

Modify proposal as follows:

**SECTION R313
FIRE SPRINKLER SYSTEMS**

R313.1 General. An approved automatic fire sprinkler system shall be installed, repaired, operated and maintained in new one-and two-family dwellings and townhouses in accordance with NFPA 13D when required by the *International Fire Code*. Separate permits shall be obtained for installation, repair, operation and maintenance when required by the *International Fire Code*.

(Renumber subsequent sections)

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This modification places the authority for permitting and enforcement of residential sprinklers in the Fire Code. It seems appropriate that sprinkler requirements be placed in the code of those who most support their installation. They are in the best position to defend their inclusion in the code when it comes to local adoption.

Analysis. Section 101.2 of the IBC refers to the IRC as a stand alone code. As such, the provisions of the IRC are self-contained, and the provisions for a building constructed in accordance with the IRC are contained solely within the scope of the IRC and not within the scope of any other I-Code. Therefore the modification proposed is outside the scope of the International Fire Code. Additionally, the proposed text in the modification cannot be applied, as there are no provisions in the International Fire Code that are applicable to the IRC. The requirements for sprinkler systems contained in the IFC are keyed to occupancy groups. Since a building built in accordance with the IRC has no occupancy classification, there is no linkage to buildings built in accordance with the IRC.

Public Comment 2:

John C. Dean, National Association of State Fire Marshals (NASFM), requests Approval as Modified by this public comment.

Sean DeCrane, International Association of Firefighters (IAFF), requests Approval as Modified by this Public Comment

Modify proposal as follows:

**SECTION R313
FIRE SPRINKLER SYSTEMS**

R313.1 General. An approved automatic fire sprinkler system shall be installed in new one-and two-family dwellings and townhouses in accordance with Section P2904 of the *International Residential Code* or NFPA 13D.

(Renumber subsequent sections)

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This modification addresses the approval of proposal RP3 by the IRC Committee which provides for either an NFPA 13D sprinkler system or a dwelling sprinkler system installed in accordance with new provisions in IRC Section P2904.

Final Action: AS AM AMPC____ D

**RB64-07/08
R313 (New), Appendix P, Chapter 43 (New)**

Proposed Change as Submitted:

Proponent: Ronny J. Coleman, Retired California State Fire Marshal, representing IRC Fire Sprinkler Coalition

1. Add new section as follows:

**SECTION R313
FIRE SPRINKLER SYSTEMS**

R313.1 General. Effective January 1, 2011, an approved automatic fire sprinkler system shall be installed in new one-and two-family dwellings and townhouses in accordance with NFPA 13D.

(Renumber subsequent sections)

2. Delete IRC Appendix P without substitution:

APPENDIX P FIRE SPRINKLER SYSTEM

~~The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.~~

~~**AP101 Fire sprinklers.** An approved automatic fire sprinkler system shall be installed in new one- and two-family dwellings and townhouses in accordance with Section 903.3.1 of the *International Building Code*.~~

3. Add standard to Chapter 43 as follows:

NFPA

13D-07 Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes

Reason: This proposal is submitted as part of a package of three proposals that were developed in cooperation with the International Association of Fire Chiefs with input from code officials, home builders, fire chiefs and other interested parties. During last year's code development cycle, many ICC members stated that the preferred way to advance fire sprinklers into new home construction is through a comprehensive approach that involves:

1. A schedule for implementation,
2. Reasonable and appropriate design and construction incentives, and
3. A simple, prescriptive methodology for designing systems.

In response, representatives of the IRC Fire Sprinkler Coalition (IRCFSC) and the International Association of Fire Chiefs have developed and submitted three proposals for this code cycle, one addressing each topic.

This proposal addresses the first issue, "a schedule for implementation." It requires new homes constructed after January 1, 2011 to have fire sprinklers. The delayed implementation date provides a time buffer that will allow for development of infrastructure, such as trained installers and inspectors, prior to the residential sprinkler requirement becoming effective. While the approach of delaying a code requirement may be unfamiliar to some, it is entirely appropriate, and it is already used by the IRC in Chapter 38, as follows:

E3802.12 Arc-fault protection of bedroom outlets. All branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in bedrooms shall be protected by a combination type or branch/feeder type arc-fault circuit interrupter installed to provide protection of the entire branch circuit. ***Effective January 1, 2008, such arc-fault circuit interrupter devices shall be combination type.*** (emphasis added).

It is common knowledge that fires in one- and two-family dwellings are the root of America's fire problem, and a substantial majority of ICC members who voted at last year's final action hearing, 56%, agreed that residential sprinklers are the right solution. To truly address America's fire problem, ICC members know that we must, at some point, begin to mainstream fire sprinklers into new home construction, and this proposal provides a rational way to make the transition by fixing a future date for the requirement to become effective.

During last year's debate, the IRCFSC provided detailed responses that addressed all of the concerns cited in testimony as a basis for opposing residential sprinklers. These concerns, which included the use of wells to supply sprinklers, freezing, leakage and cost, among others, were addressed in our public comment to proposal RB114-06/07 and in testimony offered at the final action hearing in Rochester. They were also addressed in a Web cast aired by the IRCFSC in May 2007, copies of which are now available on a free DVD that can be ordered at www.IRCFireSprinkler.org.

As a result of this outreach effort, opposition to sprinklers based on myths and misinformation has largely dissipated, and the debate has largely become focused on two issues: First, whether the requirement for fire sprinklers in dwellings should be determined at a local level, and second, whether the residential fire problem is limited to older homes. The remainder of this reason statement focuses on these two issues.

1. Should the requirement for fire sprinklers in dwellings be a local issue? Several speakers in Rochester who spoke in opposition to RB114 conveyed an opinion that requirements for fire sprinklers in dwellings should be decided at the local level. The question is why? By including Appendix P, the IRC has already acknowledged fire sprinklers as a basic safety feature that should be included in new homes. There is no premise for the IRC to promote residential fire safety on community-by-community basis. The IRC, as a model code, should promote safety and regulatory consistency among all jurisdictions, as opposed to creating a local "shopping list" of safety requirements.

No other ICC code treats sprinkler requirements or residential fire safety as a local choice to be made at the time of code adoption. The IBC establishes a baseline that ALL residential occupancies must be protected by fire sprinklers, including one- and two-family dwellings and townhouses. Some argue that it's appropriate for IBC to be more restrictive than the IRC because use of the IBC is only mandatory for dwellings exceeding three stories in height, but that argument disregards one very important fact; most residential fire deaths occur in one- and two-story homes. To have an impact on fire deaths in one- and two-story homes, we need a fire sprinkler requirement in the IRC.

A newly published study by the National Institute of Standards and Technology (NIST) entitled "Benefit-Cost Analysis of Residential Fire Sprinkler Systems," reports that, out of almost 2,000 fire incidents in homes equipped with fire sprinklers during the 4-year period 2002 to 2005, there were no fire-related fatalities. This statistic clearly demonstrates the potential for sprinklers to save thousands of lives that would otherwise be lost in residential fires. With the knowledge that residential fire sprinklers are a proven, life-saving technology, it is clear that the IRC should establish a model that sprinklers are a minimum safety feature that should be included in all new homes.

2. Is the residential fire problem limited to older homes?

According to a recent HUD study, the median age of homes in the U.S. is 32 years. With this in mind, it makes perfect sense that more fires and fire deaths occur in "older" homes, simply because there are many more of them. However, the residential fire problem is certainly not limited to older homes, and it is has not been correlated with home age.

To evaluate the relationship between the age of a home and fire risk, it is necessary break the concept of fire risk into its two components, the probability of a fire event occurring and the associated consequence once the event occurs. The probability of a fire event occurring equates to the risk of fire ignition. With respect to the age of a home, only those ignition sources that are permanently affixed to a home, such as central heating systems or electrical distribution systems, might be directly correlated to home age, but to date, there are no known studies demonstrating increased fire risk as these systems age. Such a study would be difficult to perform because heating and electrical systems are often replaced when a home is remodeled, breaking any correlation that might otherwise exist between the age of a home and the age of fixed systems installed therein. Nevertheless, because most fire deaths are associated with ignition scenarios related to human behavior, which are independent of home age, it is clear that home age has little to do with the probability of a fire event.

With respect to consequences associated with a fire event, assuming that an ignition has occurred, it is again difficult to establish any correlation with home age, except to the extent that the probability of safe evacuation is increased based on the possible presence of working smoke alarms and/or escape windows. On the contrary, some design and construction methods commonly used in new homes actually reduce fire safety. These include the use of lightweight trusses (now used in more than 60% of new homes according to the Wood Truss Council of America), which are known to become unstable and collapse more quickly in fire situations than conventional construction; and open floor plans, which reduce compartmentation and allow a fire to quickly spread throughout a home.

The truth is that fire growth in a home is largely dependent on contents, not the structure itself, and contents are independent of home age. Although smoke alarms and escape windows associated with newer homes are beneficial in some fire incidents, statistics show that the value of these features is declining over time, as fire deaths in homes that have working smoke alarms are becoming increasingly common. The most recent data (for the period 2000 to 2004), shows that 34% of fire deaths occurred in homes that had WORKING smoke alarms. This is up from 24% in the previous period, and as smoke alarms age, we can only assume that their reliability will continue to decline unless they are periodically replaced, which seems to be wishful thinking when one considers that we have a problem even getting people to change batteries in smoke alarms on a regular basis.

In summary, a simple risk analysis demonstrates that home age is largely independent of either the risk of ignition or the consequences of a fire, if ignition occurs. Therefore, it is clear that home age has little to do with the residential fire problem or the need for residential sprinklers.

Conclusion:

The outpouring of support for residential sprinklers has been building for many years, and today, all U.S. model building codes require fire sprinklers in residential occupancies, including one- and two-family dwellings, with the exception of the IRC. It is only logical that the IRC should finally acknowledge the value of residential sprinklers in preventing deaths, injuries and property loss by making sprinklers a standard feature in new home construction.

Although some in the IRC arena have argued that "big government" shouldn't intrude into American homes by requiring fire sprinklers, those of us who have been around for a while will recall that this same argument was made 30-years ago when smoke alarms were first required in dwellings. Today, it's hard to imagine any reasonable individual arguing that the IRC requirement for smoke alarms constitutes a "government intrusion" into the American home, largely because smoke alarms are viewed as cost-effective safety devices. Sprinklers should be viewed the same way.

Given the proposed incentive package and prescriptive design option for multipurpose fire sprinkler systems being advanced this year in a proposal by the International Association of Fire Chiefs, it is entirely feasible that it will be cheaper to build some homes with fire sprinklers than without. For those cases where there is a net cost to sprinklers, NIST's newly published "Benefit-Cost Analysis of Residential Fire Sprinkler Systems" report concludes that multipurpose residential fire sprinkler systems are still a good investment, yielding a positive present value of net benefits (PVNB) for every home type studied, including ranch-style homes, colonial-style homes and townhouses.

This proposal provides a reasonable and justified approach for advancing fire sprinklers into the body of the IRC, and the time has come to for the IRC to include fire sprinklers as part of the model for residential construction.

ABOUT THE IRC FIRE SPRINKLER COALITION: The IRC Fire Sprinkler Coalition is an organization that represents national, state and regional groups of code officials and other associations focused on public safety. The Coalition has been active in presenting training programs to code officials and others aimed at conveying facts and debunking myths and misinformation about residential sprinklers. At the time of submittal of this proposal, groups who pledged to support the IRC Fire Sprinkler Coalition's mission of mainstreaming fire sprinklers into new home construction included:

NATIONAL AND REGIONAL COALITION MEMBERS

- * International Association of Fire Chiefs – Fire and Life Safety Section
- * Center for Campus Fire Safety
- * ICC Joint Fire Service Review Committee
- * Institution of Fire Engineers, US Branch
- * International Fire Marshals Association
- * National Association of State Fire Marshals
- * New England Association of Fire Marshals
- * New England Division of the International Association of Fire Chiefs
- * Safe Buildings Coordinating Committee
- * Society of Fire Protection Engineers
- * Southeastern Association of Fire Chiefs
- * Uniform Fire Code Association
- * Western Fire Chiefs Association

STATE AND LOCAL COALITION MEMBERS

Alaska

- * Alaska Fire Chiefs Association

Arizona

- * Arizona Fire Chiefs Association
- * Arizona Fire Marshals Association
- * Arizona: Society of Fire Protection Engineers, Arizona Chapter
- * Arizona: Yuma County, AZ Fire Officer's Association

California

- * California: California Fire Chiefs Association
- * California: Northern California Fire Prevention Officers Section
- * California: Orange County Fire Chiefs Association
- * California: Southern California Fire Prevention Officers Section

Colorado

- * Colorado: Fire Marshals Association of Colorado

Connecticut

- * Connecticut: Capitol Region Fire Marshals Association of Connecticut

Delaware

- * Delaware: Fire Marshals Association of Delaware Valley

Florida

- * Florida Fire Marshals and Inspectors Association
- * Florida Fire Chiefs Association
- * Florida: Northeast Florida Fire Prevention Association

Idaho

- * Idaho Fire Chiefs Association
- * Idaho Fire Prevention Officers Association

Illinois

- * Illinois Fire Inspectors Association
- * Illinois Fire Chiefs Association
- * Illinois: Lake County Fire Chiefs Association

Indiana:

- * Indiana: Fire Inspectors Association Of Indiana

Iowa

- * Iowa: Hawkeye State Fire Safety Association, Iowa
- * Iowa Fire Marshal's Association

Louisiana

- * Louisiana Association of Fire Prevention Chiefs

Maryland

- * Maryland Building Officials Association
- * Maryland State Firemen's Association

Maine

- * Maine Fire Chiefs Association

Massachusetts

- * Massachusetts: Fire Chiefs Association of Massachusetts

Michigan

- * Michigan Association of Fire Chiefs
- * Michigan Fire Inspectors Society
- * Michigan: Macomb County Fire Chiefs Association

Missouri

- * Missouri: Tri-Lakes Fire Chiefs Association

Minnesota

- * Minnesota: Fire Marshals Association of Minnesota

Nebraska

- * Nebraska Municipal Fire Chiefs Association

Nevada

- * Nevada: Fire Prevention Association of Nevada

New Jersey

- * New Jersey Fire Prevention and Protection Association
- * New Jersey: Northern Ocean Fire Chiefs Association
- * New Jersey: Uniform Fire Prevention/Protection Officials Assn. of Ocean County

New Mexico

- * New Mexico Fire Marshals Association

New York

- * New York: Association of Fire Districts of the State of New York
- * New York: Career Fire Chiefs' Association of New York State
- * New York: Fire Marshals Association of Suffolk County
- * New York: Firemen's Association of the State of New York
- * New York: Monroe County, NY Fire Marshals & Inspectors Association
- * New York State Association of Fire Chiefs
- * New York State Building Officials Conference
- * New York State Code Coalition to Protect and Preserve our Communities:
- * New York State Fire Marshals and Inspectors Association
- * New York: Suffolk County Fire Chiefs Association

North Carolina

- * North Carolina State Firemen's Association

Ohio

* Ohio Fire Officials Association

Oregon

* Oregon Fire Code Committee
* Oregon Fire Marshals Association

Pennsylvania

* Pennsylvania Fire and Emergency Services Institute

Rhode Island

* Rhode Island Association of Fire Marshals

Tennessee

* Tennessee Fire Safety Inspectors Association

Texas

* Texas Fire Marshals Association
* Texas: Fire Prevention Association of North Texas

Virginia

* Virginia: Central Virginia Fire and Arson Association
* Virginia Fire Chiefs Association
* Virginia Fire Prevention Association

Washington

* Washington Fire Chiefs Association
* Washington State Assn of Fire Marshals

Cost Impact: This code change will increase the cost of construction.

Analysis: This proposal includes an "effective date" which is typically not included in the I-Codes. Typically, the provisions in the code become effective when the code is adopted.

Analysis: Review of proposed new standard NFPA 13D-07 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Disapproved

Committee Reason: The committee felt that putting language into the code that mandated sprinklers on a future date, January 1, 2011, was a problem. The committee felt that there was insufficient effective or substantial reason to move the sprinkler requirements out of Appendix P where it is now.

Assembly Action:

None

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Julius Ballanco, PE, CPD, President, American Society of Plumbing Engineers, requests Approval as Modified by this Public Comment.

Replace proposal as follows:

SECTION R313
SPRINKLER PROTECTION

R313.1 Sprinklers. Effective January 1, 2011, all dwelling units shall be protected with an automatic residential fire sprinkler system.

Exception: Sprinkler protection shall not be required for additions or alterations of existing buildings that do not have an automatic residential fire sprinkler system installed.

R312.2 Design and installation. Automatic residential fire sprinkler systems shall be designed and installed in accordance with Section P2904 or NFPA 13D.

(Renumber subsequent sections)

Delete IRC Appendix P without substitution:

APPENDIX P
FIRE SPRINKLER SYSTEM

~~The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.~~

~~**AP401 Fire sprinklers.** An approved automatic fire sprinkler system shall be installed in new one- and two-family dwellings and townhouses in accordance with Section 903.3.1 of the *International Building Code*.~~

Add standard to Chapter 43 as follows:

NFPA 13D-07 Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes

Commenter's Reason: As stated in the original proposal, ASPE is a firm believer that residential sprinkler systems should be installed in all residential buildings to provide life safety. The fire deaths and statistic regarding the performance of NFPA 13D systems clearly justifies the requirements for residential sprinklers for all new residential buildings.

ASPE can agree with the IRC Fire Sprinkler Coalition regarding the delay in enactment of the code requirement. While we believe this should happen immediately, it is recognized that it could take time to complete the training and education of all parties involved. Therefore, we in effect are suggesting the combination of the two proposed code changes RB63 and RB64.

The purpose of the code is to provide life safety protection to everyone. To provide this protection, residential sprinklers are a necessary component in building construction.

Public Comment 2:

Ronny J. Coleman, Retired California State Fire Marshal, representing Fire Sprinkler Coalition, requests Approval as Modified by this Public Comment.

Replace proposal as follows:

SECTION R313
SPRINKLER PROTECTION

R313.1 Required Installation. Effective January 1, 2011, a residential fire sprinkler system shall be installed in one- and two-family dwellings and townhouses.

Exception: A residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with a residential fire sprinkler system.

R312.2 Design and Installation. Residential fire sprinkler systems shall be designed and installed in accordance with Section P2904 or NFPA 13D.

(Renumber subsequent sections)

Delete IRC Appendix P without substitution:

APPENDIX P
FIRE SPRINKLER SYSTEM

~~The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.~~

~~**AP401 Fire sprinklers.** An approved automatic fire sprinkler system shall be installed in new one- and two-family dwellings and townhouses in accordance with Section 903.3.1 of the *International Building Code*.~~

Add standard to Chapter 43 as follows:

NFPA 13D-07 Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes

Commenter's Reason: It is important to point out that there was no comprehensive debate on this proposal at the hearing in Palm Springs. The IRC Fire Sprinkler Coalition (www.IRCFireSprinkler.org) and many others chose to forgo debate since it was clear, based on committee actions on prior proposals, that the committee would not accept any proposal having to do with residential sprinklers.

When RB64 was called to the floor, there were only 10 committee members present (other than the chairman), and 4 of these individuals were appointed by the National Association of Home Builders. Given NAHB's well-known policy of opposing residential sprinklers, passage of RB64 would have required a unanimous vote of the remaining 6 members. Such a requirement, the threshold of unanimity among committee members who don't have a pre-determined vote, to pass a code change is inconsistent with the concept of consensus code making, and it depreciates ICC's code-making process. Accordingly, the committee vote lacks merit and should be ignored.

We ask the ICC membership to support this public comment based on the overwhelming evidence that has been presented in support of residential sprinklers over the past few years. The reason statement provided with the original RB64 proposal and the reason statements provided with many other proposals this year clearly make the case that residential sprinklers represent the best way to achieve a sustainable and long-term reduction in residential fire losses.

We know that: 1) the residential fire problem is not limited to older homes, 2) the residential fire problem cannot be solved with smoke alarms, 3) more firefighters are killed fighting fires in dwellings than in any other occupancy, and 4) residential sprinklers represent a cost effective solution to America's residential fire problem. These conclusions are clearly documented in publicly available reports.

We also know that consumers are accepting residential sprinklers as an important feature in new home construction in increasing numbers. This comes as no surprise because the IBC requires EVERY other residential occupancy built today to have sprinklers, and it simply makes sense that renters who live in sprinklered apartments will want to move into sprinklered homes.

While NAHB suggests that sprinklers should remain a "choice" for new homeowners, the concept of choice has two significant flaws. First, it's common knowledge that major home builders won't offer sprinklers even if the owner wants them installed, so home buyers who want sprinklers are simply told that they're not offered as an option. Second, why should the first home buyer be given the right to choose whether a home gets a fire sprinkler system, on behalf of all future homeowners, their families, and the community who ultimately assumes responsibility for providing fire protection for unsprinklered properties? This simply makes no sense.

The fact that the National Association of Home Builders is the only national organization to oppose the adoption of residential sprinklers as a mainstream feature in new home construction is very telling, and we are optimistic that ICC's membership will make the decision that the time has finally come for all homes to be sprinklered. It seems that everyone agrees that we'll eventually get there, so what are we waiting for?

Final Action: AS AM AMPC____ D

RB65-07/08

R325 (New), Chapter 43 (New)

Proposed Change as Submitted:

Proponent: Jim Jorgensen/Greg Reed, City of Lenexa, KS

1. Add new section as follows:

SECTION R325 **AUTOMATIC SPRINKLER SYSTEM**

R325.1 Fire protection systems. An automatic residential fire sprinkler system shall be installed in new townhouses in accordance with NFPA 13D.

2. Add standard to Chapter 43 as follows:

NFPA

13D-07 Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes

Reason: Townhouses present a unique fire protection and property protection issues for fire departments and owners of connected townhouses. With separate ownerships townhouses are uniquely affected by fires in adjacent units even if the fire does not breach the two hour walls separating the units. After a severe fire the structure is open to the elements and subject to damage from water intrusion and other effects. These detrimental effects contribute to ongoing damage of adjacent townhouses since the process for repair may take an extended period of time. Legal issues may further complicate the repair process. Adding sprinklers will minimize the extent of damage so that repairs are easier to complete and the time of exposure of adjacent units to adverse affects is minimized.

Significant documentation was provided RB114-06/07 to show that non-sprinkled dwellings are a major contributing factor to the amount of property damage and loss of life from fires. Sprinkling is now required for all multi-family dwellings and townhouses should be treated in a similar manner.

Cost Impact: The code change proposal will increase the cost of construction.

Analysis: Review of proposed new standard NFPA 13D-07 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Disapproved

Committee Reason: The committee felt that there was insufficient effective or substantial reason to move the sprinkler requirements out of Appendix P where it is now. The committee agreed that if the code is going to mandate sprinklers for new construction that it should apply to all structures in the scope of the *International Residential Code* not just townhouses in a piecemeal approach.

Assembly Action:

Approved as Submitted

Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful.

Final Action: AS AM AMPC____ D
