

## 10 Reasons Why Mandating Fire Sprinklers Makes No Sense For Virginia

The International Code Commission (ICC), at its September 2008 meeting, voted to mandate the installation of fire sprinklers in all newly-constructed one and two-family homes. Because states have the option of removing some or all of the ICC codes when they adopt their building codes, Virginia may choose not to mandate installation of fire sprinklers.

The home building industry believes that mandating fire sprinklers is not a good idea. Sprinklers should be an option that potential home buyers may request should they choose to install a system. There are 10 persuasive reasons that back up our conclusion.

Statistics show today's better built homes are saving lives. From 1979-2003 the death rate per million persons from house fires dropped 58 percent, according to the U.S. Centers for Disease Control. That trend will continue as more new housing stock is built, stronger building codes are enacted and especially as smoke alarm maintenance by homeowners improves.

Sprinklers are rarely needed for house fires. Sprinkler proponents claim that a residential system is reliable in 96-99 percent of all reported structure fires where the fire was large enough to activate the system. But reports from the National Fire Prevention Association (NFPA) show that the number of fires that occur in one- and two-family dwellings equipped with sprinklers are so few that they are not shown in studies done by the organization.

Sprinklers cause unintended damage. Statistics from the Virginia Fire Incident Reporting System show that 76.8 percent of all fires in Virginia from 2000 through 2008 either did not spread or were confined to an object or a room and contained. But when sprinklers detect smoke they set off every sprinkler in the house, not just in the room where the fire is occurring. In many homes that suffer a fire where working sprinklers exist there is more water damage to the home than fire damage.

Home insurance rates do not decrease with their use. Sprinkler proponents claim the cost of home insurance decreases when you install fire sprinklers. It's true that some states offer insurance credits for having fire sprinklers in the home. Using a conservative sprinkler cost estimate of \$1.50 per square foot in a 2,300-square-foot home with an annual property insurance rate of \$1,000, it would take approximately 35 years for a 10 percent credit to pay for the system. Insurance agents in the Richmond area say credits rarely are given above 3.5 percent. Throw in maintenance costs and it would take even longer for the credit to pay its due for the system.

However, that does not offset the increased costs charged for potential water damage and flooding. In most cases sprinklers go off in areas of the home where fire is not occurring, causing more claims for water damage than fire damage. Virginia insurance agents say this drives the cost of insurance higher for people who have sprinkler systems.

Smoke alarms potentially save more lives than sprinklers. A 2006 study by the U.S. Fire Association (USFA) on the presence of working smoke alarms in residential fires from 2001-2004 showed that 88 percent of the fatal fires in single-family homes occurred where there were no working smoke alarms. USFA and NFPA data continue to show that the vast majority of home fire fatalities occur when there are no operational smoke alarms. The most recent NFPA report on smoke alarms estimates that more than 890 lives could be saved annually if every home had a working smoke alarm. From 2000-2004, 65 percent of the fire fatalities reported occurred in homes where smoke alarms were not present or were present and did not operate.

Sprinklers will harm efforts at providing affordable housing statewide. According to an August 2006 survey of home builders done by the National Association of Home Builders' Research Center, the average sprinkler system costs \$2.66 per square foot to install in a new home. For the average home size considered to be affordable housing in Virginia – 1,800 to 2,200 square feet – the maximum cost would be approximately \$5,850. In the Richmond area, about 710 families lose the ability to qualify for a new home mortgage with each \$1,000 increase in the price of a new home. Mandating fire sprinklers would keep more than 4,100 families from being able to buy affordable housing in the Richmond area.

A hard-wired, interconnected smoke alarm system installed through the whole house costs about \$50 per alarm.

You may have heard of the “Scottsdale study,” which sprinkler proponents are using to claim sprinklers do not harm affordable housing. They claim sprinklers can be installed for as little as \$1 per square foot. In Scottsdale, AZ, where the Scottsdale study was done, these units can be installed for \$1 per square foot. But Scottsdale has some of the least expensive building costs in America. Therefore, the Scottsdale study is not reflective of the average cost for installation nationwide.

Sprinklers are much more difficult and time consuming to maintain than smoke alarms. Homeowners have a difficult time remembering to change the batteries in their smoke alarms once every six months. A sprinkler system requires much more maintenance than simply replacing batteries. Based on the problems with maintaining smoke detectors, it is easy to deduce that homeowners will not maintain sprinkler systems at the level required for them to be at maximum efficiency. More lives can be saved by educating the public to the importance of maintaining hard-wired, interconnected smoke alarms in proper operating condition than through mandating fire sprinklers.

Sprinklers can be damaged by extreme cold, causing water damage. Should a home lose power for several days, as occurred in some parts of the Richmond area during the early March snowstorm, the basins that hold water for sprinkler use can freeze and burst. Homeowners most likely would have to take measures to keep heat in the water basins, further increasing the cost that many rural Virginians can't afford.

Sprinklers in homes on well water have additional problems. Owners will have to calculate how the system will work if power goes out, or if the well's water level is low enough to cause pressure problems. Extra water tanks, pumps and generators could be purchased to help with pressure, but that adds more cost to the system – cost many owners in rural Virginia could not afford.

Annual sprinkler installation costs will greatly exceed property losses nationwide and in any jurisdiction where they are mandated. For example, had this mandate been in place in 2005 the installation cost to builders would have been almost \$10.2 billion based on an average square-foot home with a cost of \$2.66 per square foot. The NFPA reported that the total home property loss – new and existing homes – due to fire in 2005 was less than \$5.8 billion. The installation cost would have been nearly double the loss. As new homes continue to be better built, the difference between installation cost and property loss will continue to increase, and statistics show most people forced to have these installed will never use them in their home.