

Carbon Monoxide Alarms in Residential Buildings

ISSUE

Effective July 1, 2022, every building with residential occupancy in Saskatchewan, regardless of construction date, required carbon monoxide (CO) alarms in accordance with the *National Building Code* through the provincial *Construction Codes Act (Act)* and Building Code Regulations. Despite this mandated requirement, there were no provisions in the Act for the enforcement of such requirements by municipal fire services. Regulations have since been enacted that permit municipal fire services, including the Saskatoon Fire Department (SFD), to enforce CO alarm requirements. What approach should the City of Saskatoon (the City) take with respect to the requirement of CO alarms in residential buildings?

BACKGROUND

At its [January 25, 2021 City Council Regular Business Meeting](#), City Council considered a Notice of Motion and resolved:

“Could the Administration report with information on the current approach and requirements on Carbon Monoxide Alarms in properties in the City of Saskatoon, and what options are available to require CO detectors in buildings older than 2009. Please include a review of best practices of how other Cities have addressed this challenge”.

At the [January 11, 2023, Standing Policy Committee on Planning, Development and Community Services](#), the SFD provided information that regulations were being drafted and considered through the Fire Sector Advisory Committee (FSAC) arranged by the Saskatchewan Public Safety Agency (SPSA). The report noted that SFD was awaiting their decision before making recommendations to align with the requirements for Saskatchewan’s fire services.

The SPSA consulted with representatives from Saskatchewan’s municipal fire services on placement of CO requirements through the Saskatchewan Regulations, into *The Fire Safety Act*. Subsequently, on February 16, 2023, the Lieutenant Governor in Council (i.e., Cabinet) issued Order in Council 48/2023 (OC 48-2023), *The Fire Safety Amendment Regulations, 2023*. OC 48-2023 amended the existing fire safety regulations to, among other things:

“compliment recent changes to the Ministry of Government Relations’ (GR) The Building Code Regulations (BC Regulations) that require all buildings with a bedroom to have carbon monoxide (CO) alarms and smoke alarms in residential buildings. This provides authority to fire inspectors to enforce and issue orders for the new CO and smoke alarm requirements.”

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This provision permits fire services within Saskatchewan to enforce minimum and consistent requirements for CO alarms. This new provision came into force on May 15, 2023.

Current Status

CO alarms have been required in Saskatchewan for residential properties constructed on or after October 1, 2009. Smoke alarms were mandated 20 years earlier, on or after June 1, 1988. As a result of the new regulations, CO and smoke alarms are required in all residential occupancies regardless of the date of construction.

According to the 2021 Census, there were a total of 86,720 existing residential dwellings constructed prior to 2010 and 65,625 residential dwellings constructed prior to 1990. However, there is no data on how many properties may have alarm deficiencies. Appendix 1 provides dwelling data by age of construction and housing tenure.

CO alarms must be installed inside each sleeping room or outside each sleeping room within 5 meters (16 feet). They also must be installed within rooms where there is a fuel-fired appliance (e.g., natural gas stoves, fireplaces, furnaces, and water heaters).

The new regulations eliminate alkaline battery-operated alarms and alarms manufactured with less than a 10-year expiry; meaning alarms need to be hard wired, plug-in, or have lithium batteries. The estimated costs for a 10-year lithium, plug-in or hardwired CO or smoke alarm can range from \$25 to \$100 each. For dual CO/smoke alarms, costs range from \$45 to \$150 each.

City of Saskatoon's Current Approach

Prior to the new regulations coming into force, the SFD's approach can be described as reactive or responsive:

- responding to CO alarms sounding,
- responding to concerns and/or symptoms related to CO, and
- public service investigations.

When it is identified that the level of CO in a building is a concern to an occupant's health or life safety, mitigation efforts are performed and can include ventilation, evacuation, and if necessary, providing primary care. For example, when levels are determined to be over 10 Parts per Million (PPM), SaskEnergy is requested to attend. Gas technicians and/or gas inspectors assist fire personnel in identifying the cause and what measures are needed to rectify the situation.

The *Fire Safety Act* outlines the authority, right of entry, responsibility, and role of fire services within the Province of Saskatchewan with respect to Fire Safety, Fire Prevention, and Emergency Response. *The Fire Safety Act* adopts the *National Fire Code of Canada* and speaks to municipalities having the authority to pass any bylaw relating to fire services and fire safety/prevention matters.

The Fire Safety Regulations in force within Saskatchewan are requirements that enhance the minimum requirements of the *National Fire Code of Canada*.

City Council has delegated authority to the SFD to enforce public safety matters within its operational jurisdiction by passing two main bylaws: Bylaw No. 7990, *The Fire and Protective Services Bylaw, 2001* (Bylaw 7990) and Bylaw No. 8175, *The Property Maintenance and Nuisance Abatement Bylaw, 2003*. However, both bylaws are currently silent on the enforcement of CO alarms in residential properties.

Approaches in Other Jurisdictions

There are six provincial jurisdictions in Canada that now have legislation mandating residences to have CO alarms: Alberta, Saskatchewan, Manitoba, Ontario, Quebec, and the Yukon.

British Columbia (BC) conditionally mandates CO alarms for residences that have an attached garage or any fuel-fire appliances. The City of Vancouver is currently the only city in BC that has made CO alarms mandatory, operating under its own charter. Required through their municipal bylaw, CO alarm installation must meet the current version of the *National Building Code of Canada* in all occupancies and alarms must be hard-wired and interconnected. The enforcement approach taken simply issues notices of compliance but does not issue fines to non-compliant property owners.

In Alberta, the *Alberta Building Code 1997* required that CO alarms be installed on or near the ceiling in each room where a solid fuel burning appliance operates. A CO alarm is not required if the solid fuel burning appliance has doors that close the firebox. No cities within Alberta require CO alarms but many recommend it on their websites. There is no formal enforcement mechanism in Alberta cities.

In Manitoba, the 2011 *Manitoba Fire Code* made CO Detectors mandatory effective December 1, 2011, for buildings or parts of buildings, that pose a risk of CO exposure. The requirement applies to:

- independent living,
- hostels,
- daycares,
- personal and residential care homes,
- hospitals,
- licensed establishments,
- schools,
- recreation centres,
- hotels,
- motels, and
- restaurants where residential is attached.

No municipal fire services have enhanced the provincial requirements through a bylaw so there is no municipal enforcement regime in place.

In Ontario, since 2014, CO alarms are required to be installed in existing residential buildings containing fuel-burning appliances and/or attached garages where missing. A 6 and 12-month phase-in period, depending on size of the building, was used to help property owners comply with the regulations. Despite that requirement, most cities in Ontario take an education and awareness approach.

Research indicates that Ontario has not implemented any formal enforcement regimes. For example, the City of Toronto educates through their “Alarmed for Life Program” about residential smoke and CO alarms. Their “Home Fire Safety Check” is published and distributed through the Fire Prevention team to promote:

- the installation and testing of alarms,
- fire safety plan for evacuation,
- fire safety tips around the home, and
- procedures to follow if you have an emergency.

OPTIONS

This section proposes various approaches the SFD can take to support the mandatory provincial regulatory requirements that all residential properties must have appropriate CO alarms installed. The advantages and disadvantages for each option are evaluated on how they support community safety, financial impacts, and risk reduction.

Despite the data set in Appendix 1, no assumptions have been made on the number of alarms that each residential property would or may require to comply with the new CO requirements. Currently there is no system or tracking method to establish residential occupancies where CO alarms may be deficient. This limits the ability to estimate overall enforcement costs and how much a property owner would be impacted financially.

Option 1 – Lenient Compliance Approach

This option builds off the City’s current approach by taking an education and awareness approach. It would focus on communicating the change in CO alarm requirements but would not need any bylaw amendments nor would SFD issue tickets as a compliance tool. Over time, SFD could gain compliance through writing *Fire Safety Act* orders. Issuance of orders must allow for enough time to appeal but provides SFD an opportunity to install the alarms and take necessary action under Sections 35 and 36 of the *Fire Safety Act*.

Implications

Financial: This option generates minimal financial costs to the City. However, as potential compliance orders are issued staffing costs could rise to address appeals and alarm installation if necessary.

Advantages:

- Non-punitive approach.
- Minimal financial cost to implement.

Disadvantages:

- Minimal effectiveness at reducing community risk to CO exposure and/or property damage due to deficient alarm installations.
- Orders are time consuming when they are appealed and delay the time allotted to install the alarms if required.

Option 2 – Full Compliance Approach by Notice to Remedy/Cost Recovery

This option proposes an education first and public communications approach. Amendments to Bylaw 7990 would authorize SFD to require landlords to keep CO records and outline minimum CO requirements. Orders to Remedy would be issued and, if not complied with, the City could remedy the contravention with cost recovery measures in lieu of ticketing.

This option is complaint driven whereby fire crews, inspectors/investigators or the public can report contraventions to SFD. This option would allow SFD Inspectors to put the owner on notice to install the alarms required by issuing an order to remedy the contravention. If the order is not complied with, SFD would arrange for alarms to be installed by a contractor with the costs of alarms, contractor, and inspector time to remedy the contraventions to be invoiced or placed on the property tax roll. This option would involve education, public engagement, and communication plan before implementing enforcement measures.

Implications

Financial: Dependent on the style/brand of alarm purchased and the quantity of devices required. Cost is to the property owner. However, as potential compliance orders are issued staffing costs could rise to address alarm installation where necessary.

Advantage:

- Order to Remedy allows the owner the opportunity to comply without bearing the financial cost of enforcement.
- Ability to mitigate community risk.

Disadvantage:

- For noncompliance, increased site visits, re-inspections, and Order to Remedy appeal hearings could occur.

Option 3 – Full Compliance with Ticketing

This option focuses on incentivizing compliance through ticketing property owners that neglect to comply.

Tickets for non-compliance would be set as per Bylaw 7990. Penalties would align with those for smoke alarms which are currently \$250 for 1st offense, \$500 for 2nd offense, and a bylaw court charge laid for a 3rd or subsequent offence, with penalties ranging from not less than \$500 to not more than \$10,000 in the case of an individual or \$25,000 in the case of a corporation. In addition to ticketing, SFD would still have the option to issue an order to remedy where necessary.

Implications

Financial: Prosecutions through tickets is labour intensive for SFD and the City. Given the potential number of buildings that could be impacted this could generate a large number of required court appearances by fire inspectors. This would impact the ability of fire inspectors to do other needed enforcement. However, the potential fine revenue generated from non-compliance can help to support the regulatory regime. It is difficult to provide a cost estimate given the varying factors, number of tickets, number of not guilty pleas, treatment of these tickets by the courts, court time available, and other factors.

Legal/Policy: To implement this option, an Amendment to Bylaw 7990 would be made. The City would also be required to prosecute violators.

Advantage:

- Provides the Fire Inspectors flexibility to select the compliance tool that fits the situation.
- For property owners with multiple rentals that are well educated on the requirements, a ticket is a quick tool to obtain compliance.
- Issuing an Order to Remedy/cost recovery method for property owners allows an education component before applying enforcement through ticketing.

Disadvantage:

- Increased workload due to court preparation and attendance if the owner pleads not guilty.

RECOMMENDATION

That the Standing Policy Committee on Environment, Utilities & Corporate Services recommend to City Council that:

1. That Option 2 be adopted for addressing carbon monoxide alarms as required in the *Saskatchewan Fire Regulations*, and
2. The City Solicitor be instructed to draft the required amendments to *Bylaw No. 7990, the Fire and Protective Service Bylaw, 2001*

RATIONALE

SFD’s Fire Prevention has a duty and mandate to reduce community risk through programming and enforcement that enhances life safety, promotes safety in homes and buildings, and mitigates risks when necessary. CO alarms are life safety/early warning devices that are key to risk reduction.

As a result, the report recommends that City Council adopt Option 2 because it reasonably balances the goals of fairness and risk mitigation. The option proposes enough initial flexibility so that all non-compliant properties have sufficient time to comply but incentivizes compliance by attaching a cost to the property owner for non-compliance. While this approach is more aggressive than what other jurisdictions are doing, it is a reasonable approach that aims to reduce broader societal risk, including property damage and loss of life.

NEXT STEPS

If Option 2 is approved, the SFD Fire Prevention division would initiate writing orders where CO alarms are identified as being deficient.

COMMUNICATION ACTIVITIES

The SFD will continue to work with the Communications and Public Engagement to integrate education and communication to external and internal stakeholders.

APPENDICES

1. Dwelling Type and Age of Structures

Report Approval

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