



The Need to Recognize Fire Fighter Safety in the National Building Code of Canada

Background

Imagine the devastating scenario of a family home engulfed in flames. Precious seconds pass as fire fighters enter the premises, navigating through plumes of thick black smoke in search of anyone who may be trapped, while treading on modern, lightweight floor assemblies weakened by the flames or beneath lightweight roof trusses about to give way. Fires are always unpredictable, and today's homes and their contents burn hotter and faster than ever before, making a fire fighter's duty to perform interior search and rescue all the more time-sensitive and challenging.

In March 2011, two firefighters died tragically in Listowel, Ontario when a lightweight roof truss weakened by fire caused a roof to collapse. In December 2013, a massive fire ripped through a student apartment complex under construction in downtown Kingston, Ontario. Flames towered into the sky and spread to four nearby structures, including a senior's residence, as the massive \$20 million inferno raged for hours, pushing the city's emergency response infrastructure to its limit while displacing dozens of nearby residents. In April 2014, three Toronto firefighters were injured when a floor collapsed during a fire at a burning townhouse.

Cases like these raise many questions that must be asked: what are the rules and regulations when it comes to building codes and minimum construction requirements, and who decides them? Is the fact that fire fighters may be entering a burning structure while others are fleeing properly recognized? And, importantly, can stakeholders such as fire fighters gain effective participation in the building code process at a time when new, lightweight building materials and techniques are coming on scene on a regular basis?

The National Building Code of Canada is administered by the Canadian Commission on Building and Fire Codes (CCBFC) and is connected to the National Research Council, an agency of the federal government that is overseen by Innovation, Science and Economic Development Canada. The NBC is a model code that specifies minimum requirements; some provinces have adopted it as their provincial code and the provinces that have their own building codes – Ontario, BC, Alberta and Quebec – have based theirs on the national code, which demonstrates its influence on building codes across Canada.

While fire safety has always been an important component of the National Building Code, in 2005, a switch was made to objective-based codes, which give builders more latitude in terms of building techniques. Fire fighter safety was not made a functional requirement in the 2005, 2010 and 2015 editions of the National Building Code, which means that designers and builders don't have to specifically consider it. It also means that fire fighter safety cannot be the basis of a proposed amendment to the National Building Code - on lightweight floor assemblies or woodframe construction, for example - because it does not match any of the stated objectives in the code.

The IAFF has attempted to access the code development process but has documented a long list of instances dating back to 2003 of having its code submissions ignored by the CCBFC, being invited to participate in consultations that were for appearances only and being obstructed at every turn while trying to address issues related to fire fighter safety, and therefore public safety.

For example, when the IAFF expressed concern about the omission of fire fighter safety as an objective of the National Building Code, we were invited to use the existing code amendment process. The IAFF's April, 2010 code change request was rejected by the CCBFC without any consultation or notice. The CCBFC later provided the surprising rationale that existing code language referring to "building occupants" was meant to include fire fighters as well. This position ignores the reality that while most building occupants will be able to exit a burning structure after fire is detected, fire fighters may be required to enter the structure to perform search and rescue of anyone who may be trapped, and to provide aggressive interior attack in order to save family possessions and limit property damage.

A June, 2013 presentation to the CCBFC Executive Committee and a May, 2014 joint meeting with the CCBFC and the Canadian Association of Fire Chiefs failed to move the issue of fire fighter safety forward. In June 2016, the IAFF made a submission to the CCBFC as part of a "Review of the Coordinated Codes Development System" that noted the need to improve stakeholder engagement and communication. The IAFF submission, which offered to work with the CCBFC to help achieve that goal, was never acknowledged.

A "Literature Review" received from the CCBFC in November 2015 confirmed that the omission of fire fighter safety from the code was based on a false and undocumented assumption the commission made in the 1990s that firefighters will only fight the fire from outside the home.

But a 2014 IAFF survey of professional fire fighters representing 79 urban fire departments across Canada found that a full 100 per cent of respondents were bound by policies that might require them to be inside a burning structure, and that 100 per cent had experienced instances where they had to cease interior rescue or aggressive interior firefighting operations due to concerns about structural collapse. A full 79 per cent of respondents indicated that they had witnessed sudden floor collapse in the past 10 years, and 86 per cent had witnessed sudden roof or wall collapse.

In rejecting fire fighter safety a building code objective, the CCBFC has argued that there is a lack of statistics regarding firefighters being killed and injured due to building code shortfalls, despite knowing there is no single national agency or organization currently collecting such statistics. This stance also ignores the category of property loss caused by fire fighters having to cease aggressive fire suppression operations due to the fear of floor collapse, and ignores the reality that fire fighters and other stakeholders want the opportunity to have a voice in the code development process in order to advocate safety in the event of future building code proposals.

The CCBFC also argues that making fire fighter safety a building code objective would have “major technical, policy and cost implications.” The IAFF asserts that cost cannot be the deciding factor when it comes to public and fire fighter safety, but also that our proposal, by itself, would not result in an increased cost to taxpayers, homebuilders or homebuyers. It would merely allow fire fighter safety stakeholders to use the existing code development process to submit code change requests based on fire fighter safety.

In February 2017, the NRC announced that the NBC and other codes will be adapted to consider climate change, allowing for more climate-resilient construction. This is indeed a concern, because intense and unpredictable weather patterns can increase the risk of fires especially in fast-growing areas of urban-wildland interface across the nation. As the devastating 2016 wildfire in Fort McMurray, Alta. showed, fire fighters are the first line of defense during wildfire emergencies and the relative fire performance of new suburban dwellings is extremely critical. So when modifications such as ignition-resistant building materials or separation distances between structures are being considered to mitigate the spread of fire, fire fighters need the opportunity to voice their concerns and advocate their own safety through the ability to make code change requests.

IAFF Position

The IAFF believes that the National Building Code should recognize the actual role of fire fighters and make their safety a requirement. The IAFF calls on the Minister of Innovation, Science and Economic Development to review existing shortfalls with the National Building Code that impact fire fighter safety, and ensure that fire fighter safety becomes a stated objective of the National Building Code of Canada.

Key Points

- ✓ Existing Building Code language that considers fire fighters to be the same as other building occupants does not reflect the reality of the role fire fighters play, which includes interior search and fire suppression
- ✓ New lightweight building materials and construction techniques with decreased fire performance capabilities are coming on scene quickly
- ✓ House fires burn hotter and faster than they did in the past
- ✓ Interior search and rescue will become more needed as Canada’s population ages and the number of disabled Canadians increases
- ✓ Because fire fighter safety is not a core requirement in the National Building Code, homebuilders are not required to consider it when designing and building homes and it is also exceedingly difficult for stakeholder groups like the IAFF to achieve building code amendments
- ✓ The adoption of M-388 in the House of Commons confirmed that a majority of MPs representing a majority of Canadians believe that the National Building Code should be amended to recognize fire fighter safety.
- ✓ Virtually every other nation recognizes fire fighter safety in its building codes. It is time for Canada to do the same.

Current Status

Currently, the National Building Code of Canada does not include fire fighter safety as a core objective. As a result, designers and builders are not required to consider it when designing and building homes, and stakeholder groups like the IAFF cannot advocate fire fighter through building code amendments. Existing language addressing building occupant safety does not adequately consider the unique role that fire fighters play during a structural fire.

For more information about this issue or any other issue affecting Canada’s professional fire fighters, visit www.iaff.org/canada or contact the IAFF Canadian Office at (613) 567-8988. The International Association of Fire Fighters represents 302,000 professional fire fighters in North America, including more than 23,000 in Canada. The IAFF is affiliated with the AFL-CIO and the Canadian Labour Congress.