

The Commonwealth of Massachusetts
Executive Office of Public Safety and Security
Department of Fire Services



DEVAL L. PATRICK
GOVERNOR

TIMOTHY P. MURRAY
LT. GOVERNOR

MARY ELIZABETH HEFFERNAN
SECRETARY

P. O. Box 1025 ~ State Road

Stow, Massachusetts 01775

(978) 567~3100 Fax: (978) 567~3121

www.mass.gov/dfs

STEPHEN D. COAN
STATE FIRE MARSHAL

December 20, 2011

Mr. Brian Gale, Chairman
Board of Building Regulations and Standards
1 Ashburton Place – Room 1301
Boston, MA 02108

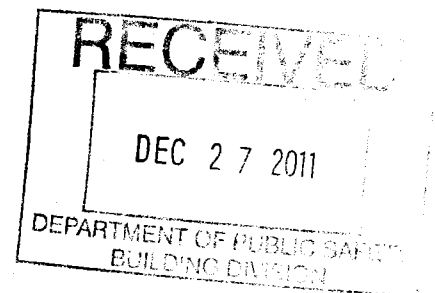
RE: Testimony

Dear Mr. Gale:

I am enclosing the written testimony and comments from Stephen Coan, State Fire Marshal that were delivered at the public hearing on December 13, 2011. If you have any further questions please don't hesitate to contact me.

Sincerely,

Timothee C. Rodrique
Director
Division of Fire Safety



Sprinklers and the 1- and 2-Family Building Code Dec 2011 Hearing

Good afternoon. I am State Fire Marshal Stephen Coan and I want to thank the Board for the opportunity to speak on the important issue of fire sprinklers in one and two-family homes. I continue to encourage the board to make full adoption of residential sprinklers as provided for in the IRC Code. I stand before you today as the author of the residential sprinkler stretch code, which would be a good first step toward full adoption.

Residential sprinkler technology is available today.

The time for sprinklers is here and now.

One of the duties of this Board is to establish minimum safety standards for buildings. The public counts on us to do that. These standards are established through the Massachusetts adoption of the International Residential Code or IRC model code. Unfortunately, when the Board adopted the model IRC code for one and two-family dwellings it expressly removed the requirement to install sprinklers in new one- and two family homes.

Let's look at some statistics. In 2009, there were close to 6,000 fires in one- and two-family homes in Massachusetts causing 23 civilian deaths, 152 civilian injuries, 207 fire service injuries, and an estimated \$80 million in property damage. More than 75% of residential fire deaths occurred in one- and two-family homes, making them the deadliest occupancy.

Each time we debate the issue of residential sprinklers the issue of construction cost dominates the discussion. Let's remember that there is also a cost to not requiring fire sprinklers. A significant burn injury can cost thousands or even millions of dollars in medical bills. There's the cost of finding alternative housing, rebuilding, lost wages and the human toll on families to recover and rebuild their lives. There's the cost to already strained municipal budgets when a firefighter sustains a serious injury.

Let's talk about what happens when a home is being ravaged by fire. Fires are fast; Fires are hot; and Fires are dark. The temperature increases rapidly and the home fills with black choking smoke quickly reducing the ability to escape to safety. The critical time window for escape from a rapidly developing structure fire has been greatly reduced over the past 25 years.

Federal studies¹ have concluded that the time to escape has decreased from about 17 minutes in the 1970s (on average) to about 3 minutes today. This is not solely a result of construction, or age of the home, but due to what we put inside our homes. There are vastly more synthetic products in our houses that make fires spread faster, burn hotter and produce more toxic smoke.

Let me remind you that fire sprinklers do not operate like in the movies; most fires are controlled with a single sprinkler head. It's not the case that when one goes off, they all go off, leading to excessive water damage in the home.

As we approach the holiday season, let me illustrate the benefits of residential sprinklers. We have examples right here in Massachusetts where a single sprinkler head has put out a fire, resulting in minimal damage, no one displaced, and no one hurt. About ten days before Christmas in 2006, embers from a woodstove ignited nearby newspapers in a North Andover home. No one was home when the fire occurred. A single sprinkler head activated and controlled the fire. The family not only had Christmas in their own home, but also was able to sleep there that same night. The value of the home and contents was estimated at nearly \$900,000 and the damage was limited to \$30,000.

But fire sprinklers are not primarily about buildings, but about saving lives. Time is your enemy in a fire and fire sprinklers give occupants more time to exit to safety by keeping temperatures cooler, longer and keeping the fire from growing as rapidly. Time is especially important for children, the elderly or people awakened in the middle of the night, which is when most fatal fires happen.

I've been fire marshal a long time and one of the saddest duties has been to attend firefighter funerals, as I will be doing once again later this week. Sprinklers are also a critical component of firefighter safety. Keeping the fires that they fight smaller and cooler will help prevent firefighter injuries and limit potential collapse from pre-engineered lumber.

I would encourage the Board to adopt the proposed residential stretch code. The board has chosen not to adopt the nationally recommended sprinkler standard statewide. We owe the citizens of the Commonwealth and their

¹ National Institute of Standards and Technology, 2004, *Performance of Home Smoke Alarms: Analysis of the Response of Several Available Technologies in Residential Fire Settings*.

elected local officials the opportunity to decide for themselves whether or not to implement this critical live saving option as part of a community's overall risk reduction strategy. Allow this issue to be discussed on the floor of town meetings and in city council chambers across the commonwealth as part of the democratic process that has existed in this country since the time of the father of the American fire service – Ben Franklin.

Local communities are best positioned to deal with issues regarding the installation of residential sprinklers until this Board is prepared to fully adopt the fire sprinkler provisions of the national model code --which I hope will be very soon.

As State Fire Marshal and as a member of this board it is my responsibility to advocate for strong laws and regulations on fire safety. It is time to protect our people, preserve our homes, provide enhanced safety for our firefighters, and care for our natural resources and environment.

Of all the reasons I have enumerated, the most important is life safety and protection of our citizens and firefighters.

The time for residential sprinklers is here and now. We can do it. We must do it.

Thank you.

Floor Protection Dec 2011 Hearing

Good afternoon. I am State Fire Marshal Stephen Coan and I want to thank the Board for the opportunity to speak on the important issue of floor protection one and two-family homes. I proposed a Massachusetts amendment to the International Residential Code (IRC) cycle based upon the 2012 IRC that now provides for the protection of lightweight construction and engineered lumber. However, today I wish to testify in favor of the adoption of the requirements that were jointly put forward by the Fire Chiefs' Association of Massachusetts, my office, and the Mass. Federation of Building Officials.

I believe this viable proposal that should be incorporated now. It goes to the very heart of the safety our firefighters. This issue is critical to protect people during a fire their own homes and to protect those brave firefighters who risk their lives everyday in the event of a fire. This proposal is too important to wait for the next adoption cycle in 2015.

UL and other research groups compared conventional lumber and lightweight lumber, which is commonly used in floor and roof construction today.

The tests indicate when exposed to fire conditions such lightweight lumber typically failed within 6 minutes as opposed to 18 minutes or longer for legacy lumber.

In the absence of residential sprinklers, this code change is critical to ensure a greater level of safety for occupants and responding firefighters.

For all these reasons I urge the Board to adopt this proposal without any delay.

Thank you.

Commonwealth of Massachusetts

Department of Fire Services

Public Information Office

Talking Points – BBRS December 13, 2011

December 13, 2011

CO Talking Points

This past year has been a difficult year as many residents of our state struggled with extended power outages, no heat, no lights, and unable to cook as the state experienced three significant natural disasters. These proposals before you on carbon monoxide (CO) detection affect people living in multi-family homes where the actions of one person can impact many others. During these disasters we saw people bring illegal space heaters, hibachis, and generators inside their living spaces. As a result of these actions, five people died from CO poisoning in the week after the October snowstorm. Conversely, we saw several tragic situations averted because people had installed CO alarms.

These experiences underscore not only the importance of early warning, but also how important it is to install CO alarms in all residential locations, regardless of whether or not there is fossil fuel burning equipment in the building. Again, it is not always how the buildings are built, but what people bring into them that creates the danger. I urge the Board to leave the CO requirements in place for all residential occupancies regardless of the presence of fossil fuel burning equipment or an attached garage.

In the past five years, fire departments have tripled the number of CO alarm responses and doubled the number of incidents where carbon monoxide has been confirmed. Since Nicole's Law took effect in March of 2006, high levels of carbon monoxide have been detected by alarms in homes before anyone was seriously injured, which is what I call success. I am sure that every fire official in the state has their own success story. They would rather take someone to be checked out at the hospital as a precaution than find people who died in their sleep from high levels of CO. Dozens of people have been transported to hospitals alerted to high levels of carbon monoxide since this law first mandated the installation of CO detectors.

The law authorized the Board of Fire Prevention Regulations to implement a retroactive requirement for CO alarms when there is an attached garage or fossil fuel burning equipment. It also clearly states that this Board can create more stringent requirements for new construction, and we should.

Commonwealth of Massachusetts

Department of Fire Services

Public Information Office

Talking Points – BBRS December 13, 2011

Thank you.

Commonwealth of Massachusetts

Department of Fire Services

Public Information Office

Talking Points – BBRS December 13, 2011

December 13, 2011

Three family sprinkler Talking Points

Good afternoon. I am State Fire Marshal Stephen Coan and I want to thank the Board for the opportunity to speak on the important issue of fire sprinklers in multi-family homes, mainly what we here in New England call 3-deckers. The proposal that I filed brings back (or restores) the requirement for sprinklers in these multi-family buildings. This requirement was first instituted in the State Building Code in 1997 as part of the 6th edition of the state building code and was carried forward into the 7th edition. This provision has been successfully implemented in many major cities across this state and should be put back into place. The need for residential sprinklers has only increased over time, not decreased. Recent federal studies have indicated that due to the introduction of significantly more synthetic materials over the years, that the time occupants have to escape to safety has decreased from about 17 minutes to only 3.

In 2009, there were 319 fires in triple decker multi family (pick one or the other - triple deckers or multi family) homes in Massachusetts causing 7 civilian deaths, 13 civilian injuries, 40 fire service injuries, and an estimated \$14 million in property damage.

The installation of residential sprinklers not only provides for greater occupant safety but is critical to firefighter safety as well. Sprinklers keep the fires they face smaller and cooler and ultimately help in preventing firefighter injuries. Firefighting is an inherently dangerous job and need to all that we can to make sure every firefighter goes home at the end of every shift. Thank you.

PO BOX 1025, STATE ROAD
STOW, MA 01775-1025

02 1P
0903175805 DEC 21 2011
\$ 001.00
MAILED FROM ZIP CODE 01775

Mr. Brian Gale, Chairman
Board of Building Regulations and Standards
1 Ashburton Place – Room 1301
Boston, MA 02108

First Class Mail