

Request for Decision

Carbon Monoxide Alarm By-law

Presented To: Policy Committee

Presented: Wednesday, Jun 16, 2010

Report Date Friday, Jun 04, 2010

Type: Managers' Reports

Recommendation

THAT the Council of the City of Greater Sudbury pass a by-law to require the installation and maintenance of carbon monoxide alarms in all residential occupancies containing fuel fired appliances and/or having attached garage(s) in accordance with the report dated June 4, 2010 from the Fire Chief.

Background

An estimated 414 Canadians died of carbon monoxide poisoning between 2000 and 2007, according to statistics provided by provincial coroners and compiled by the Canadian Press. Hundreds more are treated each year for exposure to the colourless, odourless gas. On January 5, 2009, a resident of our community succumbed to carbon monoxide poisoning.

Carbon monoxide is an odorless, colorless and toxic gas. Because it is impossible to see, taste or smell the toxic fumes, carbon monoxide can kill you before you are aware it is in your home. At lower levels of exposure, carbon monoxide causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea and fatigue. The effects of carbon monoxide exposure can vary greatly from person to person depending on age, overall health and the concentration and length of exposure.

Carbon Monoxide is produced by the incomplete combustion of the fossil fuels, gas, oil, coal and wood used in boilers, engines, oil burners, gas fires, water heaters, solid fuel appliances and open fires.

Dangerous amounts of carbon monoxide can accumulate when, as a result of poor installation, poor maintenance or failure or damage to an appliance in service, the fuel is not burned properly, or when rooms are poorly ventilated and the Carbon Monoxide is unable to escape.

Having no smell, taste or colour, in today's world of improved insulation and double glazing, it has become increasingly important to have good ventilation, maintain all appliances regularly and to have absolutely reliable carbon monoxide detector alarms installed giving both a visual and audible warning immediately when there is a build-up of CO to dangerous levels.

And, it is for these reasons that carbon monoxide detectors are the only way to alert you to increasingly

Signed By

Report Prepared By

Marc Leduc
Fire Chief

Digitally Signed Jun 4, 10

Recommended by the Department

Marc Leduc
Fire Chief

Digitally Signed Jun 4, 10

Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer

Digitally Signed Jun 9, 10

dangerous levels of carbon monoxide before tragedy strikes.

In 2008 and 2009, the Greater Sudbury Fire Service conducted its annual Home Fire Safety Program. As part of the program residents were asked if they had a carbon monoxide detector in their home. The results revealed that:

- In 2008 of the 4,348 homes surveyed 1,118 (26%) answered that they do not have a CO detector.
- In 2009 of the 3,959 homes surveyed 589 (15%) answered that they do not have a CO detector.

The Home Safety Program provides the opportunity for Firefighters to work with the homeowner (or resident) in determining fire safety violations as well as addressing measures to correct them and responding to concerns. In addition, Firefighters take the opportunity to speak with the homeowner about operating smoke detectors, the importance of family fire safety plans, proper use of fire extinguishers, fusing and the proper storage of flammable and other materials. This also provides an opportunity to remind the homeowner that heating devices, gas water heaters, chimneys and fireplaces be inspected annually and cleaned as required. Brochures and fire safety information is provided for the homeowner and their family to review at their convenience.

Ontario Building Code

The Ontario Building Code was amended in 1997 to require the installation of CO detectors in new homes as well as identifying the locations for CO detectors.

Installation and Conformance Standards for CO Detectors

- (1) The carbon monoxide detector required by Article 9.33.4.2 and subsection 6.2.5.A shall:
 - (a) Be permanently connected to an electrical circuit and shall have no disconnect switch between the over current device and the carbon monoxide detector,
 - (b) Be wired so that its activation will activate all carbon monoxide detectors within the suite, where located within a suite of residential occupancy,
 - (c) Be equipped with an alarm that is audible within bedrooms when the intervening doors are closed, where located adjacent to sleeping area, and
 - (d) Conform to
 - (i) CAN/CGA-6.19, "Residential Carbon Monoxide Detectors",
 - (ii) CSA 6.19, "Residential carbon Monoxide alarming Devices", or
 - (iii) UL 2034, "Single and Multiple Station Carbon Monoxide detectors".

Location of Carbon Monoxide Detectors

- (1) Where a fuel-burning appliance is installed in a suite of residential occupancy, a carbon monoxide detector shall be installed adjacent to each sleeping area in the suite.
- (2) Where a fuel-burning appliance is installed in a service room that is not in a suite of residential occupancy, a carbon monoxide detector shall be installed
 - (a) adjacent to each sleeping area in every suite of residential occupancy that is adjacent to the service room, and
 - (b) in the service room.

(3) Where a storage garage is located in a building containing residential occupancy, a carbon monoxide detector shall be installed adjacent to the storage garage.

(4) Where a storage garage serves only the dwelling unit to which it is attached or built in, a carbon monoxide detector shall be installed adjacent to each sleeping area in the dwelling unit.

Preventative Measures

A carbon monoxide detector acts as a secondary or defense mechanism after ensuring that the primary safety measures are addressed and in place. The primary safety measures in preventing a build-up of carbon monoxide in the home are:

1. Having a qualified service technician inspect and clean fuel-burning appliances and furnaces at least once a year;
2. Arranging for annual inspections and cleaning by qualified professionals of vent pipes, exhaust fans and chimney flues for blockages that may interrupt ventilation flow;
3. Not using outdoor fuel-burning apparatus inside your home or garage even if the doors are wide open including; natural gas, propane, charcoal grills, space heaters and pressure washers;
4. Not idling your car, snow blower or lawn mower in the garage.

Addressing Concerns

There are a number of concerns if a Carbon Monoxide Bylaw is implemented:

Impact on the Home Visitation program

If homeowners are in noncompliance of the bylaw, they may refuse entry to their home fearing a fine and thereby preventing the opportunity for a voluntary fire safety inspection.

Enforcement and the right of entry

The Bylaw Enforcement is only allowed into someone's residence, with their permission. Homeowners have the right to refuse and the Bylaw Enforcement Officer must tell them so, unless it is an imminent life safety issue.

Reluctance, delay or hesitancy on the part of the homeowner

Reluctance, delay or hesitancy on the part of the homeowner to call the fire department for alarms other than CO if they have any suspicion or concern that they may be charged for not having a CO detector installed.

Cost

Carbon monoxide detectors are rarely seen below the \$30.00 threshold, which may make it prohibitive if one per floor is required. Those concerned with the potential of carbon monoxide poisoning will have already purchased and installed an approved carbon monoxide detector.

Public Education

Public education plays a primary role in personal safety education. The fire service is heavily involved in public education through and will implement and integrate carbon monoxide information into the following:

1. Learn Not to Burn
2. School programs

3. Voluntary Home Safety Program
5. Public displays
6. Presentations
7. Older and Wiser
8. Alarmed for Life
9. Fire Safety Days
10. Station tours
11. Hazard house
12. Home fire safety education programs

Actions

The carbon monoxide program, regardless of a bylaw being enacted, will be expanded upon the importance of having approved carbon monoxide detectors in the home. This will be accomplished in a number of ways:

1. *Home Safety Program* – Firefighters will monitor and survey the number of residences that have carbon monoxide detectors installed noting the age of the residence, number of detectors and whether they are battery operated or electrical. In addition, where no carbon monoxide detector exists, explain to the homeowner or resident about carbon monoxide, the seriousness of carbon monoxide poisoning, precautionary measures and the importance of installing a certified carbon monoxide detector. Information will also be left with the homeowner to whom they can refer to later.
2. *Public Education* whereby at every display or event, information and material will be made available on carbon monoxide and display a variety of carbon monoxide detectors. Manufacturers and suppliers will be encouraged to provide information and/ or participate in these venues where appropriate.
3. *Media* will be used to provide the information to the general public in seasonal messages emphasizing the importance of maintenance of fossil fuel appliances, etc.
4. *Website* – general information will be posted on the City website regarding carbon monoxide, precautions, signs and symptoms, what to do if you feel you exhibit these signs, etc. as well as links to other sites that bear information pertaining to carbon monoxide such as the Fire Marshall Public Safety Council information.
5. *Pamphlets* will be made available at City Hall and other City facilities that are accessed by the general public on carbon monoxide and the related information indicated above.
6. *Meeting with owners of multi-residential units* regarding carbon monoxide detectors and their effectiveness in order to have these placed in key locations and residences.

As with many by-laws aimed at public safety, compliance is the goal of the carbon monoxide alarm by-law. To that end, the effective date of the by-law is December 1st, 2010. Fire Services and Corporate Communications will undertake a public awareness campaign between now and December 1st in an attempt to educate the public and ensure compliance.

There are several cities throughout Ontario that currently have a by-law requiring carbon monoxide alarms. Some have been established as far back as 1998. Listed Below are some of the cities that currently have Carbon monoxide alarm by-laws.

Toronto	Mississauga	Brampton
Niagara Falls	Caledon	Oshawa
Orangeville	Georgina	Pickering
Richmond Hill	Sault Ste Marie	North Bay
Vaughan		

****Note: Please see attached 'sample' Carbon Monoxide Alarm By-law**

A by-law to require the installation and maintenance of Carbon Monoxide Detectors in all residential occupancies containing fuel fired appliances

WHEREAS Council has authority under Section 102 of the Municipal Act. R.S.O. 1990, c.M.45, as amended to pass by-laws for the health, safety, morality and welfare of the inhabitants of the municipality;

AND WHEREAS carbon monoxide poisoning is a serious health risk to residents of dwellings containing fuel fired appliances;

NOW THEREFORE the Council of the City of Greater Sudbury ENACTS as follows:

1. In this By-law,

“Carbon Monoxide Detector” means a device which initiates an audible signal either locally or to a supervised location, when excessive concentrations of carbon monoxide are detected, and which is listed as conforming to CAN/CGA 6.19 or UL 2034 standards;

“Check” means visual observation to ensure the device or system is in place and is not obviously damaged or obstructed ;(403-99)

“Dwelling Unit” means a building or part of a building, comprised of a room or series of rooms operated as a housekeeping unit, used or intended to be used as a domicile by one or more persons and which may contain cooking, eating, living, sleeping and sanitary facilities, and including its respective appurtenant hallways;

“Fuel Burning Appliance” means appliances such as, but not limited to furnaces, refrigerators, clothes dryers, water heaters, boilers, fireplaces, woodstoves, charcoal grills, gas ranges and space heaters, which are fired by flammable fuels such as, but not limited to natural gas, propane, heating oil, kerosene, coal, gasoline, wood and charcoal;

“Multi Unit Residential Structure” means any building that contains more than one Dwelling Unit and includes but is not limited to apartment buildings, boarding, lodging and rooming houses, nursing homes, hotels, motels and hospitals;

“Ontario Building Code” means Ontario Regulation 403/97, issued pursuant to the Building Code Act, S.O. 1992, c/23, as amended from time to time and includes any successor legislation or regulation;

“Owner” includes any person, firm or corporation having control over any portion of a Dwelling Unit or a Multi Unit Residential Structure and includes the persons in occupation of a Dwelling Unit or a Multi Unit Residential Structure;

“Service Room” means any room containing a Fuel Burning Appliance, located in a Multi Unit Residential Structure, which is not a Dwelling Unit or within a Dwelling Unit.

“Test” means the operation of a device or system to ensure that it will perform in accordance with its intended operation or function; (403-99)

2. Every Owner of a Dwelling Unit and a Multi Unit Residential Structure shall operate and maintain heating, ventilating and air conditioning systems, including appliances, chimneys and flue pipes, so as not to create a hazardous condition.

3. Every Owner shall install or cause to be installed a minimum of one (1) Carbon Monoxide Detector;

(a) in each Dwelling Unit which contains a Fuel Burning Appliance; and

(b) in the case of a Multi Unit Residential Structure, in each Dwelling Unit located on the same floor level as a Fuel Burning Appliance and in each Service Room, provided that the detector installed in each Service Room shall be equipped with a remote signal, visible and audible in a supervised or conspicuous location.

(c) Every owner shall supply a copy of the carbon monoxide detectors manufacturer’s maintenance instructions to the occupant(s) of a dwelling unit.(403-99)

(d) The occupant(s) of a dwelling unit shall maintain the carbon monoxide detector in operating condition at all times in accordance with the manufacturer’s maintenance instructions.(403-99)

(e) The owner shall ensure that the carbon monoxide detectors required in this by-law are checked and tested and are in good working order, at least annually.(403-99)

4. If a Carbon Monoxide Detector is required and has been installed in a Dwelling Unit in accordance with the requirements of the Ontario Building Code, then the Dwelling Unit shall be deemed to comply with this by-law.

5. Every Owner of a Dwelling Unit or a Multi Unit Residential Structure shall ensure that each Carbon Monoxide Detector installed in a Dwelling Unit or a Service Room is installed in accordance with the manufacturers’ instructions and shall be equipped with an alarm that is audible within all bedrooms when the intervening doors are closed.

6. Every Owner of a Dwelling Unit or a Multi Unit Residential Structure shall ensure that each Carbon Monoxide Detector installed in a Dwelling Unit or a Service Room is maintained in good operating condition and in accordance with the manufacturers’ instructions.

7. Every Owner shall ensure that where an electrically powered Carbon Monoxide Detector is installed, each such Carbon Monoxide Detector shall;

(a) be equipped with visual indications that it is in operating condition; and

(b) have no power switch between the Carbon Monoxide Detector and the power distribution panel.

8. Every person who contravenes any provision of this By-law is guilty of an offence and upon conviction, is liable to a fine of not more than \$5,000.00 exclusive of costs.

9. This by-law shall come into force on December 1, 2010.

10. If a court of competent jurisdiction declares any provision, or any part of a provision, of this By-law to be invalid, or to be of no force and effect, it is the intention of the Council in enacting this By-law, that each and every other provision of this By-law be applied and enforced in accordance with its terms to the extent possible according to law.

11. This short title of this by-law is “The Carbon Monoxide Detector By-law”.

ENACTED and PASSED this _____ day of _____, 2010.