

**Ministry of Community Safety  
and Correctional Services**

**Office of the Fire Marshal and  
Emergency Management**



**REPORT**

**ON**

**IMPROVING CARBON MONOXIDE  
SAFETY FOR ONTARIANS**

**TECHNICAL ADVISORY COMMITTEE**

**CARBON MONOXIDE ALARMS**

**FEBRUARY 28, 2014**



## **TABLE OF CONTENTS**

Acknowledgement .....	2
Members List .....	3
Terms of Reference .....	6
Background & Committee Activity.....	8
Committee Recommendations .....	10
Additional Discussion.....	12

## **ACKNOWLEDGEMENT**

On behalf of the Fire Marshal and Chief of Emergency Management, I would like to thank the committee members who generously volunteered their valuable time and knowledge towards the development of these recommendations. The committee's thoughtful recommendations are expected to significantly enhance the safety of all Ontario residents from the harmful effects of unsafe levels of carbon monoxide. Pending government approval, the recommendations will be implemented and/or proceed to public consultation as proposed changes to the Ontario Fire Code (OFC), where appropriate.

A special note of thanks to OFMEM staff who provided technical and administrative support to the work of the committee.

Al Suleman, P.Eng.  
Assistant Deputy Fire Marshal

## **MEMBERS LIST**

### **CHAIR**

Al Suleman  
Assistant Deputy Fire Marshal

### **MEMBERS (Alternates)**

Steve Clemens  
Canadian Fire Alarm Association

David Morris  
Canadian Fire Safety Association

Joann Bentley (Chris Kenopic)  
Canadian Hearing Society

Rocco Delle Fave  
City of Toronto Fire Services

Linda Pinizzotto  
Condo Owners Association of Ontario

Doug Frost  
Federation of Ontario Bed and Breakfast Accommodation

Mike Chopowick  
Federation of Rental-Housing Providers of Ontario

Wayne Nie  
Fire Fighters Association of Ontario

Terry Mundell  
Greater Toronto Hotel Association

John Gignac  
Hawkins-Gignac Foundation

Steve Tomlin  
Hotel Engineers Association of Toronto

Doug DeRabbie  
Insurance Bureau of Canada

Jim Rotz  
JBC Canada-First Alert

John Ward  
Kidde Canada Inc.

Rick Pereira  
Ministry of Community Safety and Correctional Services

Sarah Jeffrey-Hampton  
Ministry of Consumer Services

Aaron Moffat  
Ministry of Education

Nadim Khan  
Ministry of Municipal Affairs and Housing

Eve McDonald (Nadia Hawkins, Marc Cousineau)  
Ministry of Labour

David Craddock  
Ontario Association of Architects

Jim Jessop  
Ontario Association of Fire Chiefs

Keith Doucette  
Ontario Building Officials Association

Chantelle Cosgrove  
Ontario Municipal Fire Prevention Officers Association

Jenn St. Louis (Jon Meadow)  
Ontario Non-Profit Housing Association

Asim Qasim  
Ontario Public Health Association

David Ogilvie  
Ontario Retirement Community Association

Amy Padro  
Parachute Canada

Grace Sammut (Glenn Spriggs)  
Resorts Ontario

John Marshall  
Technical Standards and Safety Authority

**OFMEM TECHNICAL SUPPORT**

Armen Kassabian  
Beth Tate  
Chris Slosser  
Gord Yoshida  
Jim Chisholm  
Mariano Perini  
Michael Ng  
Pierre Yelle

## **TERMS OF REFERENCE**

### **OBJECTIVE:**

To recommend to government a uniform provincial standard for the installation and maintenance of carbon monoxide (CO) alarms in existing residences (with a fuel-fired heating system or appliance, fireplace, or attached garage or carport) consistent with standards for new construction under the Ontario Building Code.

### **TASKS:**

1. To confirm the scope of the review.
2. To review current provisions for CO alarms in new residential construction and recommend complementary retrofit provisions for existing buildings.
3. To consider and recommend ongoing maintenance requirements and replacement schedule for CO alarms.
4. To recommend options for timing and implementation of recommendations.

### **PROCESS:**

The Technical Advisory Committee will be chaired by the Assistant Deputy Fire Marshal.

The recommendations of the Technical Advisory Committee will be developed through a consensus process, in which key stakeholders have been invited to participate.

It is anticipated that two full day meetings in Winter 2014 will be required to address the identified tasks. If required, additional meetings will be scheduled in consultation with the Technical Advisory Committee.

Subject to government direction, the recommendations of the Technical Advisory Committee will form the basis for a broader public consultation on proposed changes to the Fire Code in Spring 2014. The Technical Advisory Committee may be reconvened to review public consultation feedback as determined necessary by the Chair.

Office of the Fire Marshal and Emergency Management staff will provide secretarial support and technical background information for the Technical Advisory Committee.

**DELIVERABLES:**

The Chair of the Technical Advisory Committee will report to the Fire Marshal and Chief of Emergency Management on the status of the deliberations and the recommendations of the Committee.



## **BACKGROUND & COMMITTEE ACTIVITY**

### **BACKGROUND**

Bill 77, *An Act to Proclaim Carbon Monoxide Awareness Week and to amend the Fire Protection and Prevention Act, 1997* to provide safety requirements related to the presence of unsafe levels of carbon monoxide on premises, received Royal Assent on December 12, 2013. The Act, which has the short name *Hawkins Gignac Act (Carbon Monoxide Safety), 2013*, provides for the regulation of carbon monoxide (CO) alarms through amendments to the Fire Code and proclaims the week beginning November 1 as Carbon Monoxide Awareness Week.

The Act itself does not set out CO alarm installation requirements. It does, however, give the Minister of Community Safety and Correctional Services the authority to make regulations in regard to the risk created by the presence of unsafe levels of carbon monoxide. The Act came into force on the day it received Royal Assent. Some sections (2, 4 and 5) will come into force on a later date, likely to coincide with the date when amendments to the Fire Code are filed.

Furthermore, section 5 of the Act states that under the *Fire Protection and Prevention Act, 1997*, regulatory requirements pertaining to carbon monoxide will supersede all municipal by-laws relating to unsafe levels of carbon monoxide.

To guide the development of uniform provincial requirements for the installation and maintenance of CO alarms in existing residential occupancies, consistent with requirements for new construction under the Ontario Building Code (OBC), the Office of the Fire Marshal and Emergency Management (OFMEM) established a CO Technical Advisory Committee (CO TAC) in January 2014 to review and recommend appropriate amendments to the Ontario Fire Code (OFC).

The CO TAC recommendations will form the basis for a broader public consultation on the proposed changes to the OFC in the Spring of 2014, subject to government direction.

### **COMMITTEE MEMBERSHIP**

The stakeholder organizations and Ontario government ministries represented on the committee may be found at the beginning of the report. The committee was comprised of 30 organizations, representing the fire service, professional and trade associations, advocacy groups, manufacturers, property managers/owners, government ministries and OFMEM staff. The excellent attendance and participation was an indication of the interest of the members in this project.

## **COMMITTEE ACTIVITY**

The Technical Advisory Committee met on January 29, 2014, during which presentations were gratefully received from the Hawkins-Gignac Foundation, JBC Canada, Kidde Canada Inc., Ontario Association of Fire Chiefs, and several OFMEM staff. A technical draft of the regulation was reviewed and deliberated by the committee and recommendations were documented.

Although the Terms of Reference indicated at least two full day meetings to address the identified task, the CO TAC managed to complete this work in one meeting.

The following committee recommendations have been finalized based on the deliberations of the meeting.

## **COMMITTEE RECOMMENDATIONS**

The Technical Advisory Committee (TAC) recommendations are listed below. Majority consensus support was expressed for all of these. The TAC members' knowledge and experience covers a very broad range of administrative, operational and fire prevention/protection expertise, which is reflected in the completeness and thoughtfulness of the recommendations.

<b>REC #</b>	<b>Recommendation</b>
<b>REC 1</b>	Address Residential Occupancies in the scope of the CO alarm regulation. Expand scope to include Care Occupancies and Care and Treatment Occupancies at a later phase, pending consultation with Ministry of Municipal Affairs and Housing (MMAH), Ministry of Labour (MOL) and other affected stakeholders.
<b>REC 2</b>	<p>Support the technical draft in principle, subject to the following amendments:</p> <ul style="list-style-type: none"> <li>a) Benchmark alarm installation requirements to the 2001 OBC to ensure replacement installations do not reduce the level or type of protection required.</li> <li>b) Benchmark replacement alarms to the latest editions of the referenced CSA 6.19 and UL 2034 standards .</li> <li>c) Relax the requirement for “mechanically fixed” installations to permit attachment or placement of battery operated alarms.</li> <li>d) Add a requirement to address tenants’ responsibility to report non-functioning alarms.</li> <li>e) Change “alter” to “reduce” with respect to level or type of protection required for replacement alarms.</li> <li>f) Add a Chief Fire Official discretionary approval option for replacement alarms’ level or type of protection required .</li> <li>g) Consider expanding alarm testing requirements to residential property owners beyond those in a landlord-tenant relationship as appropriate.</li> <li>h) Add alarm replacement schedule that references manufacturer’s instructions.</li> <li>i) Consider adding the following compliance schedule: <ul style="list-style-type: none"> <li>i) 6 months after “in force” date for installation requirements for single family dwellings, and</li> <li>ii) 12 months after “in force” date for installation requirements for all other residential buildings.</li> </ul> </li> </ul>
<b>REC 3</b>	Request the Standards Development Organizations responsible for administering the CSA 6.19 and UL 2034 standards to address visual alarms for the hearing impaired in their next edition.

<b>REC 4</b>	<p>OFMEM and MMAH to discuss technical amendments to the OBC to include additional CO alarm requirements. Corresponding harmonization amendments can then be considered for the OFC. Amendment items include:</p> <ul style="list-style-type: none"> <li>a) Add a visual alarm component for the hearing impaired.</li> <li>b) Clarify what “adjacent” means in relation to a service room, storage garage and sleeping area.</li> <li>c) Add a secondary power source requirement for hard-wired alarms.</li> <li>d) Review OBC reference to UL 2034 standards.</li> <li>e) Review appropriate type and certification of alarms located in service rooms .</li> <li>f) Consider concealed spaces containing fuel-fired appliance ducts and chimneys when determining alarm installation location.</li> <li>g) Permissibility of CO “detectors” that are connected to a fire alarm system.</li> <li>h) Expand installation requirements to include dwelling units located adjacent to other dwelling units that contain fuel-fired appliances.</li> </ul>
<b>REC 5</b>	<p>Include failure to install and maintain operating CO alarms as a ticketable offence under Part 1 of the <i>Provincial Offences Act</i>.</p>

## **ADDITIONAL DISCUSSION**

Although not specifically identified as a recommendation by the CO TAC, there was discussion throughout the meeting surrounding the need to direct public education efforts towards various CO safety themes including:

- a) CO characteristics (colourless, tasteless, odourless, sources, symptoms).
- b) Alarm installation, maintenance and testing.
- c) Maintenance of fuel-fired appliances, vents, flues and chimneys.
- d) The need to replace CO alarms according to manufacturer's instructions .
- e) Recognizing CO alarms' "end of life" signal .
- f) Hazards associated with
  - i) idling cars in garage
  - ii) unsafe generator use
  - iii) using barbecues indoors