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## Just the Facts: Residential Fire Sprinklers in the IRC

There are many reasons why NOW is the time to change the IRC and establish residential sprinklers as part of the minimum safety package set forth in the national model code for residential construction. Substantial justification was offered last cycle and the merits of including residential sprinklers in the body of the IRC was recognized by a majority of the voting ICC membership, but not the two-thirds needed to overturn the committee's original action.

More than 30 years have passed since the concept of residential sprinklers was born, and in that time, the technology has matured greatly. Nevertheless, roughly 100,000 Americans have lost their lives in residential fires in that same time frame. The fact is, if 3,000 people were killed in one incident every year, no one would argue against expending the necessary resources to prevent the catastrophe from happening again. But since most residential fire deaths happen by one's and two's, most don't receive national attention. The solution to this problem is at hand, and yes, now is the time to set out on a path that will protect current and future generations from the destruction brought by residential fires.

The following addresses many of the issues raised in opposition to moving residential fire sprinkler requirements from the appendix to the body of the IRC:

**Assertion:** System freeze-ups will cause problems in cold climates.

**Fact:** Fire sprinkler systems pose no greater risk of freezing than domestic plumbing if the system is properly designed and installed.

**Assertion:** Fire sprinkler installation costs will soar in jurisdictions where local water purveyors inflate the cost of larger water taps.

**Fact:** This is not a building code issue, and local fees should not serve as an impediment to national policy established by the IRC. The sprinkler industry, the fire service and the home builders need to work together to make sure that such outrageous fees are not charged by local utilities.

**Assertion:** Fire sprinklers negatively impact the affordability of housing.

**Fact:** Recent surveys of fire sprinkler costs for affordable homes in the 1,000 – 1,200 sq. ft. range showed that the added cost of materials related to sprinkler installation required less than 8 hours of additional labor. While no cost increase is inconsequential when dealing with affordable housing, the significant fire safety benefits gained by installing sprinklers for such a small cost certainly appears to be money well invested.

**Assertion:** The public doesn't want residential sprinklers.

**Fact:** A recent national poll conducted by Harris Interactive of over 1,000 adults revealed that:

- 45% of homeowners said that a sprinklered home is more desirable than an unsprinklered home,

- 69% of homeowners said that having a fire sprinkler system increases the value of a home, and
- 38% of homeowners said that they would be more likely to purchase a home with fire sprinklers than without. However, 48% of homeowners cited water damage as the reason they would not want to install a sprinkler system. This clearly indicates a need for public education on the operation and reliability of fire sprinkler systems as being a major component in enhancing public support and demand for sprinklers.

**Assertion:** Homes built in accordance with the IRC are already safe; older homes pose the greatest risk to fire.

**Fact:** Most residential fires resulting in loss of life are caused directly or indirectly by human behavior. The most realistic approach to gauging the risk of fire death within the home is to examine among other factors, the occupancy density, socioeconomic status of the occupants and their age. The median age of the U.S. home is 32 years; therefore, more people live in older homes. The homes we build today are the older homes of the future and we must take steps to protect them now.

**Assertion:** Smoke alarms are enough.

**Fact:** While smoke alarms are largely responsible for the significant reduction in fire deaths over the past 30 years, they do not stop the spread of fire, protect property or firefighters.

**Assertion:** Homes with no public water supply make it impractical and too expensive to install a sprinkler.

**Fact:** There are design options available that make the use of a well a viable water supply.

**Assertion:** Residential fire sprinkler systems require excessive maintenance to be reliable.

**Fact:** Residential fire sprinkler systems are essentially maintenance free. Multipurpose systems have no maintenance requirements at all, and stand-alone systems only require an occasional test of the water flow alarm, if provided. None of this maintenance would need to be performed or witnessed by the fire department.

**Assertion:** There will be a shortage of trained labor and inspectors.

**Fact:** While that is true today, the sprinkler industry and code officials will respond once the IRC has been revised. There are already positive examples of this in jurisdictions that have passed residential sprinkler ordinances.

**Assertion:** Fire sprinklers leak and cause mold damage.

**Fact:** Residential fire sprinklers pose no more risk of leakage than the domestic plumbing.

**Assertion:** Residential fire sprinkler requirements are better left in the appendix.

**Fact:** This approach will certainly be appealing to some because it delays the sprinkler issue and gives home builders a leg up in fighting sprinklers at the local level. However, isn't it time to give local code officials the leg up? Code officials who have been through the local adoption process understand that it's much easier to justify taking something controversial out of the code than to add something new during an adoption review. With respect to residential sprinklers, code officials well know that arguing them into the code

at the local level is an uphill climb given local politics and the strength of local home builder associations.

Putting the sprinkler requirement into the body of the IRC certainly won't end the local debate, but it will at least put the burden on the home building industry to justify making an amendment to take sprinklers out. Local code officials would then have a respectable chance of keeping the sprinkler requirement. Other codes including the Uniform Fire Code, the NFPA Building Code and the Life Safety Code have already set a moral precedent by adding mandatory dwelling sprinkler requirements in their 2006 editions. The IBC and IFB have also done their parts by now requiring all residential occupancies within their respective scopes to be protected by fire sprinklers. Now it is time for the IRC to do the same.

**Conclusion:** Unlike many issues faced at code hearings, THIS change strikes directly at the heart of America's fire problem. Opponents of residential sprinklers have a record of fighting just about every initial effort to improve dwelling safety. The same groups initially fought against smoke detectors, ground fault interrupters and mandatory sprinklers in multi-family residential occupancies. On each of these topics, code officials heard the same predictions of gloom and doom, but once the codes moved forward to require these features, the home building industry proceeded without so much as a detectible bump in the road. As years passed, prices for all of these features decreased, some dramatically, and technology advanced to create better, yet less expensive products.

The scenario for residential sprinklers will play out in exactly the same way. It is time to recognize that it is simply good public policy to provide residential sprinklers in new home construction...to protect the public, to protect firefighters, to reduce the impact of new home construction on community resources, and to transfer the responsibility for new home fire protection from the general public to developers and homeowners who create the increased demand. No one will argue that sprinkler technology cannot be improved or made more cost efficient. However, the best way to promote such improvements and efficiencies is by establishing a requirement for residential sprinklers in the IRC. This will bring all of the national model codes into agreement on this issue. An IRC sprinkler requirement is the best thing that code officials can do to drive enhanced competition in both technology and price to bring about better and less expensive residential sprinkler systems.

By making the change now, code officials and affected industries will have several years to prepare for mandatory residential sprinkler requirements. A change approved this year will be realistically adopted for the first time in 2010, and widespread adoptions won't begin for a couple years after that. So, changing the code today provides buffer years before there will be a widespread impact on home construction. During this period, sprinkler technology will certainly be improved and made even more affordable.

It seems fair to say that most people familiar with residential sprinklers, even home builders, recognize that residential sprinklers will eventually become a standard feature in new home construction, so why wait? The best method of overcoming perceived obstacles is to place the sprinkler requirement into the IRC, stop focusing on the debate and start working together to efficiently integrate residential sprinklers into new home construction.