ULC-S553-14 - Standard for the Installation of Smoke Alarms - published Feb 2014.

CAN/ULC-S576-14 - Standard for Mass Notification Systems - published Sep 2014.

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

## Coordination of Electrical Fire Pump Installations in Canada

By Michael B. Norris, Project Manager, Toronto, Canada, Aon Fire Protection Engineering

Fire pumps are often a necessary part of a sprinkler or standpipe fire protection system. The fire pump is used to increase the pressure delivered to the fire protection system. Therefore, from a fire protection point of view, we want to make sure that a fire pump will operate in the event of a fire, at all costs.

The fail safe condition that we impose on electrical fire pumps can have a competing interest from an electrical safety perspective. The sizing we allow and require, for the overcurrent devices feeding a fire pump can promote an unsafe working condition if not properly coordinated with the buildings electrical system.

A large inrush of current is needed to start an electrical motor's rotation. Once the motor is running at full speed, only a fraction of the starting current is needed to keep the motor operating. Small, low voltage motors often use a capacitor to provide the short lived energy needed to start the motor.

Other motors, including fire pumps, often take advantage of special motor control configurations or wiring types.



Electric vertical in-line fire pump

Types include: part winding, wye-delta, primary reactor or autotransformer options to reduce the amount of power needed to start the motor. These options start the motor slowly then transition to full motor speed.

Fire pump controllers that take advantage of one of the reduced power starting options typically are provided with an emergency manual run device that starts the pump in an across-the-line configuration. This is implemented to either comply with rules of NFPA 20, The Standard for the Installation of Stationary Pumps for Fire Protection, or to provide added reliability.

NFPA 20 provides several acceptable power supply configurations that are available to safeguard the operation of a fire pump so it will work when required. The preferred options are a dedicated service, an onsite power production facility, a dedicated feeder, or a dedicated transformer.



Electric horizontal split-case fire pump

In some circumstances, these options are not available to supply the fire pump either due to the existing condition of the electrical service or by prohibition of the local electrical authority. If the power source is not considered reliable or one of the dedicated electrical service options is not possible, a standby backup generator can be used to aid in the reliability of the fire pump's operation.

The Ontario Electrical Safety Code (OESC) permits a fire pump to be connected as a direct and dedicated service without an interrupting device between the fire pump controller and the utility connection. If a breaker (interrupting device) is provided upstream of the fire pump controller, within the normal supply circuit, the Ontario Electrical Code States the following:

### 32-206 Disconnecting means and overcurrent protection

(1) No device capable of interrupting the fire pump circuit, other than a circuit breaker labeled in a conspicuous, legible, and permanent manner identifying it as the fire pump disconnecting means, shall be placed between the service box and a fire pump transfer switch or a fire pump controller.

(5) Where the circuit breaker conforming to this Rule is installed in a normal supply circuit upstream of the fire pump controller, the rating or setting of the circuit breaker shall be not less than the overcurrent protection that is provided integral with the fire pump controller.

The intention of OESC sentences (1) and (5) is to ensure the reliability of the fire pump's operation and to be coordinated with NFPA 20. However, these sections are often misapplied as either too restrictive or conservative. The fire pump controller circuit breaker is often an integral part of the fire pump controller's isolation switch.

Fire pump controllers are provided with two basic types of disconnecting means. A controller provided with a circuit breaker which has a continuous rating of 115% of the full load current, and an instantaneous trip setting that is not more than 20 times the full load current. These breakers are specifically tested by a third party testing agencies such as Underwriters Laboratories or Factory Mutual.



Electric fire pump controller with automatic transfer switch

The second overcurrent device within a fire pump controller is rated at 600% of the full load current, and is required to operate within 8-20 seconds of an overcurrent condition in excess of the locked rotor current value. This device is not a circuit breaker by standard definitions. It is usually a microprocessor based circuit which activates a relay to disconnect the fire pump controller's isolation switch.

Some fire pump designers size the breaker upstream of the fire pump controller based on 115% of the rated circuit breaker within the fire pump controller. The issue with this interpretation of Rule 32-205 (5) of the OESC is the upstream breaker is not considered reliable when sized at 115% full load current. During the initial motor startup, 600% of the full load current can be expected and the breakers installed upstream of the fire pump controller are not tested to the same degree of accuracy as the breakers within the fire pump controller for continuous rating and instant trip conditions.

Some designers conservatively size the upstream breaker based on the fire pump controller's 600% full load current rating, or lock rotor current protector, and not the locked rotor current value from the fire pump motor.

Fire pump controller manufacturers produce their controllers with the ability to serve a range of fire pump motor sizes. A controller may be designed for the use of a 50 to 75 horsepower motor with the same voltage. The circuit breaker within the controller will be the same size whether the pump motor is 50 or 75 horsepower. Sizing the breaker based on the controller will result in a larger breaker than may be needed to protect the pump from a potential power loss from the upstream breaker when overcoming the locked rotor current. Slightly oversizing the upstream breaker generally isn't an issue from a fire protection standpoint, as we do not want any device to inadvertently prevent the fire pump from running when it is needed.

From an electrical safety standpoint, the sizing of the upstream breaker, or providing a breaker at all in the case of a direct dedicated service feed, may be critical to life safety. It ensures a safe working environment for workers needing to access the inside of the fire pump controller while the upstream connection is live. Although not a mandatory guideline at this time, Canada has produced CSA-Z462, the Workplace Electrical Safety, document, which is very similar to NFPA 70E the Standard for Electrical Safety in The Workplace.

Fire pump controllers can have a relatively large arch-flash potential when work is being performed within an open live controller cabinet. Some newer model fire pump controllers have moved the controls for adjusting the fire pump set pressure on/off points to the exterior of the controller as well as the USB connection.

There are still a number of controllers being manufactured that need the front door to be open to set the pressure points and obtain a USB download of the fire pump history. In this case the only thing protecting the worker from an arch flash is the utility company's primary fuses if there is no upstream circuit breaker before the fire pump controller.

One of the main factors which impacts the acceptable limits of approach for live work is the circuit breakers response time to an arch-flash. If there is no upstream breaker provided the incident energy levels outlined in the hazard analysis as part of CSA-Z462 or NFPA 70E may indicate a prohibited work area boundary. In some instances, this results in a worker being so far away from the controller that it is not possible to work on the controller with the door open.

Providing a breaker upstream of the fire pump controller is good practice to help reduce the potential arch-flash time and energy. It is important to size the breaker so that it does not cause the fire pump to fail when needed. Therefore, sizing the breaker based on the motors locked rotor current value should be provided whenever possible. This will help ensure the breaker is not so large that unreasonable archflash risks are present. Also, the pump will not be inadvertently disconnected from a momentary over current condition during the fire pump's startup.

Consideration should be made for providing an emergency power supply such as a generator to augment the reliability of the fire pump's operation when the normal source of power is not considered reliable. This can be a result of either the utility company's inability to provide consistent power, or when there are multiple disconnecting means provided upstream of the fire pump controller.

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O Corporate Plus (	C3) \$ 774.34	\$ 100.66	\$ 875.00
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Tristan Batton-Cruz

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