



February 19, 2015

Senator Tim Larson
Chair Public Safety and Security
Legislative Office Building
Room 3600 Hartford, CT. 06106-1591

Representative Stephen Dargan
Chair Public Safety and Security
Legislative Office Building
Room 3603 Hartford, CT. 06106-1591

Re: Testimony for the Public Safety and Security Committee.

Chairpersons Dargan and Larson, Ranking Members Zupkus and Guglielmo, and other distinguished members of the Public Safety and Security Committee. My name is David A. LaFond. I am the New England Regional Manager for the National Fire Sprinkler Association. I thank you all for conducting this public hearing on HB 6777, "*An Act requiring the installation of automatic fire extinguishing systems in new residential buildings*".

There are substantive issues that must be considered in adopting HB 6777. First and foremost, what are the **fire safety problems** the fire alarm and fire sprinkler code requirements are in place to mitigate? Secondly, what technically supported alternative solutions must be put in place to offset any changes to the codes - to simply remove one requirement (*Codes and Standards Committee failed to adopt the model building code*) without addressing alternatives is not in the best interest of the health, safety and welfare of the public? And thirdly, what are the TRUE economic implications of failure to apply the national model codes?

1.The Fire Safety Problem. Fire alarm and fire sprinkler requirements are in the national model codes because of significant fire safety concerns in new constructed homes for the occupants and the responding firefighters. Our nation's fire safety problem is getting worst, not better. The leading activity of people before dying in fire is attempting to escape (35%) while the second leading activity is sleeping (34%). The activity of attempting to escape once the smoke detector provides alert has increased to first place as a result of very flammable furnishings and lightweight construction material. Because of the increased number of people dying during escape, the U.S Fire Administration recently held a symposium during which UL and FM presented information on lightweight construction and very flammable furnishings validating the need for fire sprinklers.

There has been much discussion on the fire safety of engineered wood and lightweight truss construction materials at the national code hearings – much of it coming from the professional firefighters who will not accept fire fighter death and injury as a result of this "NEW"

construction process. How bad is the problem? Well, an Internet search of ***Lightweight Construction Fire Safety*** will identify over ***1.4 million*** results that clearly dimension the emerging fire safety problem. A NIST 2003 Report on Firefighter Fatalities Due to Structural Collapse provides data showing from 1983-1992, an era when legacy construction products were used, 13% of our nation's firefighter deaths due to building collapse were in homes. And this report shows from 1994-2002, the era of new lightweight construction products, 51% of our nation's firefighter deaths due to building collapse were in homes.

It is important that all parties have comfort with these comments on modern construction products and practices. Therefore we must suggest that a couple minutes be spent to review these short videos that validate comments herein. The first video is an investigative report that includes a description of UL testing showing lightweight construction failure.

<http://www.cnn.com/video/data/2.0/video/living/2009/12/18/willis.new.housing.fire.danger.cnn.html>

Detailed information with links to numerous studies clearly dimensioning today's fire safety problem in new homes can be found at:

<http://www.firesprinklerinitiative.org/resources/lightweight-construction-and-firefighter-safety.aspx>

There also is concern with modular housing, which can be used for 3-6 unit residential occupancies. Many modular housing manufacturers have trained staff who install fire sprinkler infrastructure in the modules at the factory significantly reducing sprinkler installation costs – under \$0.50 per sq. ft. The following video underscores the need for fire sprinklers in modular homes.

<http://www.myfoxboston.com/video?clipId=7046668&autostart=true>

And the floor plan of new homes is more open allowing greater fire loads to free burn in larger compartments. The larger room coupled with new furnishings that burn hotter and quicker and releases more smoke and flame than older legacy furniture, contributes significantly to the safety of the occupants and responding firefighters. This *must read* report from UL shows the fast burning typical with today's furnishings and underscores the rapid fire growth problem when coupled with lightweight engineered wood or “modern” materials as stated in the report.

http://www.ul.com/global/documents/newscience/whitepapers/firesafety/FS_Analysis%20of%20Changing%20Residential%20Fire%20Dynamics%20and%20Its%20Implications_10-12.pdf

Smoke detectors and fire safety public education programs since 1975 have contributed to a reduction in fire deaths. The public education program “crawl low in smoke” and “stop, drop, and roll” has been effective. But the reality is smoke detectors do not save lives – they *give* the home occupant an opportunity to save their life. Unfortunately this opportunity is diminished by new home construction practices (homes collapsing in under 5 minutes), increased fire load with materials used in new furnishings, greater size of the fire because of larger rooms and energy efficiency containment. And today's fire deaths are disproportionate with the young and elderly being high fire death per population classifications.

This video shows the concern with smoke detectors. Yes smoke detectors have contributed to the saving of lives in fire incidents. Yes, smoke detectors have

contributed to the saving of lives in fire incidents.
http://wallacefd.org/smoke_alarm_report.html

We cannot ignore the fire problem. Builders save substantial amounts of money by using the new modern construction products, yet fail to accept code requirements to mitigate fire safety issues emerging from the use of these new products. The Canadian Wood Council funded a study that simply determined a home constructed with modern wood products is just as safe as a home constructed with other fire resistant materials ***if a fire sprinkler system is installed.***

<http://www.newswire.ca/en/story/1301555/canadian-wood-council-supports-independent-study-documenting-safety-of-wood-frame-construction>

Overall, the report shows that the fire safety of buildings has more to do with effective fire safety systems, such as working smoke alarms and complete automatic sprinkler protection, than with their construction materials. However, there are major concerns if the fire safety systems are removed from the construction process. (*As in what the Codes and Standards Committee did*)

I am respectfully asking you to completely research and understand the fire safety problem in today's construction environment.

2. Fire sprinkler requirements in one- and two-family dwellings and townhouses were added to all the national model codes because of the fire safety problem emerging from today's construction materials. There is no technical substitute for fire sprinkler systems, at least anything reasonably affordable. The issue here is if fire sprinklers are removed from the adopted codes a significant degrade of the level of fire safety evolves. Even with the actions suggested herein are followed, the cost saving afforded by modern construction materials are far more than the true cost of fire sprinklers.

If fire sprinklers are removed then so should engineered I-beams and all engineered wood products. While there may be some fire resistant coverings of these products, the fire resistant ratings are diminished with the high fire load of modern furnishings. For example, fire services across the nation will cite actual examples of one-hour fire resistant barriers failing in under 20 minutes – a common occurrence with today's furnishings. Fire quickly spreads from windows through overhang vents allowing flames to quickly attack engineered wood used in roofing materials. Fully involved attic fires are another common occurrence experienced by fire fighters. The list is long.

Thus, ban engineered wood; ban finger gusset plates; downsize the great room to reduce excessive fire load; greater distances between homes; fire resistant materials used on the exterior of adjacent properties; secondary exits from the second or higher floors; fire escape windows from basements; secondary exit from the basement – again the list is long and the list must include all fire hazard conditions.

3. There exists much irrelevant and disconnected information from the homebuilder lobby that could cause one to step in the wrong direction. The true economic issue and the far-reaching impact on the community for failing to apply current national model codes have not been addressed.

Suggesting fire sprinklers are chasing away potential buyers and destroying the Connecticut housing market is grossly false and misleading. How many potential buyers are chased away by the \$10,000 granite countertop? Median home prices listed in Connecticut are close to \$260,000.00 – not what one would consider affordable housing.

Housing Economics 101. The builder wishes to build the home at the absolute lowest possible price and sell the home for the absolute highest price notwithstanding what the house is truly worth. Let's clearly understand this process. If a builder plans to build a new home or a townhouse with the targeted price of \$300,000 and everything comes in on budget except lumber, which is \$5,000 under budget, does this, mean the builder will now offer this new home for \$295,000? If the house next door of an equal square footage sells for \$375,000 do you think the target price will remain at \$300,000? During the building bubble that burst and caused the recession impacting our nation this was the scenario – "I am only approved for \$275,000 from my bank, I love your new home but can't afford it." The builder and or realtor responds, "well we know a mortgage broker who will cover you and the value of the house will significantly increase and in a couple years you can use this increased value for a new mortgage." There are millions of families in foreclosure or underwater that will agree with this statement. Connecticut's foreclosure rate (1 on every 1,028 homes) is not as bad when compared to other states like Florida (1 in every 372 homes and Maryland (1 in every 557 homes).

Home sales are negotiated – a very small percentage of homes sell for the listed price. If a home or townhouse is listed for \$300,000 and I offer \$290,000 and the seller accepts, does this mean that the granite countertop is free? Can I argue the fire sprinkler is then free? No, this is all figured into the cost to build the entire house and the buyer is buying the entire house. **What this entire issue is about is not the home sales market – it is all about builder and realtor profit margin.** The market has been hampered by changes in the mortgage system, higher down payments for example, all a result to the greed driven home construction bubble that led to the recession. Who gained by selling a house 20-30% more than it was truly worth, the buyer or the homebuilder/realtor?

The National Association of Home Builders and its state affiliates have a major focus of influencing decision makers to reject anything that adds to the cost of construction. While we support this from a contractor's perspective, particularly government imposed impact fees and such, not adopting fire and life safety code requirements are not nor should ever be considered an acceptable practice. The NAHB and its state affiliates have opposed smoke detectors, ground-fault circuit interrupters, arc-fault interrupters, and fire sprinklers.

There are many other economic concerns to be considered as costs to not requiring sprinklers - burn injury is just one of those issues. While there has long been data correlating sprinklers with reductions in deaths and property loss, recent research also shows a significant impact on injury cost when sprinklers are present. The cost of burn injuries, in healthcare dollars, is \$3.8 billion per year. The average length of stay for a hospital burn patient is 24 days, although it can be months for the severely burned patient. Patients, who do survive acute hospitalization stays, require rehabilitation that is a minimum of seven-times longer than their stays in the hospital, and they may require years of psychological intervention. In addition to the direct health care costs,

the social costs of burn injury are staggering. Over one million workdays are lost each year. Human costs are even greater.

- **Sprinklers reduce civilian fire injury medical costs by 53%,**
- **Sprinklers reduce civilian fire injury total costs by 41%.**
- **Sprinklers are responsible for an estimated 65% reduction in firefighter fireground injuries.**

Code enforcement can have a major influence on the economic well being of a municipality and the safety of its citizens. Municipalities that adopt up-to-date, unamended codes — and rigorously enforce them using a sufficient number of trained and certified code-enforcement professionals — minimize damage from natural hazards, fire, and other perils, ultimately reducing insurance costs. But there is more to the ISO Public Protection Classification (PPC) or the most commonly known community insurance grading system. This is a multi-faceted issue; the far-reaching Building Code Effectiveness Grading Schedule (BCEGS) and FEMA Disaster Funding.

The ISO Public Protection Classification is used by insurance companies for rate setting purposes. The BCEGS is used for rate reductions, which, depending on the insurance provider can be over 25%. For example Citizens Insurance of Florida, the 9th largest insurance carrier in the nation offers up to a 20% rate reduction based upon the BCEGS grade. But even more critical is the BCEGS is used for rate setting for the National Flood Insurance Program and is also used by FEMA in determination of Disaster Recovery Funding. What this critical point means is property owners, both commercial and residential, will pay substantially more for NFIP coverage and receive a smaller percentage of money from FEMA in a community with a bad BCEGS Grade verses one with a good grade.

So failure to enforce the national model code required fire sprinklers in new residential occupancies could lead to a lower disaster recovery rate for all commercial and residential property in the State of Connecticut.

The simple solution is one of inclusion of the residential fire sprinklers for all newly constructed homes. Residential sprinkler technology exists today. The time for sprinklers is here and now. I am respectfully requesting your consideration in adopting HB 6777.

Sincerely yours,

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