

**TESTIMONY IN SUPPORT OF THE ADOPTION OF THE
2009 EDITION OF THE INTERNATIONAL RESIDENTIAL CODE
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Mr. Chairman and members of the Senate Labor and Industry Committee, I want to thank you for the opportunity to address you this morning. I come before you in support of the proposed adoption of the 2009 Edition of the International Residential Code (IRC) with as few amendments as possible. Of particular interest are the provisions of the IRC that require fire sprinklers in all newly constructed one and two family dwellings, effective January 1, 2011.

My name is John Dennis Gentzel, Chief Fire Protection Engineer for the Maryland State Fire Marshal's Office. I am a Licensed Professional Engineer and I live in a sprinklered single family home in Carroll County, Maryland where all new homes are required to be sprinklered.

The requirement for residential fire sprinklers in newly constructed one and two family dwellings represents a substantial enhancement in technology available for the protection of life and property from fire. Already, several communities in Maryland have recognized the value of fire sprinklers. Nine counties and over half of the municipalities in Maryland are already covered by local code requirements. After studying ways to reduce fire deaths and protect firefighters, Prince George's County became the first county in the nation to adopt comprehensive residential fire sprinkler requirements in 1987. Since January 1, 1992, Prince George's County has required fire sprinklers in

all newly constructed residential occupancies, including one and two family dwellings. Today there are over 50,000 Prince George's County homes protected by fire sprinklers. During the last 17 years, the Prince George's County experience with residential fire sprinklers has produced outstanding results. **NO, I repeat, NO** Prince George's County residents have died in fires where the home contained a properly functioning fire sprinkler system. Unfortunately, during this same time period, more than 100 Prince George's County residents have perished in home fires where no fire sprinklers were present. The evidence is clear and simple, **residential fire sprinklers save lives!** When a fire occurs in a dwelling with fire sprinklers, typically the sprinkler closest to the fire is activated during the very early stages of the fire. Experience has shown that most residential fires are controlled by a single fire sprinkler head, flowing about 13 gallons per minute. Frequently, the fire sprinkler system activates just after the smoke alarm and is designed to maintain tenability, giving occupants time to safely evacuate.

Once again our experience in Maryland has shown that fire sprinkler exceed the design requirements and almost always control the fire in addition to protecting those occupants who are incapable of self-evacuation, including the very young and the very old. The installation of smoke alarms has greatly contributed to the level of life safety afforded to dwelling occupants and they continue to have an important function; however, smoke alarms alone are not enough. Even functioning smoke alarms by themselves have been found under some circumstances to be insufficient in alerting occupants; not providing them with the opportunity to escape smoke and flames of a fast moving fire. As an example, here in Maryland, in the first half of 2009,

a smoke alarm was reported to have been present and functioned properly in fires involving 13 fire deaths.

It is difficult to talk about the tragic deaths that I have seen in my more than 30 years in the fire service. There is simply no compelling reason to oppose the requirements for sprinklers that have been proven to prevent many senseless and devastating losses.

Those of us directly associated with the fire service are in the best position to speak on the subject, because we alone bear the unique experience of witnessing first-hand the effects of fire. Unlike those who design, build, or inspect residences, **WE** are the ones left to deal with the after effects of a fire....thus our words and our counsel carry the weight of that experience.

It is impossible to put into words the unbelievable power of fire, unless you have been personally affected by it. The timely application of water is **the critical difference** between a fire that is controlled quickly and one that destroys a home and a family. A fire typically doubles in size every thirty seconds. Even in the best of circumstances, the fire department will only be alerted to the presence of fire AFTER the occupants or a passerby, a neighbor or an alarm company call 9-1-1. It may already be too late for some individuals to escape!

Fire sprinklers are like having a firefighter in your home 24 hours a day ready to respond to the first hint of a fire. It may take 1 minute to process a 9-1-1 call (confirm address, etc.) and another minute to dispatch the fire department and another minute for the firefighters to get their gear and get on the engine (if they are in the station) and finally the average response time is 6 minutes to get on the scene. By now at least 9 minutes have elapsed, if your home was sprinklered the sprinkler would have already operated allowing you time to escape and most likely control the fire.

Remember the sprinkler puts out about 13 gallons of water per minute in the first minutes of the fire, while the fire department will put 125 to

150 gallons of water per minute on the much larger fire when they arrive. Significantly more fire, smoke and water damage will occur in the unprotected dwelling. Injury or death are possibilities for the occupants. **Everything dries out...nothing unburns.**

Today, most new homes are made of lightweight construction. Instead of dimensional lumber lightweight I beams, roof trusses are often glued together. These modern materials are more superior in strength and performance, until they are assaulted by fire. Recent testing conducted by Underwriters Laboratory clearly demonstrated how much faster the lightweight construction components can fail when subjected to uncontrolled fire. The synthetic materials, such as plastics, are common in our homes today and they produce deadly gases and have higher heat release rates.

Simply put, modern residential structures are the product of technological advances that have allowed builders to construct homes that are more energy efficient and affordable. These positive advances are to be applauded. But let's be clear – such homes are perfectly safe as long as they are never assaulted by fire. Once a fire starts, these same homes burn faster, produce more heat and deadly smoke, and collapse more rapidly. It would be nice to live under the impression that such homes are also fireproof – but they are not.

Unfortunately homes will continue to burn and citizens will continue to die. The answer is residential sprinklers in all new homes.

The Maryland State Fire Marshal's Office urges you to support the adoption of the 2009 International Residential Code including the sprinkler requirements. Thank you