

CODES AND STANDARDS COMMITTEE  
2009 CODE CHANGE CYCLE – BOOK 5  
June 7, 2010

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## Virginia Statewide Fire Prevention Code

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## **DHCD, DBFR 2009 Code Change Process**

### **April 23, 2010 Meeting Summary**

#### **IRC – Residential Sprinkler Meeting (4<sup>th</sup> meeting of the workgroup)**

1. Discussed insurance impacts. No definitive conclusions. Heard anecdotal testimony on some savings, but not an overall industry savings. It was noted that probably over time where there is more data and trends developed, then rates may have evolved to find an industry saving rate on premiums for sprinklers.
2. Reviewed code changes. The sprinkler coalition summarized their positions on the townhome code change with the incentives being offered. The builders also commented and on their code change amended the fire extinguisher to be a 2A10BC type. The placement of the fire extinguisher was an issue for the fire officials believing the placement must be within the kitchen and not in a closet or cabinet. Discussed stovetop fire suppression canisters. Fire officials noted need to be listed.
3. IRC sprinklers to be on June 7<sup>th</sup> Codes and Standards Committee.

## DHCD, DBFR 2009 Code Change Process

### April 29, 2010 Meeting Agenda Package

### Combined Workgroup – Remaining Code Changes

#### CODE CHANGE NUMBER

1. C-101.2 (b) VCC – Multiple Changes: Consensus to approve. This will be on the June 7<sup>th</sup> CSC Agenda.
2. C-102.3(7) Federal Exemption: Consensus to approve. This will be on the June 7<sup>th</sup> CSC Agenda.
3. C-103.5 (a) and (b) Alterations and Repair: Withdrawn by proponent.
4. C-109.3.1 (a) and (b) Construction Documents: Non-consensus. AIA would withdraw their code change if Dave Thomas' code change is denied. DHCD submitted a compromise for the 109.3 engineering data that allows requiring more MOE occupant data and provides flexibility for the policy of each building official. 109.5.1.1 needs review on public way. This will be on the June 7<sup>th</sup> CSC Agenda.
5. C-307.1 Group H Fireworks: Non-consensus. Industry is opposed and it is on the 2012 ICC agenda for consumer fireworks. This will not impact permissible fireworks. This will be on the June 7<sup>th</sup> CSC Agenda.
6. C-308.1 Assisted Living Facilities: Non-consensus. A revised code change will be reviewed with stakeholders prior to the CSC meeting. This will be on the June 7<sup>th</sup> CSC Agenda.
7. C-403.3.5 Fire Command Rooms: Non-consensus. One suggestion was to revise to state that the building official could allow up to 200 square feet where there is a demonstrated need for a larger room. AOBA may submit a revision prior to the CSC meeting. This will be on the June 7<sup>th</sup> CSC Agenda.
8. C-422 (a) and (b) Ambulatory Health Care Facilities: Consensus to approve as amended with new definition to ensure building official do not misapply B occupancy requirements for medical offices. This will be on the June 7<sup>th</sup> CSC Agenda.
9. C-424 (a) through (d) Fertilizer Tanks: Consensus to approve. SFPC will likely need legislation for maintenance and operational inspections for liquid fertilizer. This will be on the June 7<sup>th</sup> CSC Agenda.
10. C-705.2 (a) and (b) Separation of Porches and Decks: Consensus to deny both (a) and (b). Consensus to approve revised change allowing decks and unenclosed porches. This will be on the June 7<sup>th</sup> CSC Agenda.
11. C-907.2.3 Voice Alarm and Corridors Group E: Non-consensus. Private school representatives stated going from 50 to 30 is too stringent and they do not feel all small schools need these systems. This is a 2012 IBC code change that is not in the 2009 IBC. This will be on the June 7<sup>th</sup> CSC Agenda.
12. C-908.1 Carbon Monoxide Groups R and I: Non-consensus. The issue will be reviewed by stakeholders prior to the CSC meeting. This will be on the June 7<sup>th</sup> CSC Agenda.
13. C-1018.2 Corridor Width Group I-2: Consensus to amend #8 with I-2. This will be on the June 7<sup>th</sup> CSC Agenda.
14. C-1301(402.4.2) (a), (b) and (c) Duct and Blower Door Testing: Non-consensus for (a). Builders support testing one out of seven. There was discussion as to whether this would mean one of every seven permits applied for by each builder or one of every seven permits overall to capture permits applied for by owners. VBCOA opposes sampling. Consensus to approve (b) allowing any qualified person/company to perform the actual tests. This will be on the June 7<sup>th</sup> CSC Agenda.
15. C-1301 Delete IRC Energy Provisions: Consensus to deny. This will be on the June 7<sup>th</sup> CSC Agenda.
16. M-105.1.1 Unsafe Structures Rewrite: Consensus to approve the revised change from VBCOA VMC committee. The revised change would delete the new unsafe provisions in the IPMC for now while the committee works on correlating them with the VMC for the next code change cycle. Lynn Underwood preferred the withdrawal of the proposal in lieu of deleting the IPMC provisions and did not think the revised proposal was in order.

17. F-106.3 Hazards to Life or Health: Non-consensus. It was noted that the change is too broad. Revisions are needed, such as deleting "opinion of the fire official". Possible unintended consequences were discussed. Fire officials felt there might be a need with new technology. This will be on the June 7<sup>th</sup> CSC Agenda.
18. F-106.6 Use of Other Standards: Non-consensus. Staff noted that in a meeting with legal counsel, DHCD staff and VDFP staff, legal counsel gave verbal opinion that the code change was beyond the scope and could allow fire officials to use standards not approved by the BHCD. This will be on the June 7<sup>th</sup> CSC Agenda.
19. F-107.14 SRCF Inspection Fees: Non-consensus. Opposed by private school representatives and one ALF group. Fiscal data has not been provided. There was discussion as to why this would be done by number of occupants allowed rather than actual number or square footage. Questions were raised about a possible need for legislation, but the Code of Virginia does allow fees to cover expenses. Some revisions are needed with regard to the facilities covered, such as removing SRCF. This will be on the June 7<sup>th</sup> CSC Agenda.
20. F-506.1 Key Boxes: Consensus to approve. Questions were raised about whether current non-UL key boxes would have to be replaced, but that could be required now and this code change doesn't change the current language. A suggestion was made to link this to the USBC but this has not been submitted as a code change. This will be on the June 7<sup>th</sup> CSC Agenda.
21. F-506.3 Elevator Service Keys: Non-consensus. The revised code change does not address concerns from building owners and there were questions as to the enforcement of 506.3.1 #3. This will be on the June 7<sup>th</sup> CSC Agenda.
22. F-2209.2.1 Hydrogen Dispensing: Non-consensus. This is a 2012 ICC code change that has not been reviewed by VBCOA, VPMIA and the industry for USBC sections and correlation with other model codes. This will be on the June 7<sup>th</sup> CSC Agenda.
23. F-3301.2.2 Permissible Fireworks Sale: Non-consensus. Not allowable as written per legal counsel. No amendment has been submitted. This will be on the June 7<sup>th</sup> CSC Agenda.
24. F-3301.2.3.1 Fireworks Display Personnel: Consensus to approve with amendment to include volunteer language. This will be on the June 7<sup>th</sup> CSC Agenda.
25. F-3308.4 Separation Distance – Fireworks: Consensus to approve. This will be on the June 7<sup>th</sup> CSC Agenda.
26. Staff presented revisions to the USBC and IBSR from 2010 legislation. It includes appeals for aggrieved parties, allowance for IBSR to be appealed to the TRB, local fire ordinances decisions being appealed to the local boards, VADR permits subject to the 2% fee, and the allowance of temporary units without foundations and connections to the home (this one would require meeting with local zoning and building officials and the industry – HB1307). Consensus to approve. This will be on the June 7<sup>th</sup> CSC Agenda.
27. Staff presented a log home energy code change that allows approval for prescriptive path. VBCOA energy committee will review. This is supported by the industry. This will be on the May 10<sup>th</sup> CSC Agenda.
28. Staff presented IRC energy 3802.4 to delete crawl spaces that have become more stringent. The 2011 NEC has done a modification to only require over 4 ½ feet. The CSC will determine if it would like for staff to move forward with this change. If so, this will be on the June 7<sup>th</sup> CSC Agenda.
29. IBC 3008 – Occupant elevators. Proponent gave more reasons why this should be used in 420 feet buildings at this time. This was non-consensus at the March 25<sup>th</sup> meeting. If used in other buildings, the heat shunt trip is not used for self-evacuation. It needs to be submitted to the IBC and elevator representatives. There was a consensus to limit to 420 feet buildings for now until this issue is reviewed at ICC and industry standards for 2015. This will be on the May 10<sup>th</sup> CSC Agenda.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

2009 Code Change Cycle – Code Change Evaluation Form

**USBC – Virginia Construction Code  
Code Change No. C-310.6(R313.1)**

**Nature of Change:**

A series of proposals for requiring sprinkler systems to be installed in new townhouses and to provide incentives for such systems to be installed more economically.

**Proponent:** James R. Dawson, Chesterfield County Fire Marshal, representing the Virginia Residential Sprinkler Coalition

**Staff Comments:**

These proposals are offered as a compromise to requiring all single family dwellings to be sprinklered. The townhouse proposal would permit a one-hour fire wall between units rather than the two-hour fire wall which is currently required for unsprinklered townhouses. An additional proposal would permit exterior walls of such sprinklered townhouses (end units) to be located as close as three feet to property lines without requiring the exterior wall to be rated. Other additional proposals address lessening the requirements for fire apparatus access roads, fire flow requirements and the number and distribution of fire hydrants in the Virginia Statewide Fire Prevention Code. While a sub-workgroup was established for the overall issue of residential sprinklers, no consensus has been achieved concerning these proposals or the proposal from the Home Builders of Virginia (Code Change No. C-310.6(R329)).

COMMENT RECEIVED

Beginning on Page No. 21

**Codes and Standards Committee Action:**

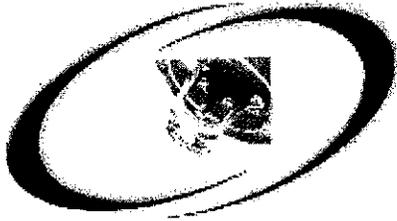
Approve as presented.

Disapprove.

Approve as modified (specify):

Carry over to next cycle.

Other (specify):



**Virginia Residential Sprinkler Coalition**  
**A Partnership for Public Safety**

September 7, 2009

Mr. Tom Fleury, Chairman  
Board of Housing and Community Development  
c/o Mr. Emory Rodgers, Deputy Director of Building and Fire Regulations  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, Virginia 23219

RE: Virginia Residential Construction Code Amendment Proposals

Dear Mr. Fleury:

On behalf of the Virginia Residential Sprinkler Coalition (VARSC), an organization representing over 3000 building safety and fire safety professionals throughout the Commonwealth of Virginia, I submit the attached code change proposals as a package in an effort to enhance public safety for the citizens in our state.

We believe these changes represent a common sense approach to fire protection while offering cost saving reductions in building construction and infrastructure that will assist with off-setting the costs of these systems for the new home buyer. These changes have been fully vetted within the member organizations which make up the Coalition and the representative members of our Board of Directors unanimously support these changes as we present them here.

We have discussed this package with the Home Builders Association of Virginia and have asked for their suggestions on how these changes may be improved upon. They have not had the opportunity to present this information to their membership at the present time, therefore they have not offered any suggested changes to this comprehensive package. We have however received positive feedback from NAHB's leadership on our efforts to reach a common middle ground consensus.

We anticipate this code change package will be used in the upcoming discussions for the workgroups slated for later this year, and look forward to working with you and the other interest groups to move these changes forward as a complete comprehensive package.

Sincerely,

*Submitted via e-mail*

James R. Dawson, VARSC Chairman  
Fire Marshal  
CHESTERFIELD FIRE AND EMS  
cc: HBAV, VBCOA, VPMIA, VFCA, IAFF, VFPA, VSFA



[www.varsc.org](http://www.varsc.org)

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2009 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual      X Government Entity       Company

Name: Guy Tomberlin, Vice Chair

Representing: VA Residential Sprinkler Coalition (VRSC)

Mailing Address: 12055 Government Center Parkway, Suite 630  
Fairfax, VA 22035

Email Address: guy.tomberlin@fairfaxcounty.gov

Telephone Number: 703-324-1611

Proposal Information Require mandatory sprinkler installation in all Townhouse construction with trade-off incentives, not including detached 1 and 2 family dwellings.

Code(s) and Section(s): 2009 IRC Section R313

Proposed Change (including all relevant section numbers, if multiple sections):

Retain, and implement provisions with adoption of the next USBC, current text exactly as it appears in the published International Code Council (ICC) International Residential Code (IRC) 2009 edition, Sections R 313.1, R 313.1.1, and R 302.2.

**R 313.1 Townhouse automatic fire sprinkler systems.** An automatic residential fire sprinkler system shall be installed in *townhouses*.

**Exception:** An automatic residential sprinkler system shall not be required when *additions* or *alterations* are made to existing *townhouses* that do not have automatic residential fire sprinkler system installed.

And

**R 313.1.1 Design and installation.** Automatic residential fire sprinkler systems for *townhouses* shall be designed and installed in accordance with Section P 2904.

And

**R 302.2 Townhouses.** Each *townhouse* shall be considered a separate building and shall be separated by fire-resistant-rated wall assemblies meeting the requirements of Section R 302.1 for exterior walls.

**Exception:** A common 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be installed in accordance with Chapters 34 through 43. Penetrations of electrical outlet boxes shall be in accordance with Section R 302.4

Supporting Statement (including intent, need, and impact of the proposal):

During the Public Hearings the BHCD encouraged communication between all interested parties with a underlying emphasis on compromise. This proposal is a result of the Boards direction. We would like to take this opportunity to elaborate on many of the issues that have been raised to date. We hope to dispel many of the misconceptions that have been put forward during public testimony by providing the applicable factual information. Our goal is to promote the installation of residential sprinklers while recognizing all sides of the issues by incorporating the concept of compromise and trade-off incentives in hopes the Board will view this recommendation favorably.

1. This proposal still maintains the optional (non-mandatory) installation of residential sprinklers in detached 1 and 2 family dwellings, just as industry has indicated the need for during this current economic environment. One philosophy for this proposal could be explained as this will "assist in the protection from others, outside the control of ones own family."
2. Sprinkler system installation has been required for 4 story townhouses since back in the Legacy code era (pre year 2000). So, we should be able to capture real life, actual added cost of the sprinkler system to the construction of a townhouse. We need to disregard the numbers of cost that have been brought forward because they are not based on the current economic environment or actual typical installations. This proposal is not a huge departure from current business operation, in fact a sprinkler system for a townhouse 3 stories or less should considerably less than a system install for a 4 story structure. The VRSC will attempt obtain real estimates for the average size 3 story or less townhouse, approximately (2,000 sq. ft?) form various contractors across the state and submit these estimates to the BHCD. This method will provide hard numbers, from contractors that have already been doing this type work and not arbitrary numbers that can be skewed one way or another. Hopefully some other industry groups will step up and provide actual documentation as to the cost for the installation of sprinklers in the average 4 story townhouses from existing projects. It appears that currently, 4 story townhouses are selling as well as any other type dwelling in this economy, they are not out of the market because they have a sprinkler system and therefore the cost is just too excessive.
3. There is not a maintenance issue to be concerned with, and no added cost throughout the life of the home. The Fire Official will not be visiting residential homes on a routine basis just as they do not visit the 4 story townhomes, or any residences that currently have sprinkler systems installed today. This is one vast misconception, unfortunately residential sprinkler systems are being confused with the only other systems people are familiar with..."commercial" systems. The residential system is not a separate independent system as in a commercial building. They are an active part of the homes water distribution system that supplies the water closets, kitchen sinks, and every other fixture that utilizes potable water. Therefore, these are nothing more than future water lines, not any different than the future water line installed in thousands of houses for future bathrooms such as in a basement location. There simply is no maintenance required for a future water line. The only other component of the system is the sprinkler head itself. Keep in mind, recessed heads are available on the market today and would probably be the most desirable. However, if someone elects to utilize a protruding type sprinkler head, there is still no maintenance required. It is no different than an outside hose bib that never gets used. Yes, there is a risk of physical damage but no more than any other plumbing fixture in the home.
4. Monitoring systems are not part of the required installation and design provisions. There really is not anything to monitor. However, if someone wanted to exceed the code requirements and install this type technology it should not be a problem.
5. There is not a marked increase chance for leaks and flooding damage. Plumbing water piping systems today are quite reliable. You just don't have pipes bursting as a routine typical occurrence, this situation has actually never been an issue unless it was related to a particular product failure. Residential sprinkler systems are nothing more than extensions of the typical house domestic piping. A guess would be, probably no more than an additional 10% of pipe and fittings would be required beyond what the system would have without a sprinkler system. Please note this is nothing more than a guesstimate and this does not increase the chance for leakage by 10%, just look at the statistics for pipe burst and you will see it is not a common occurrence.
6. Plumbing system design in VA inherently has always had another element to deal with, and that is the potential for pipes freezing. The front end design will have to take climatic conditions into consideration.

- Sprinkler piping systems will ultimately end up using wall locations whenever possible of the top floors of dwelling units, just as for any other plumbing fixture. But when a room is too large for wall mounted sprinkler heads, provisions will have to be incorporated into the design and installation to prevent freezing conditions.
7. A Registered Design Professional (RDP) will not be required to design these systems and a licensed sprinkler contractor will not be required to install them. The current USBC Section 108.3 authorizes the owner of a property to apply for permitting and through the USBC and the Department of Occupation and Regulation (DPOR) an owner/occupant can perform the actual system installation. Therefore no contractor or RDP is required to be involved in the process. DPOR has said that since these provisions are located within the IRC and specifically in Chapter 29 (which is a plumbing chapter) that a licensed plumbing contractor will be able to obtain the permitting and perform the installation. So, a typical plumbing permit will be required and an owner can certainly use a specialty contractor or RDP if they elect but it is not required and should not be a problem if someone chooses to utilize any professional services.
  8. Water tap fees are not going to increase drastically. For example, in Fairfax County the water authority has indicated that if a larger meter is required for the purpose of installing a residential sprinkler system (as opposed to more plumbing fixtures) than an increased meter size will cost an additional \$150.00. In Chesterfield the water purveyor indicated that the larger meter would cost \$45.00.
  9. Residential sprinklers located in homes in rural areas do in fact have other things to take into consideration. Storage and water availability are issues that must be dealt with. However, well systems must have some type storage as well as a pump included in their initial installation. So yes the flow capacity of a pump may need to be increased as well as the tank capacity for water storage but keep in mind there is already the initial cost of the original installation components that must be accounted for before you factor in the increased size cost adjustments. The VRSC intends to obtain real cost estimates from plumbing supply wholesalers from across the state based on the estimates obtained from the contractors as outlined in item # 2 and will forward these cost estimates to the BHCD.
  10. Finally there are several elements to the cost benefit analysis. Some which are just near impossible to place any type number on and claim accuracy. For example, we can't even look at 4 story town house statistics to see how well sprinklers are working, because there are so many 4 story units that predate the sprinkler mandate. It will take years before we can accurately get some numbers attached to the cost savings in the event of a fire happening in a dwelling unit with sprinklers. Another fallacy is to say that over X number of years that the cost will be recovered. From the VRSC perspective one life saved trumps all the cost incurred, others view this philosophy differently. Savings can be recovered from things like fire rating reductions (as we have put forward), hydrant location, fire department staffing levels, fire department response time, smaller water mains due to reduction of hydrants, more narrow streets, etc.. All these things are continuously moving targets that no fixed savings number is going to satisfy. Anyone can do the math in order to gain their particular intended outcome. The bottom line, real facts are,

***"residential sprinkler systems will increase the cost of construction and residential sprinkler systems will save lives."***

For further information on the Coalition please visit <http://www.varsc.org/>

### Submittal Information

Date Submitted: September 8, 2009

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)

The Jackson Center

501 N. 2nd Street

Richmond, VA 23219-1321

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)

Fax Number: (804) 371-7092

Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2009 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Shahriar Amiri

Representing: VRSC

Mailing Address: 2100 Clarendon Blvd., Suite 1000, Arlington, VA 22201

Email Address: samiri@arlingtonva.us

Telephone Number: 703-228-3848

Proposal Information

Code(s) and Section(s): \_\_\_\_\_

Proposed Change (including all relevant section numbers, if multiple sections): Change Exception 1 to current USBC Section R310.1 to read:

**Exceptions:**

1. Dwelling units equipped throughout with an approved automatic sprinkler system installed in accordance with NFPA 13, 13R or 13D or Section P2904.

Supporting Statement (including intent, need, and impact of the proposal): This is an editorial change to add the reference to Section P 2904 as an acceptable method to sprinkler one and two-family dwellings.

Submittal Information

Date Submitted: September 7, 2009

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)

Main Street Centre  
600 E. Main St., Ste. 300  
Richmond, VA 23219

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)

Fax Number: (804) 371-7092

Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2009 Code Change Cycle**

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual       Government Entity       Company

Name: Shahriar Amiri

Representing: VRSC

Mailing Address: 2100 Clarendon Blvd., Suite 1000, Arlington, VA 22201

Email Address: samiri@arlingtonva.us

Telephone Number: 703-228-3848

Proposal Information

Code(s) and Section(s): Change Table R302.1 as follows:

Proposed Change (including all relevant section numbers, if multiple sections): **TABLE R302.1 EXTERIOR WALLS**

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	(Fire-resistance rated)	1 hour with exposure from both sides	< 5 feet <sup>1</sup>
	(Not fire-resistance rated)	0 hours	≥5 feet <sup>1</sup>
Projections	(Fire-resistance rated)	1 hour on the underside	≥ 2 feet to 5 feet <sup>1</sup>
	(Not fire-resistance rated)	0 hours	5 feet <sup>1</sup>
Openings	Not allowed	N/A	< 3 feet
	25% Maximum of Wall Area	0 hours	3 feet
	Unlimited	0 hours	5 feet <sup>1</sup>
Penetrations	All	Comply with Section R317.3	< 5 feet <sup>1</sup>
		None required	5 feet <sup>1</sup>

<sup>1</sup> 3 feet when dwelling units are equipped throughout with an approved automatic sprinkler system installed in

accordance with NFPA 13, 13R, 13D or Section P2904.

Supporting Statement (including intent, need, and impact of the proposal): 2003 IRC required that exterior walls of dwellings with fire separation distance of less than 3 feet to have a fire-resistance rating. USBC amended this requirement to 5 feet based on the IRC supplement. This proposal is to allow zero rated exterior walls from 3 to 5 feet provided that the dwelling unit is equipped throughout with an approved automatic sprinkler system established by the code. This reduction will provide a degree of protection for exterior walls permitted by 2003 IRC with the additional requirement that the dwelling be sprinklered.

Submittal Information

Date Submitted: September 7, 2009

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
Main Street Centre  
600 E. Main St., Ste. 300  
Richmond, VA 23219

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2009 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson, Chairman

Representing: Virginia Residential Sprinkler Coalition

Mailing Address: 9800 Government Center Parkway, Chesterfield, VA 23832

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): IFC 503.2.1

Proposed Change (including all relevant section numbers, if multiple sections):  
Change the following code sections as noted: Add exception as noted

**503.2.1 Dimensions.** Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115mm)

**Exception:** Fire apparatus access roads exclusively serving fully sprinklered residential developments in accordance with IRC Section 313.1 or 313.2 shall have an unobstructed width of not less than 18 feet (5486mm), exclusive of shoulders.

Supporting Statement (including intent, need, and impact of the proposal):

With the improved fire safety of residential sprinklers, the need for apparatus access to combat large scale fires is reduced. This reduction in residential street width takes advantage of the inclusion of sprinklers in new construction. This reduction is limited to single family dwellings where the all dwelling units in the development are electively sprinklered and townhouse developments only.

This approach has been used in localities in Virginia already without fire service operational issues. This is also the standard used by a number of other communities where residential sprinklers are used as a community fire protection strategy. The reduction in impervious surface in addition to the infrastructure cost savings will offset the additional costs associated with fire sprinkler systems.

While no specific cost savings have been identified, this change would result in as much as a 10% reduction in certain required fire apparatus access roads and the resulting savings in materials and impervious surfaces will have a positive impact on the infrastructure costs and environmental impacts.

Submittal Information

Date Submitted: September 7, 2009

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
The Jackson Center  
501 N. 2nd Street  
Richmond, VA 23219-1321

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
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VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2009 Code Change Cycle

Code Change  
Number: \_\_\_\_\_

Proponent  
Information

(Check one):  Individual  Government  
Entity  Company

Name: Robby Dawson, Chairman Representing: Virginia Residential Sprinkler Coalition

Mailing Address: 9800 Government Center Parkway, Chesterfield, VA 23832

Email Address: [dawsonr@chesterfield.gov](mailto:dawsonr@chesterfield.gov) Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): IFC Appendix B Table B105.1

Proposed Change (including all relevant section numbers, if multiple sections):

See attached table

Supporting Statement (including intent, need, and impact of the proposal):

The reduction of required fire suppression water in structures protected with water based fire protection systems has been a long-standing trade-off in the International Building Code. With the addition of the residential sprinkler requirement in town home developments, and selected detached single family homes, the inclusion of these guidelines in the SFPC Appendix will allow local fire officials to base their decision for required fire flow on a consistent basis across the commonwealth.

The basis of the flows noted here are based on the fire ground formula of

$$\frac{\text{fire area square footage}}{3} = \text{required gpm}$$

These requirements also take into account the long-standing allowance of fire flow reductions when structures are equipped with a sprinkler system.

Cost savings associated with this change are difficult to estimate due to the variability between local water authorities. An estimate was prepared for a number of developments in Chesterfield County. The following is submitted as a comparison:

Small subdivision of 25 single family dwellings-  
Cost as proposed - \$172,353  
Cost with reduced fire flow (smaller water lines) - \$142,547  
Savings - \$29,806 (\$1192 per unit)

Small townhouse project of 42 dwelling units-  
Cost as proposed - \$176,389  
Cost with reduced fire flow (smaller water lines) - \$143,556  
Savings - \$32,833 (\$782 per unit)

Large subdivision of 103 single family dwellings –  
Cost as proposed - \$524,781  
Cost with reduced fire flow (smaller water lines) - \$433,381  
Savings - \$91,400 (\$887 per unit)

These estimates are based on 3 planned developments currently in the approval process.

Submittal Information

Date Submitted: September 7, 2009 \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
The Jackson Center  
taso@dhcd.virginia.gov  
501 N. 2nd Street  
Richmond, VA 23219-1321  
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**TABLE B105.1**  
**MINIMUM REQUIRED FIRE-FLOW AND FLOW DURATION FOR BUILDINGS<sup>a</sup>**

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute) <sup>c</sup>	FLOW DURATION (hours)
Type IA and IB <sup>b</sup>	Type IIA and IIIA <sup>b</sup>	Type IV and V-A <sup>b</sup>	Type IIB and IIIB <sup>b</sup>	Type V-B <sup>b</sup>		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600 0-5,000 <sup>d</sup>	1,500 1,000 <sup>d</sup>	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800 5,001-7,200 <sup>d</sup>	1,750 1,250 <sup>d</sup>	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200 7,201-8,200 <sup>d</sup>	2,000 1,500 <sup>d</sup>	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700 8,201-9,500 <sup>d</sup>	2,250 1,750 <sup>d</sup>	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400 9,501-11,000 <sup>d</sup>	2,500 2,000 <sup>d</sup>	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300 11,301-13,000 <sup>d</sup>	2,750 2,250 <sup>d</sup>	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	3
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	4
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	
--	--	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
--	--	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
--	--	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
--	--	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
--	--	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
--	--	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
--	--	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
--	--	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

For SI: 1 square foot = 0.0929 m<sup>2</sup>, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895kPa.

a. The minimum required fire flow shall be allowed to be reduced by 25 percent for Group R.

b. Types of construction are based on the *International Building Code*.

c. Measured for 20 psi.

d. For use with town homes equipped with a residential sprinkler systems in accordance with R313.1 or when all detached single family homes in developments are equipped with sprinklers in accordance with NFPA 13D, NFPA 13R or P2409.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2009 Code Change Cycle**

Code Change Number: \_\_\_\_\_

Proponent Information (Check one):  Individual  Government Entity  Company

Name: Robby Dawson Representing: Virginia Residential Sprinkler Coalition

Mailing Address: 9800 Government Center Pky, Chesterfield, VA 23832

Email Address: dawsonj@chesterfield.gov Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): IFC Appendix C Table C105.1

Proposed Change (including all relevant section numbers, if multiple sections):

**TABLE C105.1  
NUMBER AND DISTRIBUTION OF FIRE HYDRANTS**

FIRE -FLOW REQUIREMENT (GPM)	MINIMUM NUMBER OF HYDRANTS	AVERAGE SPACING BETWEEN HYDRANTS <sup>a, b, c, f</sup> (feet)	MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT <sup>d, f</sup>
1,750 or less	1	500	250
2,000 – 2,250	2	450	225
2,500	3	450	225
3,000	3	450	225
3,500 – 4,000	4	350	210
4,500 – 5,000	5	300	180
5,500	6	300	180
6,000	6	250	150
6,500 – 7,000	7	250	150
7,500 or more	8 or more <sup>e</sup>	200	150

For SI: 1 square foot = 0.0929 m<sup>2</sup>, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895kPa.

a. Reduce by 100 feet for dead-end streets or roads.

b. Where streets are provided with median dividers which can be crossed by fire fighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis up to a fire-flow requirement of 7,000 gallons per minute and 400 feet for higher fire-flow requirements.

c. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.

d. Reduce by 50 feet for dead-end streets or roads.

e. One hydrant for each 1,000 gallons per minute or fraction thereof.

f. The fire code official shall be permitted to increase spacing and distances by 100% for residential use group developments when all dwellings are protected with fire sprinklers in accordance with NFPA 13, 13R, 13D or P2409 standards.

Supporting Statement (including intent, need, and impact of the proposal):

This change to Appendix C provides for a reduction in the number of hydrants required in developments that utilize residential sprinklers. The language in footnote f indicates "shall be permitted" to account for individual fire service equipment standards. For those departments that carry greater than 1000 feet of supply hose, it would be logical to extend the distance by 100%. For those that carry 1000 feet or less, the distance between hydrants may be extended to a reasonable distance based on the local operational capabilities.

Submittal Information

Date Submitted: September 7, 2009

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
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Fax Number: (804) 371-7092  
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Construction

Automotive

Industry



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July 21, 2008

Board of Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
Attention: Mr. Tom Fleury, Chairman

Dear Chairman Fleury:

A recent decision by the International Code Council (ICC) has resulted in a residential sprinkler requirement for all new one- and two-family homes and townhouses. As you are aware, in Virginia these requirements are subject to review and adoption by the BHCD. Currently, there is legislation in Virginia that, if passed, would prohibit this latest safety requirement for new home construction.

I am writing to you to encourage the BHCD to adopt the new residential sprinkler mandate when it updates the 2009 IRC for Virginia. Nearby Montgomery County, MD has long since created such a mandate along with most other US states that will adopt the ICC requirement. By prohibiting the mandate of fire sprinkler systems in new one- and two-family homes, Virginia residents would be placed at unnecessary risk.

Many of our places of employment, education and civic buildings are already protected by sprinklers. The place where families are most vulnerable - their homes - should be protected by sprinklers, as well.

Nearly 80 percent of all fire deaths occur at home. Each year, approximately 3,000 people die in home fires, and sprinklers would have saved the vast majority of them. If you have a reported home fire, the risk of death is reduced by 80 percent with sprinklers. Home fire sprinklers save lives.

Careful consideration of this most important issue is necessary. The safety of Virginia residents must be the guideline for the Virginia Uniform Statewide Building Code (USBC). The BHCD should fully adopt the ICC mandate for residential fire sprinklers in the Virginia USBC.

Sincerely,

Heather Mason  
Manager, Organizational Development  
REHAU Inc.

Sibylle Behrens  
43835 Eagle Bend Square 404  
20176 Leesburg

Sibylle.behrens@gmx.de

07-21-2009

**Board of Housing and Community Development**

Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
Attention: Mr. Tom Fleury, Chairman

Dear Chairman Fleury:

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Sincerely,



Sibylle Behrens

July 20, 2009

Board of Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
Attention: Mr. Tom Fleury, Chairman

Dear Chairman Fleury:

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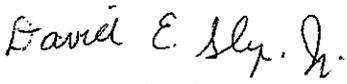
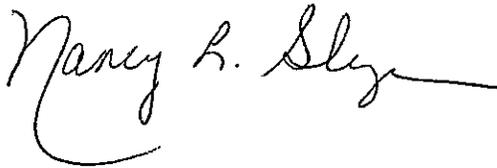
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Sincerely,

   
David E. Slye Jr.  
Nancy L. Slye



# GUILBAUD ENTERPRISES

Architecture • Design • Build • Real Estate

July 20, 2009

Board for Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, Virginia, 23219

Dear Board Member,

As you know, one of the many important decisions you will make in conjunction with the 2009 Update of the Virginia Uniform Statewide Building Code (USBC) is the proposal to Mandate Fire Sprinkler Systems in all New One (1) and Two (2) Family Homes in Virginia. On behalf of the Tidewater Builders Association, we suggest that sprinklers should be an option that potential home buyers may request should they choose to install a system but not mandate for all new construction. As one of the business members of the Home Builders Association of Virginia (HBAV), I would strongly urge you to reject that proposal.

Thank you in advance for your review and again I would urge you to vote "NO" on the proposed to "MANDATE" sprinklers in new homes in Virginia.

Best Regards,

GUILBAUD ENTERPRISES INC.

Jean-Claude Guilbaud  
President

July 17, 2009

Board for Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, Virginia, 23219

Members of the Board:

The purpose of this letter is to express our strong opposition to the sprinkler mandate being considered by the BHCD. We are a builder in the Commonwealth with over 30 years of experience building quality, affordable homes.

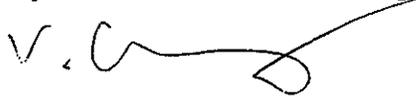
The reasons behind our opposition are many. The attached editorial from The Roanoke Times describes the primary reason for our objection: lack of independent study confirming the benefits claimed by the sprinkler industry.

Other reasons include:

- Effectiveness of smoke alarms, working in much less time than it takes a sprinkler system to activate.
- Unintended damage from malfunction or sprinkler being activated in an entire home for a fire isolated to one room.
- Susceptibility to water damage from freezing.
- Another impediment to affordable housing.

We stand in opposition to this mandate with our trade association, the Home Builders Association of Virginia (HBAV). Please listen to the well reasoned arguments put forth by HBAV and vote "NO" to the sprinkler mandate.

Sincerely,  
Keystone Builders Resource Group



V. Earl Dickinson, Jr.  
President

Cc: Michael Toalson, HBAV

Construction

Automotive

Industry

July 28, 2009

Board of Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
Attention: Mr. Tom Fleury, Chairman

Dear Chairman Fleury:

A recent decision by the International Code Council (ICC) has resulted in a residential sprinkler requirement for all new one- and two-family homes and townhouses. As you are aware, in Virginia these requirements are subject to review and adoption by the BHCD. Currently, there is legislation in Virginia that, if passed, would prohibit this latest safety requirement for new home construction.

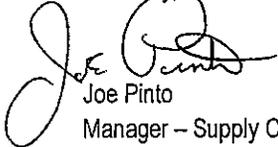
I am writing to you to encourage the BHCD to adopt the new residential sprinkler mandate when it updates the 2009 IRC for Virginia. Nearby Montgomery County, MD has long since created such a mandate along with most other US states that will adopt the ICC requirement. By prohibiting the mandate of fire sprinkler systems in new one- and two-family homes, Virginia residents would be placed at unnecessary risk.

Many of our places of employment, education and civic buildings are already protected by sprinklers. The place where families are most vulnerable - their homes - should be protected by sprinklers, as well.

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Careful consideration of this most important issue is necessary. The safety of Virginia residents must be the guideline for the Virginia Uniform Statewide Building Code (USBC). The BHCD should fully adopt the ICC mandate for residential fire sprinklers in the Virginia USBC.

Sincerely,



Joe Pinto

Manager – Supply Chain Management

July 21, 2009

Simon Koenig  
700 Somerset Park Dr. Apt. 204  
Leesburg, VA 20175

Board of Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
Attention: Mr. Tom Fleury, Chairman

Dear Chairman Fleury:

A recent decision by the International Code Council (ICC) has resulted in a residential sprinkler requirement for all new one- and two-family homes and townhouses. As you are aware, in Virginia these requirements are subject to review and adoption by the BHCD. Currently, there is legislation in Virginia that, if passed, would prohibit this latest safety requirement for new home construction.

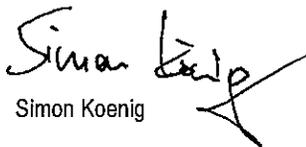
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Sincerely,

  
Simon Koenig

Construction

Automotive

Industry



Unlimited Polymer Solutions

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07/21/2009

Board of Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
Attention: Mr. Tom Fleury, Chairman

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Sincerely,

A handwritten signature in black ink, appearing to read "Alessandra Barelli".

Dr. Alessandra Barelli  
Chemistry Department Manager  
REHAU Inc.

Construction

Automotive

Industry

July 20, 2009

Board of Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
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Careful consideration of this most important issue is necessary. The safety of Virginia residents must be the guideline for the Virginia Uniform Statewide Building Code (USBC). The BHCD should fully adopt the ICC mandate for residential fire sprinklers in the Virginia USBC.

Sincerely,



Gerard Shi  
Technical Manager  
REHAU Inc.

Construction

Automotive

Industry

20 July, 2009

Board of Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
Attention: Mr. Tom Fleury, Chairman

Dear Chairman Fleury:

A recent decision by the International Code Council (ICC) has resulted in a residential sprinkler requirement for all new one- and two-family homes and townhouses. As you are aware, in Virginia these requirements are subject to review and adoption by the BHCD. Currently, there is legislation in Virginia that, if passed, would prohibit this latest safety requirement for new home construction.

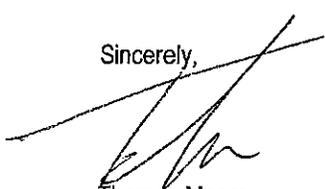
I am writing to you to encourage the BHCD to adopt the new residential sprinkler mandate when it updates the 2009 IRC for Virginia. Nearby Montgomery County, MD has long since created such a mandate along with most other US states that will adopt the ICC requirement. By prohibiting the mandate of fire sprinkler systems in new one- and two-family homes, Virginia residents would be placed at unnecessary risk.

Many of our places of employment, education and civic buildings are already protected by sprinklers. The place where families are most vulnerable - their homes - should be protected by sprinklers, as well.

Nearly 80 percent of all fire deaths occur at home. Each year, approximately 3,000 people die in home fires, and sprinklers would have saved the vast majority of them. If you have a reported home fire, the risk of death is reduced by 80 percent with sprinklers. Home fire sprinklers save lives.

Careful consideration of this most important issue is necessary. The safety of Virginia residents must be the guideline for the Virginia Uniform Statewide Building Code (USBC). The BHCD should fully adopt the ICC mandate for residential fire sprinklers in the Virginia USBC.

Sincerely,



Thomas Moore  
Engineer  
REHAU Inc.

REHAU Incorporated 1501 Edwards Ferry Road, NE Leesburg, VA 20176 Phone: (703) 777-5255 Fax: (703) 777-3053 www.rehau.com

Construction

Automotive

Industry



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20 July 2009

Board of Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
Attention: Mr. Tom Fleury, Chairman

Dear Chairman Fleury:

A recent decision by the International Code Council (ICC) has resulted in a residential sprinkler requirement for all new one- and two-family homes and townhouses. As you are aware, in Virginia these requirements are subject to review and adoption by the BHCD. Currently, there is legislation in Virginia that, if passed, would prohibit this latest safety requirement for new home construction.

I am writing to you to encourage the BHCD to adopt the new residential sprinkler mandate when it updates the 2009 IRC for Virginia. Nearby Montgomery County, MD has long since created such a mandate along with most other US states that will adopt the ICC requirement. By prohibiting the mandate of fire sprinkler systems in new one- and two-family homes, Virginia residents would be placed at unnecessary risk.

Many of our places of employment, education and civic buildings are already protected by sprinklers. The place where families are most vulnerable - their homes - should be protected by sprinklers, as well.

Nearly 80 percent of all fire deaths occur at home. Each year, approximately 3,000 people die in home fires, and sprinklers would have saved the vast majority of them. If you have a reported home fire, the risk of death is reduced by 80 percent with sprinklers. [Home fire sprinklers save lives.](#)

Careful consideration of this most important issue is necessary. The safety of Virginia residents must be the guideline for the Virginia Uniform Statewide Building Code (USBC). The BHCD should fully adopt the ICC mandate for residential fire sprinklers in the Virginia USBC.

Sincerely,

A handwritten signature in black ink, appearing to read "Randy C. Hoover".

Randy C. Hoover  
Business Team Manager-Design, windows & Doors  
REHAU Construction LLC



# Fredericksburg Area Builders Association

3006 Lafayette Boulevard • Fredericksburg, VA 22408 • (540) 898-2730 • Fax (540) 898-2974 • www.fabava.com

July 17, 2009

Board for Housing and Community Development  
Main Street Center  
600 East Main Street  
Suite 300  
Richmond, Virginia 23219

Dear Members of the Board:

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 Fredericksburg Area Builders Association respectfully requests the Board not to mandate installation of fire sprinklers in newly-constructed one and two-family homes.

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.

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.

In rural areas of Virginia not served by public water supply systems, the cost to install a sprinkler system would DOUBLE to nearly \$10,000. Larger pumps would have to be installed water wells, a minimum 300 gallon storage bladder would have to be installed and it is likely that a back up generator would be required for required sprinkler systems to function during times when the homeowners electricity had been interrupted.

The Sprinkler Mandate will force more Virginians to seek less safe older housing. The anticipated cost of the Sprinkler Mandate (\$2.66 per square foot) will force many Virginians to abandon their hope for a new home and force them to seek older less safe housing. Today's Building Codes already include many provisions and technology innovations designed to provide safety from fire. They include fire blocking, draft stopping, emergency escape and rescue openings, outlet spacing and capacity, fire walls and fire separation, modern heating systems and energy efficient housing and most importantly interconnected hard wired smoke detection systems. Don't force Virginians to choose less safe, less costly older housing.

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.

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.

For these reasons, the Fredericksburg Area Builders Association respectfully requests the Board for Housing and Community Development not to mandate installation of fire sprinklers in newly-constructed one and two-family homes.

Sincerely,

A handwritten signature in cursive script that reads "Bea Phelps".

Bea Phelps  
Executive Vice President



## Virginia Fire Chiefs Association, Inc.

P.O. Box 70907, Richmond, Va. 23255-0907

Phone: 888-818-0983

Web Site: [www.vfca.us](http://www.vfca.us)

### PRESS RELEASE

RELEASE DATE:

July 21, 2009

Contact Person:

J.W. "Jimmy" Carter [jcarter@vfca.us](mailto:jcarter@vfca.us)

### VIRGINIA FIRE CHIEFS SAY RESIDENTIAL SPRINKLER SYSTEMS SAVE LIVES

Since 2004, there have been 467 civilian deaths and more than \$1.8 billion in property damage resulting from structure fires in the Commonwealth of Virginia. **The Virginia Fire Chiefs Association** believes that the most effective way to attack this problem is to adopt building code regulations that require sprinklers in one and two-family dwellings.

Sprinklers are a proven method of detecting and extinguishing fires in the incipient stage, thereby reducing the risk of death and unnecessary property damage, says James Gray, President of the Virginia Fire Chiefs Association. The fire loss in residential occupancies in this country is alarming, and manual firefighting methods are not the answer. The way to attack the problem is to limit the fire growth where it occurs in dwellings, and we have the technology to do it. Studies by the U.S. Fire Administration indicate that the installation of residential fire sprinkler systems can save thousands of lives, prevent a large portion of injuries, and eliminate hundreds of millions of dollars in property loss. The cost effectiveness of these systems has been proven to positively impact fire safety for the citizens of the community and the firefighters who respond to the calls.

40c  
The effectiveness of residential sprinkler systems has been well documented since the first community required their use in 1969. The three decades of history in San Clemente, California, as well as decades of experience in other localities, has proven these systems are a reliable and cost effective strategy which has a profound impact on fire injuries and deaths. The unintended consequence has also been a considerable reduction in property loss due to fires as well. With today's light weight construction and given the high heat release rates of today's furnishings and decorations, it is imperative to have active fire safety features in new homes. Based on a National Institute of Standards and Technology study, the occupants of today's modern homes have only three minutes to evacuate.

Unfortunately, the arguments made by opponents against these systems are not based upon established fact, rather supposition and fear tactics which were the same arguments used to oppose residential smoke detectors. If they would thoroughly educate themselves on residential sprinkler technology, they would surely understand that developers and builders can achieve reduced construction costs while providing higher value homes for their customers and, at the

same time, enhance public safety in the Commonwealth of Virginia. This point was reinforced in a study released July 15<sup>th</sup>, 2009 by the National Fire Protection Association.

The Virginia Department of Housing and Community Development will hold a public hearing on July 27<sup>th</sup> to determine if Virginia will follow model code requirements and require sprinklers in one and two-family dwelling units. The **Virginia Fire Chiefs Association** recommends the DHCD Board remove the one and two family requirement from the 27<sup>th</sup> agenda to allow for an opportunity to have dialog and draft a compromise solution.

340E Shanks Hall  
Department of English  
Virginia Tech  
Blacksburg, VA 24061

Phone: 540-231-6442  
URL: <http://www.rhetoric.english.vt.edu>



## Center for the Study of Rhetoric in Society

12 July 2009

To Whom It May Concern:

Paul Whitney has asked me to write a letter supporting his continued efforts to equip residences with life-saving technologies and to educate high-risk populations with pertinent fire prevention and safety materials. It is my pleasure to write such a letter.

During the spring semester of 2009, I worked with Mr. Whitney as part of Virginia Tech's Citizen Scholar graduate student certificate program. The partnership was quite natural, as I serve as the Assistant Director of Virginia Tech's Center for the Study of Rhetoric in Society—a departmental center that researches, among other things, risk communication. Together, Mr. Whitney and I discussed recent research on fire and risk, identified the needs for new fire safety and prevention approaches for the college population, and established contacts throughout the university.

While Mr. Whitney's knowledge about fire safety and prevention proves impressive, his desire to affect a positive change in society proves even more so.

I encourage you to partner with Mr. Whitney on future fire prevention and safety initiatives.

Sincerely,

A handwritten signature in black ink, appearing to read 'Brian Gogan'.

Brian Gogan  
Assistant Director  
[Brian.Gogan@vt.edu](mailto:Brian.Gogan@vt.edu)

---

30-July-2009

Board of Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
Attention: Mr. Tom Fleury, Chairman

Dear Chairman Fleury:

A recent decision by the International Code Council (ICC) has resulted in a residential sprinkler requirement for all new one- and two-family homes and townhouses. As you are aware, in Virginia these requirements are subject to review and adoption by the BHCD. Currently, there is legislation in Virginia that, if passed, would prohibit this latest safety requirement for new home construction.

I am writing to you to encourage the BHCD to adopt the new residential sprinkler mandate when it updates the 2009 IRC for Virginia. Nearby Montgomery County, MD has long since created such a mandate along with most other US states that will adopt the ICC requirement. By prohibiting the mandate of fire sprinkler systems in new one- and two-family homes, Virginia residents would be placed at unnecessary risk.

Many of our places of employment, education and civic buildings are already protected by sprinklers. The place where families are most vulnerable - their homes - should be protected by sprinklers, as well.

Nearly 80 percent of all fire deaths occur at home. Each year, approximately 3,000 people die in home fires, and sprinklers would have saved the vast majority of them. If you have a reported home fire, the risk of death is reduced by 80 percent with sprinklers. Home fire sprinklers save lives.

Careful consideration of this most important issue is necessary. The safety of Virginia residents must be the guideline for the Virginia Uniform Statewide Building Code (USBC). The BHCD should fully adopt the ICC mandate for residential fire sprinklers in the Virginia USBC.

Sincerely,



Jonathan Bittenbender  
Engineering Manager

(also Technical Committee Member – National Fire Protection Association NFPA 13D Standard for residential sprinkler systems)



Dwight C. Schar  
Chairman

July 14, 2009

Board for Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219

Dear Board Members:

On behalf NVR Ryan Homes and NV Homes I would take this opportunity to urge the Board to accept the recommendation of your Codes and Standards Committee to make the installation of Sprinkler systems an option in Virginia. NVR has been constructing homes since 1948 and is one of the largest builders on the East Coast of the nation.

NVR prides itself on its' ability to construct a high-quality affordable home for its customers, including many Virginians. Our company can only achieve that goal through our high volume production, high volume purchasing and a building system whose efficiency we believe is second to none.

I believe that mandating a requirement that all new single family homes we construct will NOT allow NVR to continue to construct affordable new homes in Virginia. The Sprinkler Mandate will increase our core cost and disrupt the efficiency of our building systems.

Having reviewed the many statistics surrounding this issue, I also fail to see the need for this Sprinkler Mandate. NVR already includes fire blocking, draft stopping, emergency escape and rescue openings, outlet spacing and capacity, fire walls and fire separation, modern heating systems and energy efficient housing and most importantly interconnected hard-wired smoke detection systems in every new home we construct.

Once again, I would urge the Board to accept the earlier recommendation of your Codes and Standards Committee to make the installation of Sprinkler systems an option in Virginia, and to resist the unproven need to Mandate Sprinklers in all new 1 & 2 family dwelling units.

Best regards,

  
Dwight C. Schar  
Chairman of the Board  
NVR, Inc.

11700 Plaza America Drive  
Suite 500  
Reston, VA 20190  
(703) 956-4200

\*\* TOTAL PAGE.02 \*\*

## Hodge, Vernon (DHCD)

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**From:** Eubank, Paula (DHCD)  
**Sent:** Thursday, July 30, 2009 9:58 AM  
**To:** Hodge, Vernon (DHCD)  
**Subject:** FW: NFPA Testimony

As mentioned.

Paula N. Eubank  
Associate Director of TASO  
Division of Building and Fire Regulation  
Virginia Department of Housing and Community Development  
804.371.7172  
[paula.eubank@dhcd.virginia.gov](mailto:paula.eubank@dhcd.virginia.gov)

The Virginia Department of Housing and Community Development (DHCD) recently relocated its offices to The Main Street Centre at 600 East Main Street, Suite 300, Richmond, Virginia 23219. All staff telephone numbers, facsimile numbers, and email addresses will remain unchanged.

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**From:** Figueroa, Maria [<mailto:mfigueroa@NFPA.org>]  
**Sent:** Thursday, July 30, 2009 7:44 AM  
**To:** Eubank, Paula (DHCD)  
**Cc:** Roy, Ben; Dawson, Robby; Altizer, Ed (VDFP)  
**Subject:** RE: NFPA Testimony

Paula:

It was brought to my attention that there was testimony offered by the opposition offering NFPA survivability data. Taken out of context this data may provide the wrong impression and I wanted to provide clarification, for the record, as follows:

### **Beware misleading percentages on survival and death**

Fire sprinkler opponents have been using a statistic of 99.45 percent to illustrate the effectiveness of smoke alarms in reducing home fire deaths. This NFPA statistic estimates the likelihood of surviving a home fire when a working smoke alarm is present. Taken completely out of context, a number like 99.45% sounds very high. But consider this:

- The total home fire death toll of roughly 3,000 deaths a year occurs in roughly 400,000 reported home fires a year. Therefore, the likelihood of surviving a home fire is over 99% without regard to the presence of smoke alarms or any other fire safety provisions. Does that mean 3,000 deaths are acceptable? Most people would say no.

### **Important comparisons to the above**

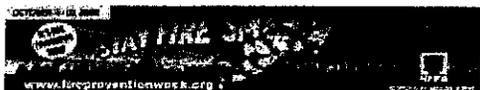
- Each year, there are an estimated 12,000 deaths due to falls in homes and an estimated 11 million fall injuries in the home. The likelihood of surviving a fall is 99.9%. Does that mean 12,000 deaths are acceptable? Most people would say no.
- Each year, there are an estimated 37,000 deaths due to motor vehicle crashes and an estimated 6 million reported motor vehicle crashes. The likelihood of surviving a motor vehicle crash is 99.4%. Does that mean 37,000 deaths are acceptable? Most people would say no.
- Each year, 2.4 million people die of any cause in the country compared to a total U.S. resident population of 300 million. The likelihood of surviving every hazard, threat and illness for a year is

7/30/2009

99.2%. Does that mean 2.4 million deaths are acceptable to the sprinkler opponents – that nothing at all should be done to protect Americans from anything, especially when technology exists that could save lives? Most people would say no.

Please feel free to contact me with any questions or if you require additional information.  
Have a safe day,

Maria Figueroa, Regional Manager  
NFPA Fire Prevention Field Office  
8518 N.W. 163rd Terrace  
Miami Lakes, FL 33016  
Office: 617-984-7015  
Office: 305- 364-0396  
Fax: 305-364-0795  
Cell: 305-812-3051



Fire Prevention Week is October 4 – 10, 2009.  
Visit [www.firepreventionweek.org](http://www.firepreventionweek.org) or call 800-344-3555 for more information.

---

**From:** Eubank, Paula (DHCD) [mailto:Paula.Eubank@dhcd.virginia.gov]  
**Sent:** Monday, July 27, 2009 8:49 AM  
**To:** Figueroa, Maria  
**Subject:** Re: NFPA Testimony

Maria, thank you and we will do so. Paula Eubank

---

**From:** Figueroa, Maria <mfigueroa@NFPA.org>  
**To:** Eubank, Paula (DHCD)  
**Cc:** Roy, Ben <BRoy@NFPA.org>; Dawson, Robby <DawsonJ@chesterfield.gov>  
**Sent:** Mon Jul 27 08:21:19 2009  
**Subject:** NFPA Testimony

Ms. Eubank:  
NFPA's representative at today's hearing has informed me he's being held up at his connecting airport and will probably not make it to this morning's hearing. I am attaching NFPA's testimony to this e-mail and respectfully present it to the record via this e-mail. Please let me know if you have any questions or concerns  
Have a safe day,

Maria Figueroa, Regional Manager  
NFPA Fire Prevention Field Office  
8518 N.W. 163rd Terrace

7/30/2009

Miami Lakes, FL 33016  
Office: 617-984-7015  
Office: 305- 364-0396  
Fax: 305-364-0795  
Cell: 305-812-3051



Fire Prevention Week is October 4 – 10, 2009.

Visit [www.firepreventionweek.org](http://www.firepreventionweek.org) or call 800-344-3555 for more information.

7/30/2009

**NFPA**

# Commentary on the “10 Reasons Why Mandating Fire Sprinklers Makes No Sense for Virginia”

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July 27, 2009

**Maria Figueroa**  
**Regional Manager**  
**Fire Prevention Field Office**  
[May 8, 2009]

[This document provides commentary on the referenced homebuilder document. It is intended to update information, examine analyses for validity, and express NFPA’s position with regards to the inclusion of residential fire sprinklers in the State of Virginia]

The mission of the international nonprofit NFPA, established in 1896, is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education. This document provides commentary on the referenced homebuilder document. It is intended to update information, examine analyses for validity, and express NFPA's position with regards to the inclusion of residential fire sprinklers in the State of Virginia, and to encourage the adoption of fire sprinkler requirements in new homes.

The home building industry has submitted "10 Reasons Why Mandating Fire Sprinklers Makes No Sense for Virginia." This document will present those ten persuasive reasons, in quotes, followed by NFPA commentary in red.

Reason #1- 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."

**Home fire is a major problem in Virginia and the U.S.**

Fire in the home poses one of the biggest threats to the people of your community. Nearly 400,000 home fires occur every year in the United States and, nearly 3,000 people, on average, die in fires that started at home. As in most states, the majority of fire deaths in Virginia in 2007 and 2008 occurred in residential properties, specifically one and two-family homes; according to Virginia State Fire Marshal's statistics. From 2004 to the present, one person was killed or injured by a fire every two days. Home fire sprinklers are a proven way to protect lives and property against fires at home. Congressional hearings have been scheduled and pandemics have been declared on the basis of much smaller death tolls than the home fire death toll in one year in Virginia. Clearly, most people do not believe that we are safe enough or that current death tolls from home fires are acceptable.

Opponents of residential fire sprinkler systems like to boast that newer homes are safer homes and that the fire and death problem is limited to older homes. This statistical claim evaporates if you adjust for the higher risk characteristics (e.g., lower income, less education) found on average in the occupants of older homes. But in fact, newer homes are also more likely to include a threat to firefighters in the form of lightweight construction. Lightweight construction has been variously estimated to be used in a half to two-thirds of all new wood one- and two-family homes. ***Sprinklers can offset the increased dangers posed by lightweight construction and create a safer fire environment for firefighters to operate.***

Reason #2 - 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."

NFPA's "U.S. Experience With Sprinklers and Other Automatic Fire Extinguishing Equipment" by John Hall, Jr., published in January 2009 does include data on sprinkler effectiveness in homes; **"the fire death rate per 1,000 reported structure fires is lower by 80% for home fires, where most structure fire deaths occur."**

Reason #3 - 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.

Sprinklers do more than save lives; they also protect property from destruction by fire. In many situations, that means a family that survived a fire will also have a place to live and enough resources to continue living their lives as they did before. "Saving lives" means more than just preventing deaths. Just as there is no other fire safety technology or program that produces as great a reduction in risk of death as sprinklers, there also is no other fire safety technology or program that produces as great a reduction in property loss per fire as sprinklers.

It is important to recognize that home fire sprinkler systems are designed to activate to the heat of a fire that grows large enough for the temperature to rise to 135°-160° F. **They are not activated by smoke, nor should they be.**

- People in homes with sprinklers are protected against significant property loss—sprinklers reduce the average property loss by 71% per home fire.
- Each individual sprinkler is designed and calibrated to go off when it senses a significant heat change.
- **Roughly 90% of the time, fires are contained by the operation of just one sprinkler.**
- Only the sprinkler closest to the fire will activate, spraying water directly on the fire.

Reason #4 - 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."

The following information is quoted directly from the Insurance Services Organizations' (ISO) fact sheet is offered to dispute the above:

“ISO is an independent statistical, rating, and advisory organization that serves the property/casualty insurance industry. ISO is the leading supplier of underwriting information, advisory loss costs, supplementary rating information and standardized policy language to insurers in all 50 states and the District of Columbia. ISO offers the following regarding how residential sprinklers are reflected in ISO's advisory residential property programs:

The standard ISO Dwelling Fire and Homeowners Programs contain available premium credits for installation of fire sprinkler protection up to a maximum of:

- 13% for full sprinkler protection that includes all areas of a home, including attics, bathrooms, closets, and attached structures;
- 8% for fire sprinkler protection of all areas of a home excluding the attic, bathrooms, closets, and attached structures as long as fire detection equipment is installed in those areas where sprinklers are omitted;
- The presence of a residential sprinkler system may raise concern about the risk of accidental water leakage from the system. ISO's standard Homeowners policy forms provide coverage for "...accidental discharge or overflow of water...from within a...fire protective sprinkler system...".
- This coverage is included in the basic policy. There is no extra charge for this coverage.
- Also, coverage is provided for water damage related to the suppression or extinguishment of a covered fire.

“The ISO Building Code Effectiveness Grading Schedule (BCEGS®) is used to review public building code enforcement agencies and to develop a classification that is provided as advisory information to insurers who may use it for insurance underwriting and rating. If the requirement of the International Residential Code (2009) for automatic fire sprinkler protection of residential dwellings was removed by legislation or local ordinance, BCEGS would not provide full recognition for adoption of code without amendments. ***A building code enforcement agency which adopted a code with amendments that weaken hazard mitigation issues as defined in the model codes and referenced standards would not receive maximum recognition for code adoption.***”

Reason #5 - 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.”

MYTH

“A smoke alarm provides enough protection.”

FACT

Home fire sprinklers are a proven way to protect lives and property against fires at home.

These life-saving systems respond quickly and effectively to the presence of a nearby fire. When sprinklers are present, they save lives. Sprinkler systems provide additional benefits, on top of the benefits already provided by smoke alarms.

- ***Working smoke alarms cut the risk of dying in a home fire by 50 percent.***
- ***If you have a reported fire in your home, the risk of dying decreases by about 80 percent when sprinklers are present.***

Reason # 6 - 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.

Home fire sprinklers are cost effective.

A national perspective on the cost of installing residential fire sprinklers is examined in the report, "*Home Fire Sprinkler Cost Assessment*", released by the Fire Protection Research Foundation, an affiliate of NFPA. According to the report, the cost of installing sprinkler systems averaged \$1.61 per sprinklered square foot. This cost includes all costs to the builder associated with the system including design, installation, and other costs such as; permits, additional equipment, increased tap and water meter fees – to the extent that they apply.

Additionally, in a recent study, "*Comparative Analysis of Housing Cost and Supply Impacts of Sprinkler Ordinances at the Community Level*", conducted by Newport Partners for NFPA and just released, it is reported that: "the following analysis did not reveal that the enactment of sprinkler ordinances caused any detrimental effects on housing supply and costs." This report clearly indicates there is no merit to the claim that a residential sprinkler requirement significantly increases the cost of housing or creates an unfair market advantage for an area that does not have a requirement, as claimed by sprinkler opponents.

When incentives are added to sprinkler requirements they may help to offset some of the cost to developers and builders. ***In areas where sprinkler systems have been required for years, the cost is substantially lowered by market competition and achievement of economies of scale***

Reason # 7 - 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.

Because of their simplicity, residential sprinklers systems generally need no more maintenance than residential plumbing systems, NFPA 13D prescribes the following simple maintenance procedure for home sprinklers:

- Visual inspections of all sprinklers
- Inspection of valves to ensure that they are open
- Opening flow valve to ensure that water flows
- Testing of the alarm system, where installed

Reasons # 8 - 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.

With proper installation, home fire sprinkler systems will not freeze in cold settings. NFPA 13D sets forth guidelines for proper insulation to avoid pipes freezing. Antifreeze systems are also prescribed to protect against freezing. The Chicago area is a great example of a cold weather region where many jurisdictions have passed sprinkler mandates for new homes with limited to no problems with systems freezing.

Reason # 9 - 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.

A well and pump of sufficient capacity and pressure to meet the sprinkler demand is prescribed by NFPA 13D. This fact will not be disputed. This may only require an upgrade of the pump. If the system is augmented by a tank, a 300 gallon tank is considered sufficient to supply the home fire sprinkler system. These systems are consistently being streamlined in order to reduce costs.

Reason #10 - 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.

*The national consensus is in favor of sprinklers*

All model safety codes now require the use of home fire sprinklers in new one- and two-family homes. Model codes are the specific expression of the shared values of Americans. No one interest is allowed to dominate all model codes, and no one interest should be allowed to dictate to the people of Virginia what constitutes acceptable safety for them and their families.

MYTH

We don't need sprinkler mandates; they can be installed in homes voluntarily.

FACT

Mandating sprinklers in new one- and two-family homes provides a greater overall level of safety in communities. By requiring these life-saving devices in new homes you are ensuring that a large number of residents can enjoy the same level of safety found in many offices, schools, apartments, and public buildings.

Beyond the life safety benefits of home sprinklers, there are other incentives for jurisdictions that mandate sprinklers in new homes. By mandating sprinkler requirements, cities and towns can reduce the strain on fire service personnel, limit damage to property, and help conserve municipal water resources by reducing the amount of water needed to fight fires (fire-fighting hoses use more than eight times the amount of water used by automatic fire sprinklers).



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## **HOME BUILDERS ASSOCIATION OF VIRGINIA**

**Comments to**

**Board for Housing and Community Development  
Commonwealth of Virginia**

**July 27, 2009**

**Richmond, Virginia**

Good Morning, and thank you for this opportunity to comment on the 2009 Proposed Changes to the Virginia Uniform Statewide Building Code. I am Rand Sompayrac, 2009 President of the Home Builders Association of Virginia (HBAV). As you may know, HBAV is one of the largest business organizations in the state, with nearly 5,000 business members. This year, HBAV celebrated its 53<sup>rd</sup> anniversary.

You will consider many proposed changes to the USBC over the next year that relate to the method of construction and materials that are required to be used in the construction of new housing and new buildings. This is an important responsibility that HBAV has been a partner in developing since the USBC was first adopted in 1972.

I would begin by respectfully reminding you that the Code of Virginia empowers you to adopt the USBC, and directs you "to protect the health, safety and welfare of residents of the Commonwealth, at the least possible cost." The Code of Virginia also directs you to adopt regulations that are "reasonable and appropriate".

In that spirit, I would take a few minutes this morning to urge you to ACCEPT the recommendation of your experienced and qualified Codes and Standards Committee to make the installation of sprinkler systems an OPTION in Virginia, and to resist the unproven need to Mandate Sprinklers in all new 1 & 2 family dwelling units in Virginia.

As I speak, it is my understanding that not a single state in this nation has adopted the Sprinkler Mandate, and only one may be considering it. Only One.

I would also remind you that the Housing Industry in Virginia is in the midst of an historic downturn. Housing starts are anticipated to decline to less than 15,000 statewide this year, down from almost 46,000 in 2005. And, those few new homes that are selling fall into one category.... the lower cost, first time homebuyer category.

This is not the time to dictate, by state regulation, the addition of a new \$5,000 cost onto the price of every new home served by public water systems in Virginia and nearly \$10,000 for new homes that will have to depend on water wells for their water supply.

I would remind you that the USBC already includes many provisions and technology innovations designed to provide safety from fire. They include fire blocking, draft stopping, emergency escape and rescue openings, outlet spacing and capacity, fire walls and fire separation, modern heating systems and energy efficient housing and most importantly interconnected hard-wired smoke detection systems. Most older homes do not include this full list of current fire safety provisions. Many don't even include a working smoke detector. We sincerely fear the additional and undeniable new cost of the Sprinkler Mandate will force Virginians to choose less safe, less costly older housing.

Finally, HBAV would urge you to reject any notion or suggestion that modern housing is less safe, or less appropriate to be constructed in Virginia. Modern housing, not light weight housing, is Green Built Housing, some of the most popular and energy efficient housing in America. It is the future of housing today and should be embraced and encouraged by All. It will keep housing more affordable and help make the nation less dependent on foreign oil and foreign products.

This is the wrong proposal at the wrong time, and will result in very little benefit compared to the significant cost of installation and future maintenance needs. Remember, from 1979 to 2003, the death rate from house fires dropped 58%!

Once again, HBAV urges the Board to accept the recommendation of your experienced and qualified Codes and Standards Committee to make the installation of Sprinkler systems an option in Virginia, and to resist the unproven need to Mandate Sprinklers in all new 1 & 2 family dwelling units. We would also urge the Board to urge fire officials to better educate all Virginians of the need for working smoke alarms in existing housing.

Thank you for your time this morning.

**Rand Sompayrac**  
**2009 President**  
**Home Builders Association of Virginia**  
**July 27, 2009**

Comments Submitted to the Board of Housing and Community Development  
James Dawson  
Fire Marshal  
Chesterfield County Fire and EMS  
1<sup>st</sup> Vice President, Virginia Fire Prevention Association  
Chairman, Virginia Fire Chiefs Association Fire and Life Safety Committee  
July 27, 2009

Good morning Mr. Chairman and members of the board. My name is James Dawson. I am the Fire Marshal for Chesterfield County and today I am asking for you to pull the code change submitted by the Home Builders Association of Virginia concerning residential sprinklers from the Proposed Regulations you will be approving later today.

I have previously submitted written comments outlining my concerns about the process the Codes and Standards Committee used to approve the change. In addition to not following the process as advertised, I believe the committee is very short sighted to remove a provision of a nationally recognized model code with only 30 minutes of discussion when the issue was debated for more than eight hours at the International Code Council hearings. In addition, the committee's discussion included more questions about sprinklers and no discussion on the merits these systems.

I would also like to point out something about the supporting statement presented by the Home Builders Association of Virginia in their proposed change. In that statement there is only one sentence that has any resemblance of a supporting statement. In fact their supporting statement asks even more questions, a total of seven questions without answers are presented in their support for removal of this code provision.

One aspect of this change the home builders continue to press is economics. Since I've become involved in this issue, I've been trying to gain an understanding of the economics of new home construction. I've recently discovered a paper by Mr. Buddy Dewer who holds an economics degree and a Master's degree in Business Administration. His explanation of new home economics is enlightening, and I have included his report with my written statement for your review. Even more enlightening in his report is this – residential sprinklers have no impact on the affordability of new homes. In fact the more important factors involved with affordability are mortgage and loan rate, not the cost of required safety systems in new homes. The issue of economics is far to complicated to discuss here, so I urge you to review his paper in order to become more informed on this specific issue.

Mr. Chairman, I look forward to working with all interested parties to develop the code change proposals the Virginia Residential Sprinkler Coalition will bring forward in the coming months. And it is my sincere hope that home builders will finally step up to the table and toward compromise as the fire service in Virginia has to develop these code changes. and I hope this board has all of their questions answered before they make a decision on accepting a code change that will decrease the safety of new homes built under our Uniform Statewide Building Code.

Mr. Chairman, for the sake of time, I will leave you printed copies of my full remarks and in closing I submit this for your consideration. The one supporting statement in the Home Builders Association of Virginia code change proposal found on page 212 of the Codes and Standards Committee package, the one sentence that does not use qualifying words like, "maybe", and "seems to", the one sentence that is not a question but rather makes a statement regarding residential sprinklers is this – "NFPA data and reports confirm that sprinklers do reduce deaths, injuries and property damage losses." Mr. Chairman, I believe they have that supporting statement right, it is the code change they have gotten wrong.

I thank you for your time.

**HBAV Assertion #9**

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.

**Response**

Residential sprinklers supplied via wells indeed have additional costs, just as the basic water supply for those homes does. Systems are designed for a maximum of 2 heads flowing. Some homeowners have installed larger pressure tanks to supply their sprinkler systems or larger pumps to provide the pressure and volume needed.

The HBAV claims of hundreds of gallons of water stored in holding tanks in attics is flatly not accurate.

Back-up generators or emergency power are not required. Additionally, tanks and pumps are not required to be listed for sprinkler service, saving the homeowner additional expense.



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**Winchester Homes, Inc.**  
**Testimony Before the Virginia State Board for Housing and Community  
Development in Support of Voluntary Residential Fire Sprinklers**

**July 21, 2009**

By: Randall K. Melvin  
Director Research and Standards

Winchester Homes, Inc. appreciates the opportunity to testify before the Virginia State Board for Housing and Community Development today and urges that they retain the option of Voluntary Residential Fire Sprinklers in the 2009 Uniform Statewide Building Code of Virginia (USBC).

For those who may not be familiar with our company, Winchester is a long time, reputable builder and developer of new single family and town home communities in Virginia and Maryland. Many of our homes in Maryland, as well as some of our model homes in Virginia, contain fire sprinklers.

As the USBC, even in the absence of any mandatory residential sprinkler requirements, still provides a very reasonable, cost effective, level of fire protection for new homes, we support a voluntary, not mandatory, residential sprinkler provision. We believe the limited additional protection fire sprinklers offer one and two family dwellings is generally not a cost effective means of saving lives and their selection is best left to the voluntary discretion of the consumer and builder. Examples of fire protection related requirements already contained within the code include; interconnected, battery backed-up, smoke detectors in each sleeping room and outside of each sleeping area, means of egress (including the recently added mandatory basement egress), recently increased fire separation distances between single family detached dwellings units, fire/party walls between adjoining town homes, drywall barrier protection between attached garages and the main living spaces, the recent incorporation of arc fault circuit protection in bedrooms. As several of the fire protection related code enhancements listed have just recently gone into widespread practice, with the adoption of the more recent versions of the USBC, and the vast majority of one and two family dwellings in Virginia were constructed prior to the adoption of these more stringent codes, the state has not yet been able to measure the full effectiveness/benefits of the fire protection related codes already in place.

It is also interesting to note that when a fire does occur, the National Fire Protection Association reports that; "The chances of surviving a reported home fire when working smoke alarms are present are 99.45% (100 minus 0.55%) vs. 98.87% (100 minus 1.13) in home fires with no working smoke alarms."<sup>1</sup>

<sup>1</sup> Ahrens, Marty, *Home Smoke Alarms-The Data as Context for Decision. Fire Analysis and Research Division National Fire Protection Association. January 2008.*

Our experience with residential sprinklers has taught us they are not without numerous drawbacks and costly unintended consequences. Attachment #1 is an example of a \$55,733.57 subrogation claim from an insurance company for a damaged sprinkler head that accidentally went off in one of our homes, three (3) months after the homeowners had moved in. (Note: Names of companies, homeowners, public officials and employees involved have been "struck" from the letters for privacy purposes.) Attachment #2 and #3 are correspondence regarding this same home that provide a flavor of the amount of time and resources that go into resolving this type of issue and the impact they can have on peoples lives when personal belonging are damaged and they need to temporarily be moved out of their home during repairs. While for the purposes of this testimony it is not important who was ultimately responsible for this issue, or how it was ultimately resolved, it is important to understand the amount of disruption and resources required, from all parties, which go into resolving these types of issues. If every home had fire sprinklers in them, incidents such as this one would be far from isolated. Whether it be moving a mattress into a home, a child throwing a ball glove in the air after a team victory or jumping on a bed with arms in the air, sprinkler heads are going to get damaged or broken and significant water damage, disruption and other costs are going to result from it.

Yet another reality of residential sprinklers is the significant number of sprinkler heads which have had to be recalled by the Consumer Products Safety Commission. Because of the magnitude of these recalls they can cause considerable confusion and inconvenience for homeowners even if the sprinkler head manufacturers are willing and able to pay for the replacements. In addition, the likelihood of many of the sprinkler heads of questionable performance not getting replaced remains. Attachment # 4 a recall of 8.4 million sprinkler heads, many of which were use in single family homes, was originally issued in 1998 and was still under way in 2007. The nine year time period of the recall helps to frame the magnitude and complexity of these issues. Attachment #5 involves the recall of 35 million sprinkler heads and just within the past couple of months Fairfax County sent out a "Notice to Industry" regarding potential issues with specific dry sprinkler heads.

Service issues with sprinklers are not uncommon and our records show items such as leaking sprinkler heads, leaking water storage tanks, sprinkler trim rings needing adjustments, and frozen sprinklers and the resulting broken pipes. (Note: some homeowners have closed off their solariums in the winter time and the independent heating ventilating and air condition units that serve them, forgetting that wet sprinklers in ceiling above will be left subject to freezing.)

In conclusion, we believe requiring mandatory sprinklers in one and two family dwellings is not a cost effective means of saving lives. In fact , attachment #6, a table from page 14 of a 2005 Canadian Home Builder Association Research paper entitled, "Mandatory Sprinkler Proposals Still Don't Make Sense," clearly demonstrates many more lives can be saved by deploying far less capital elsewhere and that the cost per life saved by mandating residential sprinklers will be thirty eight million (38,000,000.00). dollars each, a cost the citizen of Virginia cannot afford. We also believe what is in an individual family's overall best interest and how they can most effectively deploy their limited capital resources is generally best determined by that family. This should include their ability to decide on whether or not the added expense, increased interior flooding risk and added fire protection residential sprinklers may offer are appropriate for their particular family's needs. For example, one family may find procuring an emergency escape ladder for each bedroom, placing fire extinguishers at critical locations within the home, maintaining their smoke detectors, keeping their dryer vent duct clean and practicing emergency evacuation plans with the family are the preferred

means of providing themselves some additional fire protection. The money the family saved by not mandatorily having to pay for the installation of a sprinkler system in their new home, might be redeployed to help pay for their child's education, medical care, a car repair which is critical for them to be able to get to work or to give it to a charity that can save lives far more cost effectively than will adding mandatory residential sprinklers to homes.

In what we believe is in the overall best interest of the citizen of Virginia, we urge the board to retain voluntary residential sprinklers.



Tuesday, June 20, 2006

WINCHESTER HOMES INC  
6905 ROCKLEDGE DR, SUITE 800  
BETHESDA, MD, 20817

DATE OF LOSS: 08/06/2005

Our Claim #: [REDACTED]

Our Insured: [REDACTED]

Loss Location: [REDACTED]

TOTAL SUBRO AMT \$55,733.57

EVIDENCE: DRAFTS, ESTIMATES, PROPERTY SUBROGATION REPORT, RECORDED STATEMENT, AND PHOTOS

WINCHESTER HOMES, INC.:

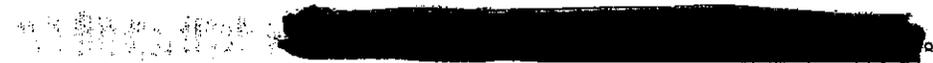
After an investigation of the loss sustained by our insured, it is our opinion that you are legally responsible for the damages. We have made a settlement with our insured and our insured's claim against you has been forwarded to us.

CAUSE OF LOSS: SPRINKLER SYSTEM FAILED ON 3 MONTH-OLD HOME / NEW CONSTRUCTION. BUILDER TOOK THE EVIDENCE FOR TESTING?  
THEORY OF LIABILITY: NEGLIGENCE-BREACH OF IMPLIED WARRANTY AND/OR IMPROPER INSTALLATION

WINCHESTER HOMES, INC.: if you are insured for this loss, please forward all paperwork to your insurance company representative so that they may investigate on your behalf. Please forward to us your insurance carrier information; including your insurance company name, adjuster's name and phone number, and the claim number. If you are not insured, please forward full payment to us at this time or contact this office to discuss alternate payment arrangements.



Thank you,





6905 Rockledge Drive, Suite 800  
Bethesda, Maryland 20817  
Tel (301) 803-4800  
Toll (800) 527-8558  
Fax (301) 803-4900

August 12, 2005

[REDACTED]  
Dear [REDACTED]

Thank you for meeting with [REDACTED] and me at your home today, to discuss recent events around the fire sprinkler in your second floor hallway, which activated during the weekend of August 6, 2005.

Winchester Homes' representatives came to your home on the morning of August 8, 2005, in response to a warranty call, regarding a broken sprinkler head and damaged flooring. You said that your wife and children were home when the sprinkler head discharged.

We contracted [REDACTED] to extract water from the second floor, first floor and basement, remove all of the wet carpet and hardwood, then set up dehumidifiers and fans, to help with the evaporation process. If a warranty repair, we agreed to reimburse you for lodging and up to [REDACTED] a day for meals, while the warranty work was taking place.

The preliminary inspection conducted by [REDACTED] Plumbing, revealed a bent frame arm. To the best of my knowledge and belief, the arm was not bent at the time the house was completed, in February, 2005. I gave you a copy of the letter from [REDACTED] Plumbing, stating that a bent frame arm typically indicates that the head was struck by an object, after it was installed.

Since the preliminary inspection does not indicate a defect in material or workmanship, as originally believed, the corrective efforts do not appear to be covered under warranty. We suggest that you contact your homeowner's insurance company. Our investigation is ongoing, if the investigation reveals a deficiency, we will honor the warranty, and proceed with the repairs.

As a service to you, we will leave the dehumidifiers and fans, until replaced by a contractor of your choice.

If you should have any questions or comments regarding this letter, please contact me at 301-343-7752.

Sincerely,



ATTACHMENT 3

August 26, 2005

[REDACTED]  
Gaithersburg, MD 20879

Dear [REDACTED]

I spoke to Captain [REDACTED] of the [REDACTED] County Fire Marshall's office. He inspected the sprinkler head that activated in your home, during the weekend of August 6, 2005.

He concluded that the arms are bent, which is an indication that the head was struck by something. He stated that a sprinkler head in this condition would not have passed the Fire Marshall's final inspection, performed on January 5, 2005, by [REDACTED]. It is my understanding that Captain [REDACTED] communicated the results of his inspection to you.

Captain [REDACTED] suggested that the head be sent to the manufacturer for a formal evaluation. This evaluation would completely destroy the head. If you wish for us to proceed with this option, please communicate your position to me. Otherwise, it will remain in the possession of [REDACTED] Inc.

Sincerely,

[REDACTED]  
Cc: [REDACTED]

**NEWS from CPSC****U.S. Consumer Product Safety Commission**

Office of Information and Public Affairs

Washington, DC 20207

**Note: Telephone Number Change**

FOR IMMEDIATE RELEASE  
 Originally October 14, 1998  
 Revised June 15, 2007  
 Release # 99-008

**Company Phone Number: (800) 927-5291**  
 CPSC Consumer Hotline: (800) 638-2772  
 CPSC Media Contact: Ken Giles, (301) 504-7052  
 Central Contact: Anne Buchanan, (800) 775-8718

**CPSC, Central Sprinkler Recall Omega Fire Sprinklers;  
Settle Lawsuit**

WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission (CPSC) and Central Sprinkler announced today the nationwide recall of approximately 8.4 million Omega brand fire sprinklers manufactured since 1982 by Central Sprinkler Corp. and its subsidiary, Central Sprinkler Co., of Lansdale, Pa. CPSC alleges that Omegas are defective and could likely fail in a fire. This recall announcement follows the resolution of the lawsuit filed by the Commission staff against these companies on March 3, 1998.

CPSC alleges that, on average, between 30 and 40 percent of Omegas removed from various locations across the country for testing failed to activate as they should. In some buildings, all Omegas tested failed to activate. CPSC is warning consumers that they are at risk of bodily injury or death and should have Omegas replaced as soon as possible. CPSC is urging consumers to take immediate action to determine whether the buildings where they live and work are equipped with Omegas, and if so, to call the Omega Sprinkler Recall Hotline to participate in the recall. Properly functioning fire sprinklers save lives when a fire occurs. With the Omega sprinklers, this line of defense may not be there when it is needed most.

CPSC has received reports of Omega sprinklers not functioning in 17 fires. At least four persons suffered injuries, including burns and smoke inhalation. Over \$4.3 million in property damage has been reported. The fires occurred between 1990 and the present in Arizona, California, Florida, Georgia, Indiana, Maryland, Massachusetts, Michigan, New York, Pennsylvania and Texas. In some cases, the sprinkler directly above the fire failed to operate.

Omega fire sprinklers are installed in homes, schools, hospitals, dormitories, nursing homes, prisons, offices, hotels and other buildings as well as federal buildings, including the Smithsonian Museums and the U.S. Capitol, which house many of the country's historical artifacts. Omegas have been or are being removed from many state and federal buildings, including the White House. As part of the settlement agreement, Central has asked Underwriters Laboratories to withdraw its listing of approval for all Omega brand fire sprinklers.

Consumers themselves should be able to determine whether their homes or other buildings are equipped with Omega fire sprinklers. On most models, consumers will be able to see three flat round metal disks stacked one above the other with a small space between each disk. Consumers should not attempt to unscrew the sprinkler or shut down their sprinkler system to determine if they have Omegas. Central will send consumers a packet of information to help them identify the sprinklers involved.

The recall of the Omega sprinklers includes models referred to or marked as follows:

- C1 (or C-1)
- C1A (or C-1A)

<http://www.cpsc.gov/CPSCPUB/PREREL/PRHTML99/99008.html>

6/12/2009

- C-1A PRO (or C1-A PRO)
- C1-A PRO QR
- EC-20
- EC-20A
- R-1
- R-1A
- R-1M
- Flow Control (FC, Flow Control-FC)
- Protector-M or M Protector (Upright, Pendent, Sidewall, Sidewall EC)
- HEC-12
- EC-12 RES
- HEC-12 EC
- HEC-12 EC PRO
- HEC-12 ID
- HEC-12 PRO
- HEC-12 PRO QR
- HEC-20
- Prohibitor QR and AC.

Central is offering consumers free replacement glass bulb fire sprinklers and reimbursement toward the cost of having Omega sprinklers removed and replaced. CPSC routinely requires companies to pay the full costs associated with recalls. In this case, Central's reported financial condition reveals that its ability to pay the cost of replacing the Omega sprinklers is limited. Consumers are urged to call the Omega Sprinkler Recall Hotline, available 24 hours a day, at (800) 927-5291 or to access the Omega recall website at [omegarecall.com](http://omegarecall.com) to participate in the recall. For consumers to get any monetary reimbursement for installation costs, they must submit a proof of claim and release to Central postmarked by August 1, 1999. Consumers are urged to take immediate action and call today.

Since Omegas may not operate in a fire, it is particularly important that consumers have at least one fully operational smoke detector on every floor of their home, especially near bedrooms. To ensure that the detector's batteries are working, test the detector every month. Consumers also should have a well-defined and rehearsed escape plan and an alternate escape plan in the event of a fire. "Your Home Fire Safety Checklist" is available here in [pdf format](#) or [text format](#), or you can obtain a free copy by writing to CPSC, Washington, D.C. 20207.



Consumers can also view a [video clip](#) about this recall ([Transcript](#)). It is about 10 megabytes long and the download time depends upon the speed of your Internet connection.



CPSC is still interested in receiving incident or injury reports that are either directly related to this product recall or involve a different hazard with the same product. Please tell us about it by visiting <https://www.cpsc.gov/cgi-bin/incident.aspx>

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Send the link for this page to a friend! The U.S. Consumer Product Safety Commission is charged with protecting the public from unreasonable risks of serious injury or death from thousands of types of consumer products under the agency's jurisdiction. The CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical, or mechanical hazard. The CPSC's work to ensure the safety of consumer products - such as toys, cribs, power tools, cigarette lighters, and household chemicals - contributed significantly to the decline in the rate of deaths and injuries associated with consumer products over the past 30 years.

To report a dangerous product or a product-related injury, call CPSC's Hotline at (800) 638-2772 or CPSC's teletypewriter at (800) 638-8270. To join a CPSC e-mail subscription list, please go to <https://www.cpsc.gov/cpsclist.aspx>. Consumers can obtain recall and general safety information by logging on to CPSC's Web site at [www.cpsc.gov](http://www.cpsc.gov).

**NEWS from CPSC****U.S. Consumer Product Safety Commission**

Office of Information and Public Affairs

Washington, DC 20207

**FOR IMMEDIATE RELEASE**

Originally issued July 19, 2001

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Release # 01-201

**Notice Packet Request Hotline: (800) 871-3492**

CPSC Consumer Hotline: (800) 638-2772

CPSC Media Contact: Ken Giles, (301) 504-7052

Central Media Hotline: (866) 836-3929

**Note: there is an update to this voluntary recall**  
**Also note: replacement program ends August 31, 2007**

## **CPSC, Central Sprinkler Company Announce Voluntary Recall To Replace O-Ring Fire Sprinklers**

WASHINGTON, D.C.- The U.S. Consumer Product Safety Commission (CPSC), and Central Sprinkler Company, an affiliate of Tyco Fire Products LP, of Lansdale, Pa., are announcing a voluntary replacement program. The company will provide free parts and labor to replace 35 million Central fire sprinklers with O-ring seals. The program also includes a limited number of O-ring models sold by Gem Sprinkler Company and Star Sprinkler, Inc. totaling about 167,000 sprinkler heads.

Central initiated this action because it discovered the performance of these O-ring sprinklers can degrade over time. These sprinkler heads can corrode or minerals, salts and other contaminants in water can affect the rubber O-ring seals. These factors could cause the sprinkler heads not to activate in a fire. Central is providing newer fire sprinklers that do not use O-ring seals, and is voluntarily launching this program to provide enhanced protection to its sprinkler customers. This is the third largest replacement program in CPSC history.

"I am pleased that Central is voluntarily undertaking this major program proactively to replace sprinklers nationwide and protect consumers from the risk of fire," said CPSC Chairman Ann Brown.

Central will provide free of charge replacement sprinkler heads and the labor needed to replace the sprinklers. Central will arrange for the installation by using either its own Central Field Service crews or by contracting with professional sprinkler contractors.

This replacement program includes two kinds of sprinklers, "wet" and "dry." "Wet" sprinklers are installed in piping that is filled with water. "Dry" sprinklers are used in areas that may be exposed to very cold temperatures and the exposed piping does not contain water. Central has received 4 reports of "wet" sprinklers failing to activate during a fire and 9 similar reports on "dry" sprinklers. These incidents resulted in two property damage claims against Central.

The sprinklers were installed nationwide in a wide variety of buildings, including houses, apartments, hospitals, day care facilities, schools, dormitories, nursing homes, supermarkets, parking garages, warehouses, and office buildings.

Central manufactured 33 million "wet" sprinklers with O-rings from 1989 until 2000 that are covered by this program. Central also manufactured 2 million "dry" sprinklers with O-rings from the mid-1970's to June 2001 that are covered by this program. The program also covers 167,000 sprinklers with O-rings manufactured by Gem Sprinkler Co. and Star Sprinkler Inc. from 1995 to 2001. A listing of all the models covered under this voluntary replacement program is attached to the end of this release.

The fire sprinkler heads have the words "CENTRAL" or "STAR", the letters "CSC", the letter "G" in triangle, or a star-shaped symbol stamped on either the metal sprinkler frame or on the deflector. The model designation and

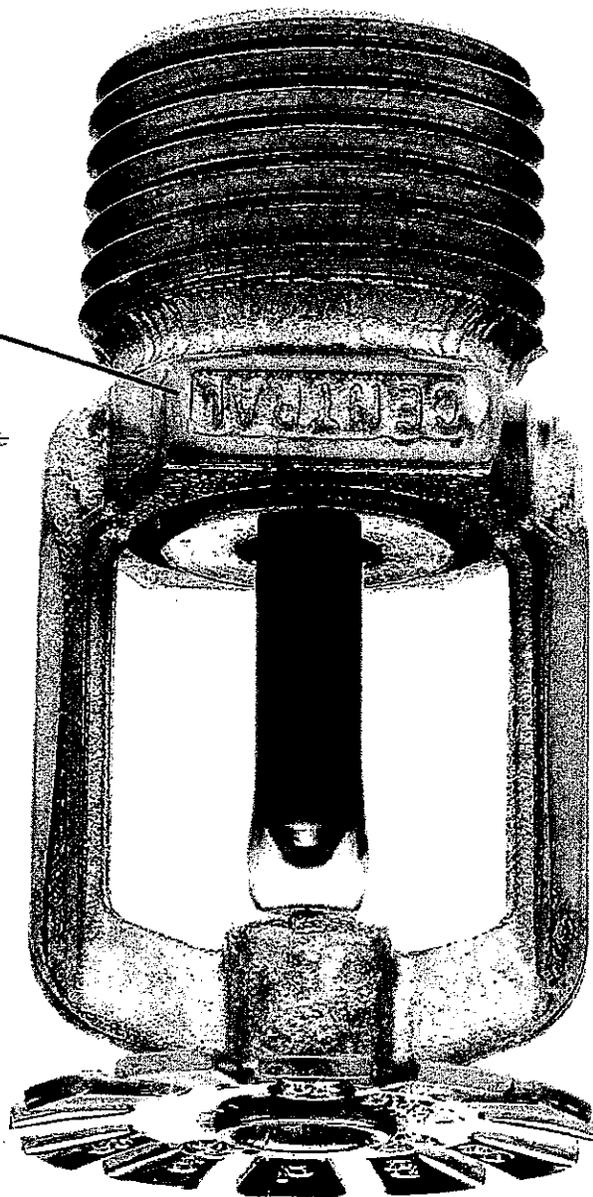
<http://www.cpsc.gov/cpsc/pub/prerel/prhtml01/01201.html>

6/12/2009

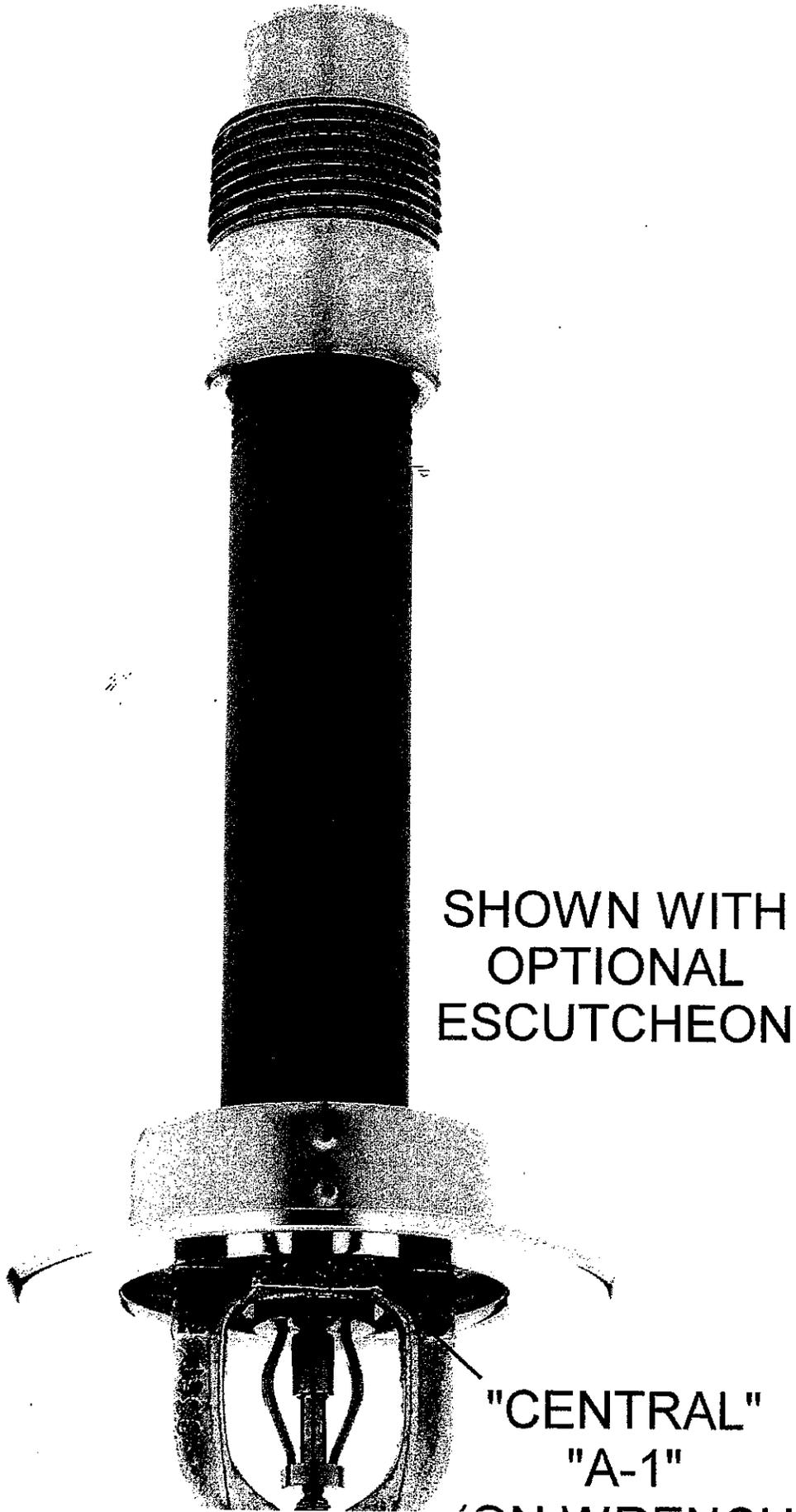
date may also be stamped on the frame or deflector. The deflector is the flower, or gear-shaped metal piece at one end of the sprinkler head.

"CENTRAL"  
"GB"

PENDENT  
SHOWN



Typical "Wet" Sprinkler



SHOWN WITH  
OPTIONAL  
ESCUTCHEON

"CENTRAL"  
"A-1"

## Typical "Dry" Sprinkler

Laboratory testing has indicated that most of the heads would operate in a fire situation, but certain tested heads required higher water pressure to activate than may be available in particular buildings. Due to the number of sprinklers involved, this program will be phased in, with priority based on the age of the sprinklers, the population affected (e.g., buildings such as nursing homes and hospitals will be given priority), and whether the sprinklers show signs of corrosion or leakage. This program puts in place an orderly process that serves the public interest.

Building and home owners should check their fire sprinklers immediately to see if they are part of this voluntary replacement program. For more information on how to identify sprinklers subject to this program and to learn how to participate in this program, call the Notice Packet Request Line at 1-800-871-3492 24 hours a day, 7 days a week or access the program's web site at [www.SprinklerReplacement.com](http://www.SprinklerReplacement.com).

The Commission is currently working with the sprinkler industry to improve sprinkler reliability and upgrade existing standards and codes.

The Commission and Central emphasize that for sprinkler systems to be effective, they must be regularly inspected, and maintained like a building's heating, cooling, electrical and elevator systems. In addition, the most recent industry standards state that dry sprinkler heads should be tested, and replaced if necessary, at least every 10 years. Central believes all fire sprinkler heads should be tested no later than 10 years after installation, and depending on water quality and other factors, more frequent testing may be appropriate.

Central is also contacting foreign governments to facilitate the replacement of these O-ring sprinklers that may be installed in their countries.

Consumers should always take precautions to make sure they are fully protected from a fire, even if they have fire sprinklers in their homes. There should be at least one fully operational smoke detector on every floor of a home, especially near bedrooms. To ensure that the detector's batteries are working, test the detector every month. Consumers also should have a well defined and rehearsed escape plan and an alternate escape plan in the event of a fire. A free copy of "Your Home Fire Safety Checklist" is available from CPSC by calling (800) 638- 2772, or by writing to CPSC, Washington, D.C. 20207.

<b>AFFECTED MODELS CENTRAL "WET" SPRINKLERS (Manufactured from 1989-2000)</b>					
GB	GB4-FR	GB-R1	BB2	ELOC	ELO-GB QR
GB-J	GB4-EC	GB-RS	BB3	ESLO	LD
GB-1	GB4-QREC	GB-R	SD1	ELO SW-20	K17-231
GB-ALPHA	GB-20	ROC	SD2	ELO SW-24	Ultra K17
GB4	GB-20 QR	BB1 17/32	SD3	ESLO-20 GB	ELO-16 GB
GB-QR	GB-LO	BB2 17/32	HIP	ELO-231 GB	GB MULTI-LEVEL
GBR-2	LF	BB3 17/32	WS	ELO-GB	GB-QR MULTI-LEVEL
GB-EC	GBR	BB1	ELO-LH	ELO-231 GBQR	ELO-16 GB FR

<b>CENTRAL "DRY" SPRINKLERS (Manufactured from Mid-1970s-2001)</b>			
A-1	GB	GB4-EC	ELO-16 GB
H-1	GB-QR	GB4-QREC	ELO-16 GB FR
J	GB4	ELO-231 GB	
K	GB4-FR	ELO-GB QR	

<b>GEM "WET" SPRINKLERS (Sold under Gem name from 1995-2001)</b>	
F927	
<b>STAR "DRY" SPRINKLERS (Manufactured from 1996-1998)</b>	
ME-1	SG
SG-QR	Q
Q-QR #	



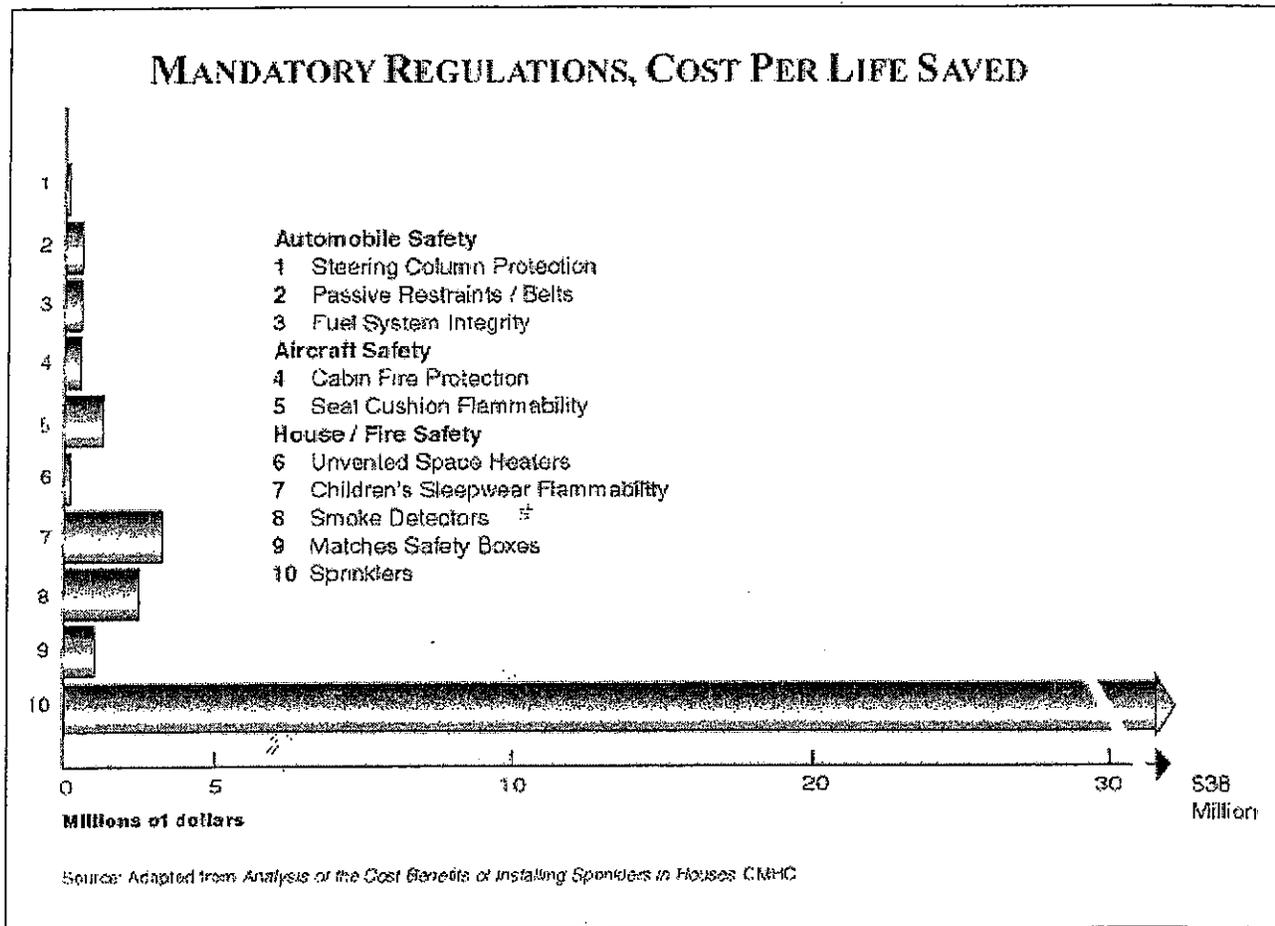
Consumers can also view a [video clip \(transcript\)](#) about this recall. This is in "streaming video" format.

CPSC is still interested in receiving incident or injury reports that are either directly related to this product recall or involve a different hazard with the same product. Please tell us about it by visiting <https://www.cpsc.gov/cgibin/incident.aspx>

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#### Fire Service Costs

In 1998, an unanswered question was the net impact on fire service costs if municipalities required sprinklers in all new residential developments. Proponents argued that, if sprinklers were made mandatory, the demand for fire services would drop and the municipality could reduce costs. CMHC commissioned the report *Costs and Benefits to Municipalities of Mandatory Residential Fire Sprinklers* to provide an impartial assessment, technically justified on economic grounds. It looked at changes in costs in five municipalities and one First Nation.

The study found some potential for cost savings to municipalities – if people were willing to accept longer response times from their fire fighting services, and to rely primarily on other services for response to other emergencies. These include fighting fires in all other building types, in vehicles, and "outside" (grass fires, etc.), as well as rescue operations, emergency medical treatments, and dealing with hazardous materials.

**HBAR TESTIMONY ON FIRE SPRINKLER MANDATE TO THE  
VIRGINIA BOARD FOR HOUSING AND COMMUNITY DEVELOPMENT  
January 25, 2010**

Good morning. My name is Warren Wakeland and I represent the Home Building Association of Richmond.

This Board has held one public hearing about the fire sprinkler issue, this past July. It voted at that time that keeping sprinklers as an option for homeowners was the best policy for Virginia. I would submit that nothing since July has changed that would suggest keeping sprinklers optional is not still the best policy.

You have seen the statistics gathered by the fire industry concerning how many lives smoke alarms save. You have also seen the 10 reasons why a fire sprinkler mandate is wrong for Virginia. We now have data from the Virginia Fire Incident Reporting System (VFIRS) that show from 2006 to 2009 the number of fires reported has dropped by one-third, from 31,538 to 21,152, the number of civilian fire deaths has dropped by 46 percent, from 96 to 52, and the amount of property lost has dropped by 14 percent, from more than \$253 million to more than \$220 million. The Richmond-Petersburg area has seen an even larger decline, with the number of fire deaths declining by 50 percent since 2007.

Homeowners are detecting fires and putting them out more quickly, saving lives and property, thanks to smoke alarms. Why should we require sprinklers when smoke alarms are clearly doing the job?

We all know the devastating effect the economy is having on the home building industry. This sprinkler mandate would create an even more devastating effect. It would add a minimum of \$5,000 to \$6,000 to the average cost of every new home including townhomes, the only truly affordable new homes being constructed in the Richmond market and many markets across Virginia, and drive homebuyers to older, less costly, less safe homes.

We can do better, though. VFIRS data show that in 2009, 32.5 percent of all residential fires in Virginia were attributed to "cooking." Cooking fires have increased each of the last three years, according to VFIRS. Fire officials have stated that if a small fire, like what starts in a kitchen, is detected early, a fire extinguisher is the most effective tool to control the fire. So let's employ a worthy, cost effective mandate -- kitchen fire extinguishers. A 10 BC extinguisher is effective at putting out fires and costs less than \$25 per extinguisher.

All the statistics available show that smoke alarms are saving lives and property. Fire extinguishers in the kitchen will lead to more property saved. HBAR is willing to support requiring a 10 BC fire extinguisher in the kitchen. HBAR cannot support a minimum \$5,000 to \$6,000 expense when all the available data show the expense is not necessary.

Mr. Chairman, members of the Board, my name is Robert Martinko and I am a local builder here in the Richmond-Metro area. I am also the Legislative Committee Chair for the Home Builders Association of Southside Virginia. Many of our association members are here with me today. The adoption of a code requirement for sprinklers in single family dwellings will significantly impact the home building industry and the buying public. It will have a disproportionate impact on the segment of the market I service, which are buyers of affordable housing.

For my firm, and my homebuyers, that means housing with starting prices in the low 100,00's. I have circulated a picture of an 1100 square foot home, which sells for \$130,000, that is representative of the affordable housing that I build here in Richmond. The other pictures are of homes in the same neighborhood, which were built in the 1950's without many of today's building code provisions and other technological innovations, which provide fire safety.

The demographic that I build houses for is 75% single mothers with incomes that generally allows them to qualify for affordable housing only. For every \$1,000 increase in the price of a new home in the Richmond area, 710 families lose the ability to qualify for a new home mortgage. I often cannot serve potential buyers because their income only allows them to qualify for homes that sell for less than \$130,000. The additional cost associated with a mandatory sprinkler system would force me to turn even more buyers away, leaving them to remain in, or purchase older housing, which lacks many fire prevention features.

I urge the Board to reject mandatory sprinklers for single-family homes and keep sprinklers as an option. The fire fighting community should put their energy towards providing fire protection devices in older homes where statistics have shown the need is much greater.

**HOME BUILDERS ASSOCIATION OF VIRGINIA**

**Comments to**

**Board for Housing and Community Development  
Commonwealth of Virginia**

**January 25, 2010  
Richmond, Virginia**

**Chairman Fleury and Board Members:**

**Good Morning, and thank you for this opportunity to comment on the 2009 Proposed Changes to the Virginia Uniform Statewide Building Code. I am Mike Newsome, President of the Home Builders Association of Virginia (HBAV). As you may know, HBAV is one of the largest business organizations in the state, with nearly 5,000 business members. This year, HBAV will celebrate its 54<sup>rd</sup> anniversary.**

**As you continue your consideration of many proposed changes to the USBC this year, I would urge you to REJECT every Code Change in this Code Cycle that would increase the cost of new housing in Virginia. Across this Commonwealth, the housing industry continues to be experiencing an historic downturn. Since your last Public Hearing on this matter last July, conditions for the new housing industry have not improved. The**

**industry and thousands of companies and jobs that depend on it, continues to sit idle.**

**I would remind you that the Code of Virginia empowers you to adopt the USBC, and directs you “to protect the health, safety and welfare of residents of the Commonwealth, at the least possible cost.” The Code of Virginia also directs you to adopt regulations that are “reasonable and appropriate”.**

**In that spirit, I would take a few minutes this morning to urge you to RE-AFFIRM the position you took last July to make the installation of sprinkler systems an OPTION in Virginia, and to resist the unproven need to Mandate Sprinklers in all new 1 & 2 family dwelling units in Virginia.**

**I would also strongly urge you to REJECT the proposal that would impose the Sprinkler MANDATE on all new townhomes. There are no statistics, whatsoever, that display the occupants of townhomes to be at any higher risk of fire danger than the occupants of single family detached housing...None! Furthermore, and this is very important, the Sprinkler Cost Offsets outlined in that proposal, CANNOT be delivered by fire officials. Local Planning and Zoning**

**Departments and Local Public Utility Departments determine street widths and the quantity of public water supplies. That proposal is seriously flawed and should not be adopted.**

**Please also consider the fact that the USBC already includes many provisions and technology innovations designed to provide safety from fire. They include fire blocking, draft stopping, emergency escape and rescue openings, outlet spacing and capacity, fire walls and fire separation, modern heating systems and energy efficient housing and most importantly interconnected hard-wired smoke detection systems. Most older homes do not include this full list of current fire safety provisions. Many don't even include a working smoke detector. We sincerely fear the additional and undeniable new cost of the Sprinkler Mandate will force Virginians to choose less safe, less costly older housing, where the real risk of fire danger resides. There are currently over 3 million dwellings units in Virginia, and the proposed Mandate will not impact one (1) of them.**

**Finally, HBAV would strongly urge you to ADOPT the HBAV proposal to require all new homes to be equipped with a 2A:10B:C Fire**

**Extinguisher in the kitchen area of all new homes. Kitchens, by far, are the leading area for the origination of home fires. And, according the National Association of Fire Marshalls, fire extinguishers are the most effective means of protecting life and preventing property loss with the occurrence of a small and controllable fire. They cost less than \$25.00. That should be next step for fire safety in Virginia.**

**Once again, HBAV urges the Board to reaffirm your July 27<sup>th</sup> decision, and to resist the unproven need to Mandate Sprinklers in all new 1 & 2 family dwelling units. We would also urge the Board to urge fire officials to better educate all Virginians of the need for working smoke alarms in existing housing.**

**Thank you for your time this morning.**

**Michael Newsome  
2010 President  
Home Builders Association of Virginia  
January 25, 2010.**



www.hbar.org

January 12, 2010

Board of Housing and Community Development  
Virginia Department of Housing and Community Development  
600 E. Main St., Suite 300  
Richmond, VA 23219

Re: mandatory fire sprinklers

Dear Board Members:

The Home Building Association of Richmond (HBAR) appreciates the opportunity to comment concerning the proposal before you during your January 25 meeting to consider including the Interstate Code Commission (ICC) mandate on installation of fire sprinklers in all one and two-family homes in the Virginia Uniform Statewide Building Code.

HBAR stands as unified and strongly as possible against this mandate. There are many, many reasons why sprinkler systems should not be required in new homes.

- 1) ***Statistics show today's better-built homes are saving lives.*** Between 1979 and 2003 the death rate per million persons from house fires dropped 58 percent, according to statistics from the U.S. Centers for Disease Control and Prevention. New codes in most states, including Virginia, mean many homes today are built much stronger and with many more fire-prevention safeguards than even five years ago.
- 2) ***The fire industry itself says smoke alarms are extraordinarily effective.*** A January 2008 study done by the National Fire Protection Association (NFPA) shows that the chances of surviving a reported home fire when working smoke alarms are present is 99.45 percent. All new homes in Virginia are already required to be equipped with hard-wired, interconnected smoke alarms with battery back-up on every level of the home and adjacent to every sleeping area in the home. The NFPA figure proves conclusively that fire sprinklers are not necessary to save lives.
- 3) ***Smoke alarms potentially save more lives than fire sprinklers.*** A 2006 study from the U.S. Fire Association (USFA) showed that 88 percent of the fatal fires in single-family homes occurred where there were no working smoke alarms present. The most recent NFPA report shows that more than 890 lives could have been saved annually if every home had a working smoke alarm. The data show it to be more prudent to require smoke alarms, which is already done.
- 4) ***Sprinklers are much more difficult and time consuming to maintain than smoke alarms.*** Homeowners have a difficult time trying to remember to replace the batteries in their smoke alarms every six months. A sprinkler system requires much more maintenance than simply changing batteries. Based on the difficulty

with maintaining fire sprinklers, it is reasonable to deduce that homeowners will not maintain sprinkler systems at the level required for them to be at maximum efficiency. The data show 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.

- 5) ***Sprinklers are rarely needed for house fires.*** Sprinkler proponents claim that a residential sprinkler system is reliable in 96-99 percent of all reported structure fires where the fire was large enough to activate the system. But NFPA reports show that the number of fires large enough to activate the system that occur in one and two-family dwellings are so few that they do not appear in studies done by the organization.
- 6) ***Sprinklers can be damaged by extreme cold, causing water damage.*** Should a home lose power for several days, as occurred throughout Virginia during the recent December 2009 snowstorm, the basins that hold water for sprinkler use and the pipes that carry the water can freeze and burst. Homeowners in Virginia most likely would have to take measures to keep the system from suffering cold damage, increasing the cost of the system.
- 7) ***Sprinklers will harm efforts at providing affordable housing statewide.*** The Virginia Housing Development Agency (VHDA) released a report in November that says the state's housing stock is not adequate to meet emerging needs, and that housing affordability is becoming a key issue in retaining and attracting an adequate workforce. Mandating sprinklers when it is clearly not necessary will lead to further deterioration of affordable housing stock across the state and potential loss of economic development opportunities.
- 8) ***The cost of a mandate for sprinklers will push many potential homebuyers toward buying older homes, which are less safe.*** According to studies done by the National Association of Home Builders Research Center, the average sprinkler system nationwide costs about \$2.66 per square foot, or more than \$5,300 for a 2,000-square-foot new home. In rural areas served by well water, which includes many areas of Virginia, the cost for sprinklers can be as much as double, as homeowners would need special pumps installed along with a minimum 300-gallon water bladder and a back-up generator for times when electric supply is interrupted. A hard-wired, interconnected smoke alarm costs about \$50 per alarm. Building codes today already provide many provisions and technological innovations designed to protect residents from fire. A mandate would force families into buying older homes that are less expensive and not as safe.
- 9) ***Home insurance rates do not decrease in cold weather states with their use.*** Sprinkler proponents claim the cost of home insurance decreases when sprinklers are installed. It is true that some warm-weather states offer insurance credits for sprinklers. Using a conservative cost estimate of \$1.50 per square foot, a system in a 2,300-square-foot home with an annual property insurance rate of \$1,000 would need approximately 35 years for a 10 percent credit to pay for the system. Throw in maintenance costs and it will take even longer for the credit to pay its due. Insurance agents in the Richmond area, however, say credits are rarely given about 3.5 percent. In cold weather states, credits are rarely given because of losses arising from systems freezing.

10) *Annual sprinkler installation costs will greatly exceed property losses nationwide and in any jurisdiction where they are mandated.* 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 – for new and existing homes – due to fire in 2005 was less than \$5.8 billion. The installation cost would have been nearly double the property 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 in their homes will never use them.

HBAR understands there are at least two compromise proposals being offered. One, by the fire industry coalition, would limit this mandate to townhomes. HBAR does not support this compromise proposal. Townhomes are the most affordable new home product available in Virginia. In most urban areas, including Richmond, it is the only affordable new home product. HBAR has seen no statistics that show townhomes are a greater fire hazard than one and two-family homes. Mandating sprinklers for townhomes would simply drive an affordable housing product out of an affordable price range – something VHDA has clearly pointed out would not be good for Virginia.

The second, by the Home Builders Association of Virginia, would require fire extinguishers in the kitchen area of each new home. HBAR supports this compromise proposal. NFPA statistics show that more than one in four home fires begins in the kitchen area. Many are small and can be easily controlled if discovered early. Fire extinguishers are the first method used to put these fires out in most cases, according to the National Fire Marshal Association (NFMA). If a fire is discovered in its early stages, NFMA says the most effective means of protecting life or preventing property loss is to use a portable fire extinguisher. Extinguishers can be used by untrained persons and can be purchased at a reasonable price. HBAR believes this requirement would be reasonable and worthwhile.

This Board has voted to reject the fire sprinkler mandate once, last July, because it recognized the reasons a mandate was unnecessary. These reasons are still as pertinent and true today as they were then. There still is no reason whatsoever to include the ICC mandate in the Virginia Uniform Statewide Building Code. HBAR strongly recommends that you vote to exclude the mandate from the code. Homeowners deserve to have the option of whether to include sprinklers in their own new homes. Forcing sprinklers onto the public when all the statistics show they clearly are not necessary is bad public policy.

Thank you for taking the time to consider our position, and for your service to the Commonwealth.

Sincerely,



C. Warren Wakeland  
Director of Government Affairs

Thomas L. Herman, CFPS  
10719 River Road  
Chesterfield, VA 23838  
804-590-1239

January 4, 2010

Mr. Thomas Fleury  
Board of Housing and Community Development  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Dear Mr. Fleury,

I am writing in regards to the upcoming hearing and vote pertaining to Virginia retaining the residential fire sprinkler requirements as now adopted by the International Residential Building Code. The Commonwealth of Virginia has always been way behind many other states when it comes to issues of fire safety. It is now time to align Virginia and bring us into modern times!

I have been a local firefighter now for 44 years: For 13 years I worked as a career fire fighter in the City of Richmond. I have served as a volunteer firefighter in Henrico and also in Chesterfield County where I still actively serve. I left my career in Richmond because I grew weary of removing the bodies of victims from burned out houses. I knew that most of the fatalities I witnessed were preventable, but no one seemed to make residential fire protection a priority. I left the Richmond Fire Department to take a job as a fire protection system technician, inspecting, testing, and maintaining commercial built-in fire protection systems. I felt then and still feel today that I am saving more lives by ensuring that fire sprinkler systems installed within commercial buildings work properly, if and when needed, than I was as a firefighter.

I personally witnessed the agonizing screams of a mother as we removed the bodies of her three children from their destroyed home. The home was only three blocks from our fire station and the total fire department response time was under two minutes! As usual, the victims died before the fire department ever received the call.

Thanksgiving morning of 1976, another house fire happened with devastating results. We found a deceased mother and father together in their second floor bedroom with their six-year-old daughter lying across them. The daughter had been outside of the home with a neighbor across the street, when the daughter darted back into the home to find her parents.

Another great injustice occurred on August 18<sup>th</sup>, 1970, when one of the firefighters assigned to my station died while fighting a typical house fire, when what we call a “flashover” enveloped him. Fire sprinklers would have prevented the flashover from occurring.

The one common thread is that all of these fatalities were PREVENTABLE! I could go on about these experiences, as there are many more I could tell you about, and I am just one firefighter. Imagine hearing these types of experiences from all the firefighters in Virginia.

Please take the time to read the enclosed articles. Also please realize that the systems we are talking about are very different from the commercial building type fire sprinkler systems. *Most residential installations can be performed by the plumbing contractor who is already onsite, adding a relatively small amount of additional work as an add on to the existing plumbing system.* Separate water supplies are generally NOT required and there is NO requirement in the code for outside contractor inspections or maintenance. The Habitat for Humanity Texas chapter has installed fire sprinklers in the last 100 homes they constructed. That potentially life-saving addition cost only .60 cents per square foot—proof that the cost comes down once the trade acclimates to the work.

The technology is now available, the cost is minimal and will go even lower, but the process needs to start now. This is not for the benefit of ourselves—it is for our children, grand children, and great grandchildren, as it will take years for the majority of houses to become protected. The process needs to start and the sooner the better for all of us.

Please, please, join forces with America’s firefighters and help us begin the process of saving 3,000 lives annually.

Sincerely,



Thomas L. Herman, CFPS  
Certified Fire Protection Specialist  
Fire Protection Consultant

# Young Fireman Killed Fighting Blaze

By BILL McDOWELL

A young Richmond fire fighter was killed early today while battling a blaze on the second floor of a home in the newly annexed area of the city, fire authorities said.

John D. Barlow, acting fire chief, identified the dead fireman as James W. Buckner, 20, of 1007 W. Cary St.

Buckner was a member of a five-man team from Engine Co. 20, the first firemen to enter a smoke-filled home at 1201 Acorn Ave. at 12:59 a.m., Barlow said. Firemen had received the alarm three minutes earlier, he said.

## DETAILS GIVEN

Barlow gave these details of the mishap: Buckner and three of the team, all wearing gas masks, entered the home, occupied by a Mrs. J. Semp and her two children. Buckner and a fellow fireman, Jerry Wayne Hall, went immediately to the second floor carrying the first line of

hose to locate the source of the fire.

The other two men returned to get supporting hose, while a fifth fireman stood by his truck to operate its water pumps.

Barlow said the home is a "Cape Cod-style" structure, with a stairway in the center leading to a remodeled attic. There are two rooms, one at each end of a hallway at the top of the stairs, he said.

## GAS MASK

Hall told Buckner his gas mask was beginning to malfunction because of the intense heat in the area, and twice told Buckner they should retreat to the first floor, Barlow said. By then, about 1:10 a.m., a call for extra equipment was made for assistance in fighting the fire, Barlow said.

The men began to feel their way along the smoky hallway. Hall found the stairs, but Buckner, "in my opinion, became confused and lost his sense of direction," and instead groped

room caused "a burst of flames," said Barlow. The door to the room then closed behind the fireman, he said.

Barlow said Buckner was found behind the door to the burning room. Fellow firemen, members of the Forest View Volunteer Rescue Squad and Allied Ambulance rescue squadmen administered oxygen to the fallen firemen on the front lawn of the house.

## CARBON MONOXIDE

Officials at MCV-West hospital said Buckner was dead on arrival there at 1:50 a.m. Dr. R. C. Henry, a state medical examiner, said today Buckner died of massive inhalation of carbon monoxide gas.

The young firemen also was burned on his hands and face, but Dr. Henry said Buckner was overcome by the smoke before he was burned, based on autopsy reports.

No other injuries were reported in the blaze. Mrs. Semp and her two children were reported staying with relatives.

Damage to the home was estimated at \$2,200, Barlow said faulty wiring in the bedroom caused the blaze.

Buckner joined the Richmond Fire Bureau in December, 1968, Barlow said.

## NATIVE OF CITY

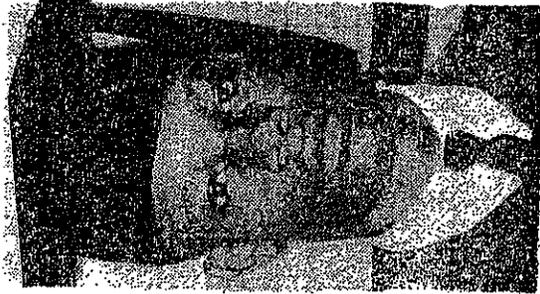
A native of Richmond, Buckner was a 1967 graduate of Maggie Walker High School. He was a member of Fifth Baptist Church.

He is survived by his parents, Mr. and Mrs. Arthur B. Buckner; a sister, Mrs. Sandra Nutall of Richmond and a brother, Arthur B. Buckner of Owensboro, Ky.

Funeral arrangements were incomplete.

Fire officials said it has been seven years since a Richmond fireman had been killed in the line of duty.

Capt. Harvey Hicks and Douglas Evans were overcome on June 14, 1963 by gas fumes when they attempted to rescue a contractor who had fallen in a huge hole at 1001 N. Fifth St.



JAMES W. BUCKNER

his way into the bedroom where the fire began, Barlow said.

When Buckner entered the room, oxygen rushing into the

HOME FIRE SPRINKLERS

# Direct Impact

A detailed study of one Maryland community is good news for home fire sprinkler advocates

HOME FIRE SPRINKLERS SAVE LIVES, cut property loss from fire, and cost less than \$2 a square foot to install.

That's the bottom line in Prince George's County, Maryland, according to "Benefits of Residential Fire Sprinklers," a report released in August that analyzes the county's experience with the single-family-dwelling fire sprinkler ordinance it enacted in 1992. The report, which covers a 15-year period, was a joint effort of the nonprofit Home Fire Sprinkler Coalition; the Prince George's County, Maryland, Fire/EMS Department; the Maryland Fire and Rescue Institute; and the Maryland State Fire Marshal's Office.

The study, prepared by Steve Weatherby, vice-president of construction for The Holladay Corporation in Washington, D.C., concludes that the "most obvious benefit of the ordinance is the direct impact that home fire sprinkler systems have made in saving lives and reducing fire-related injuries." During the period studied, Prince George's County had fires in 13,494 single-family homes or townhouses. Fires in unsprinklered homes killed 101 civilians and injured 328. No civilians died and only six were injured in fires in sprinklered homes. In addition, sprinklers cut property loss in such fires almost in half.

To determine whether sprinklers added significantly to the cost of a home, Weatherby also interviewed several Prince George's County sprinkler contractors, who told him that the per-square-foot cost to install sprin-

klers in single-family homes in the county had dropped to less than \$2 per square foot. This is consistent with a recent Fire Protection Research Foundation study that found the average cost of residential sprinkler installation in the United States is \$1.61 per sprinklered square foot.

These findings appear to refute two arguments the nation's home builders have made in an effort to persuade members of the International Code Council to rescind the sprinkler requirement included in the 2009 edition of the *International Residential Code*® (IRC) at the ICC's annual meeting and code development hearings, held recently in Baltimore, Maryland. According to a policy statement published by the National Association of Home Builders on its website, [www.nahb.org](http://www.nahb.org), residential sprinklers would significantly increase the cost of building a home, and the need for residential sprinklers in one- and two-family homes is "unsubstantiated."

To demonstrate the efficacy of residential sprinklers, the Maryland Fire & Rescue Institute conducted a live burn to coincide with the release of the report. Two 8-by-8-foot (2-by-2-meter) rooms were built and furnished, and one was equipped with a



Builder, firefighter, advocate: Report author Steve Weatherby

single sprinkler. Nine seconds after a fire was started in the unprotected room, the smoke alarm activated. In three minutes, flashover occurred. A fire started in the sprinklered room activated its smoke alarm at eight seconds. Once the temperature near the sprinkler reached approximately 150°F (66°C), the sprinkler activated and controlled the fire.

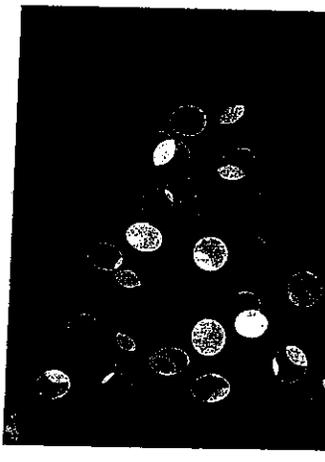
Home builders also argue that smoke alarms alone provide enough fire protection in homes. While there can be no doubt that smoke alarms have played a major role in reducing the number of fire deaths over the past two decades, approximately 3,000 people still die in home fires every year, even though about 95 percent of U.S. homes have smoke alarms.

"As a builder and fire officer, I still can't understand why there is continued objection to mandatory residential fire sprinklers," says Weatherby, who is also a captain in his local volunteer fire department. "I hope that the study I produced will help reinforce the life-saving benefits of fire sprinklers, and make an impact with the individuals who are working against mandatory fire sprinkler requirements."

NFPA President James Shannon hopes so, too. "There is no magic bullet solution to the problem of fire deaths," notes Shannon in this issue's "First Word." "But it would be illogical and indefensible for us not to work hard for the application of a technology that is available, affordable, and proven to be extraordinarily effective in protecting lives from fire."

For a copy of the Prince George's report, visit [www.HomeFireSprinkler.org](http://www.HomeFireSprinkler.org).

—Kathleen Robinson



**'Tis the Season**  
Christmas tree fires aren't common, but when they happen they tend to be severe. Consider this: From 2003 to 2007, on average, one of every 14 home structure Christmas tree fires resulted in a death, compared to an average of one death per 74 non-confined home structure fires overall. That's one of the findings in the new "Home Christmas Tree and Holiday Light Fires" report, recently released by NFPA's Fire Analysis and Research Division. For the full report, as well as a video of an NFPA side-by-side Christmas tree burn test, visit [www.nfpa.org/treeburn](http://www.nfpa.org/treeburn).



RESEARCH

## 'The ultimate side-by-side'

Measuring the soup-to-nuts environmental impact of fire

Attendees at the FM Global burn demonstration in early October were sworn to secrecy on the preliminary results of the burn, which measured the overall environmental impact of sprinklered versus non-sprinklered home fires.

Here's a hint, though: A home with sprinklers is a lot kinder to the environment than one without, especially in the event of a fire.

While that probably comes as no surprise, the real eye-opener promises to be the quantitative data gathered from each burn—the first time such information has been scientifically evaluated in terms of environmental impact. The burn, co-sponsored by commercial property insurer FM Global and the Home Fire Sprinkler Coalition, was described by Gary Keith, HFSC chair, as “the ultimate side-by-side burn.”

The research intends to establish the types, quantity, and duration of air and water pollutants released from a home fire, as well as the water usage from fire sprinklers and firefighters' hoses. It also plans to

measure the environmental impact resulting from burning household furnishings and finish material, as well as disposing the fire-damaged contents of a home. The research also hopes to quantify the carbon footprint associated with rebuilding a burnt home. FM Global officials say they hope to make the findings available sometime early in 2010.

About 50 observers, including a delegation from NFPA, attended the Oct. 1 event, held at FM Global's research campus in West Glocester, Rhode Island. Each burn test was conducted on a fully furnished living room, and ran for 10 minutes before firefighters extinguished the remaining fire. The fire in the sprinklered room was controlled by the sprinkler and resulted in minimal damage; the unsprinklered room was destroyed.

If one definition of “green” is any technology that has the effect of minimizing environmental impact, then sprinklers are decidedly green—the research results will tell us just how green. “We want to make the point that sprinklers are an important environmental consideration for the green movement,” Keith says, “and can be considered a positive aspect of green construction.”

—Scott Sutherland

For video, photos, and interviews from the FM Global burn, visit [nfpa.typepad.com/firesprinklerinitiative/](http://nfpa.typepad.com/firesprinklerinitiative/)

## **Americans Recognize Risk of Fire, But Don't Worry About It**

A nationwide survey conducted by the Society for Fire Protection Engineers (SFPE) revealed that more Americans believe fire is the event that will most likely cause harm to them or their family when compared to lightning strikes, hurricanes, earthquakes and floods. Forty-five percent of the survey respondents selected fire.

At the same time, only 18 percent of the respondents said they worry about the dangers of fire more than once a year.

"As a nation, there are widespread misconceptions about fire safety, and that's worrisome," said Chris Jelenewicz, Engineering Program Manager at SFPE. "Everyone should recognize that thousands of people die each year in fires, and be aware that fire safety features in a building play a critical role in protecting people, property and the environment from fire."

Americans are more likely to be harmed by fire when compared to natural disasters. For example, although natural disasters such as hurricanes and earthquakes are covered widely in the national news media, many more people die each year as a result of fire.

**For more information, go to [www.sfpe.org](http://www.sfpe.org).**



**FEMA's U.S. Fire Administration Endorses Residential Fire Sprinklers****The U.S. Fire Administration Announces its Support of a New Building Code Calling for the Use of Fire Sprinklers in New Homes**

After 30 years of testing, research and development, the Federal Emergency Management Agency's (FEMA) U.S. Fire Administration (USFA) has announced its support of the 2009 International Residential Code (IRC), which mandates the installation of fire sprinklers in all new homes beginning in 2011.

"Every day firefighters bravely enter homes to rescue people from fire and risk their lives under collapsing roofs and floors, because of the lightweight construction that's so prevalent these days in home building. This endorsement by the USFA comes as great news to fire service professionals across the country, who are supporting the IRC to include residential fire sprinklers as a critical component in fire protection in the home," said John Viniello, president of the National Fire Sprinkler Association, the longest-tenured fire sprinkler advocacy organization in the U.S.

The new IRC mandate, a response to the growing fire problem in the U.S., is an initiative that could prevent more than 3,000 fire-related deaths and 60,000 serious fire-related injuries across the nation each year. About 90 percent of all fires occur in the home, fueled by new lightweight construction and more flammable home contents. In fact, the new sprinkler regulations are being endorsed by fire service professionals across the country, such as the U.S. Fire Administration, the International Association of Fire Chiefs, the National Fallen Firefighters Foundation, and the International Association of Firefighters. Groups including these agree smoke detectors are no longer enough in residential fire protection, as lightweight construction has become more prevalent, house contents are more flammable than ever, and the time available to escape a house fire has reduced from 17 minutes 20 years ago to three minutes today, according to a cost-benefit analysis by FEMA.

"It is the position of the U.S. Fire Administration that all Americans should be protected from death, injury and property loss resulting from fire in their residences. All homes should be equipped with both smoke alarms and

residential fire sprinklers, and all families should have and practice an emergency escape plan. The U.S. Fire Administration supports all efforts to reduce the tragic toll of fire losses in this nation, including the recently adopted changes to the International Residential Code that require residential fire sprinklers in all new residential construction. The time has come to use this affordable, simple and effective technology to save lives and property where it matters most - in our homes," said Glenn A. Gaines, Acting Assistant Administrator for the U.S. Fire Administration.

USFA's research regarding residential fire sprinkler systems has indisputably demonstrated that residential fire sprinklers can save the lives of civilians and firefighters and can reduce property loss as well as offset the risk of premature building collapse by lightweight construction when involved in a fire.

# FIRE SPRINKLERS

The Gadget That Can Save

## LIVES - Property - Money



### New Report Finds Sprinkler Ordinances Don't Hurt Housing Construction or Prices

County-wide mandates for life-saving sprinklers do not result in reduced housing supplies, compared to counties without sprinkler requirements

July 15, 2009 — The results of a new study conducted for the National Fire Protection Association (NFPA) concluded that the presence of sprinkler ordinances has no negative impact on the number of homes being built.

Conducted by Newport Partners, Comparative Analysis of Housing Cost and Supply Impacts of Sprinkler Ordinances at the Community Level compared residential construction in four counties; Montgomery County, Maryland, was paired with Fairfax County, Virginia, and Prince George's County was paired with Anne Arundel County, both located in Maryland. Montgomery County and Prince George's County have sprinkler requirements; Fairfax County and Anne Arundel County do not. The selected areas, all developmentally mature, cover a wide geographic area and contain a variety of housing stock and income levels, making them prime for comparing municipalities with and without sprinkler ordinances in place.

"This study clearly demonstrates that home fire sprinkler requirements do not impede housing development starts," says Jim Shannon, NFPA president. "This report is another point to make the case for enacting life-saving sprinkler requirements in local communities."

Sprinkler ordinances were enacted in Montgomery and Prince George's Counties in several stages, beginning in the late 1980s, but never in Fairfax County. Anne Arundel County adopted a requirement for single-family detached residences this year; this study looked at Anne Arundel County

*Continued on Page 54*

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PEI

### SPRINKLER REPORT from Page 52

housing starts prior to the ordinance. No reduction in the number of single-family homes built in either Montgomery County or Prince George's County accompanied the enactment of ordinances, compared to the other two counties in the study that do not have sprinkler ordinances. Rather, both Montgomery and Prince George' counties saw larger relative increases in construction in the year after the ordinances went into effect, compared to the other two counties.

Data for the analysis included annual single-family building permits, surveys of housing and households, local documents and news reports released before and after adoption of residential sprinkler requirements, as well as reviews of other housing regulations. Interviews with key builders, trade association staff and local government officials were also conducted.

In interviews, builders and staff of the Maryland-National Capital Building Industry Association (MNCBIA) all indicated that the sprinkler requirements did not significantly affect the volume, character or price of the construction of new homes. According to the report, "None of the statistical or interview information demonstrated that the requirements led to reduced housing supply."

All model safety codes now require the use of fire sprinklers in new one- and two-family homes. These requirements offer the highest level of safety to protect people and property. To review the complete finding from this report, please visit the Fire Sprinkler Initiative's Website at [www.firesprinklerinitiative.org](http://www.firesprinklerinitiative.org). The report can be found under "Research and Reports."

About the Fire Sprinkler Initiative:  
Bringing Safety Home

The Fire Sprinkler Initiative, a project of the National Fire Protection Association, is a nationwide effort to encourage the use of home fire sprinklers and the adoption of fire sprinkler requirements for new construction.

About the National Fire Protection Association  
NFPA has been a worldwide leader in providing fire, electrical, building and life safety to the public since 1896. The mission of the international, nonprofit organization is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training and education. Visit NFPA's Web site at [www.nfpa.org](http://www.nfpa.org)

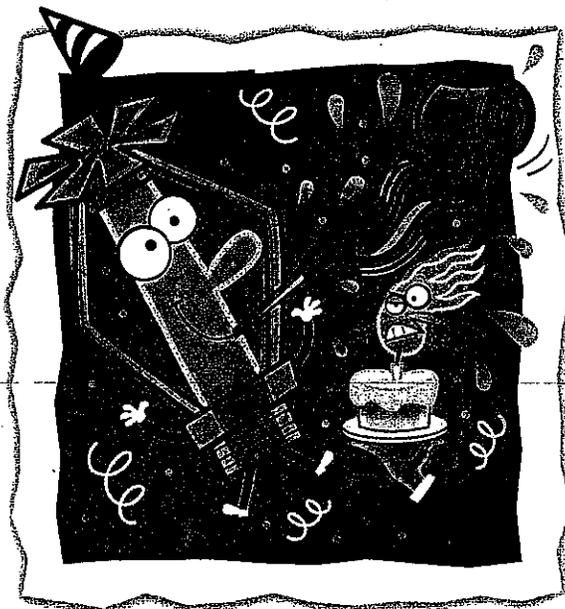
# Anniversary Time

Recalling three big years in the development of automatic sprinklers.

**Anniversaries provide** a special opportunity to look back at milestones in the development and recognition of automatic sprinklers. It was 10 years ago, in 1999, that the Federal Emergency Management Agency recommissioned *America Burning*, leading to the publication of an updated report on the fire problem in the United States. One of the principal findings was this: "The most effective fire loss prevention and reduction measure with respect to both life and property is the installation and maintenance of fire sprinklers."

Fifteen years ago, in 1994, the U. S. General Services Administration (GSA) addressed the issue of how effective sprinklers are, under an obligation imposed by the Federal Fire Safety Act of 1992. After studying the issue, the GSA determined that an automatic sprinkler system could provide life safety from fires by preventing flames from leaving the room of origin, limiting the fire size to no more than 1 megawatt, and preventing flashover in the room of fire origin.

Preventing flames from leaving the room of origin ensures that the fire does not continue to grow and spread. Limiting the size of the fire to no more than 1 megawatt ensures that the total impact of the fire will be manageable. Without sprinklers, a fire in even a single upholstered chair can grow to 2 megawatts, while a sofa fire can reach 4 megawatts. Fires in small rooms can quickly grow to flashover, when heated gases at the ceiling ignite



all combustible items in an enclosure simultaneously. Preventing flashover in the room of fire origin limits the production of toxic gases that can spread to adjacent areas even in cases where the fire itself is contained.

Even the 1-megawatt fire is a maximum based on conservative assumptions relative to ceiling height and sprinkler response. In typical rooms, sprinklers are expected to respond when then fire is considerably smaller, on the order of a tenth to a quarter of a megawatt, or the range from a small to large wastebasket fire. This is because of the significant technological advancement that took place 30 years ago: the development of a new generation of fast-response sprinklers.

The Los Angeles residential sprinkler test series, in which fast-response prototype residential sprinklers were field-tested for the first time, took place in the summer and fall of 1979, and included 60 full-scale fire tests

that demonstrated the ability of the new sprinklers to provide life safety even in small residential compartments.

The residential sprinklers were the first in the family of fast-response sprinklers, a family that grew to include ESFR (early suppression fast response) sprinklers for storage applications, as well as QR (quick response) and QREC (quick response extended coverage) sprinklers for light and ordinary hazard applications. These sprinklers all employ fusible links or bulbs that are more thermally sensitive than those of traditional sprinklers, allowing them to react faster

to the heat of a fire. This is done by reducing mass in the sensing element, using a thinner link or smaller-diameter bulb, while maintaining the strength of the sprinkler assembly needed to hold back the water pressure in the absence of a fire. Faster sprinkler response leads to more rapid control of the fire, which means that, in many cases, only one or two sprinklers closest to the fire will need to operate to provide control or suppression.

Today, NFPA's sprinkler system installation standards mandate the use of these fast-response sprinklers in almost all areas in which people live, work, and play. On the 30th anniversary of the Los Angeles residential fire tests, the level of protection fire sprinklers provide is higher than ever. ❁

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**RUSS FLEMING, P.E.**, is executive vice-president of the National Fire Sprinkler Association and a member of the NFPA Technical Correlating Committee on Automatic Sprinklers.

## Living Safe

# When Will We Learn?

With the holidays upon us, the smell of delicious food cooking will quickly turn into food burning if we do not pay attention to the task at hand. You have heard me say over and over again that cooking is a full-time job.

We had a day recently where no fewer than twelve cooking-related incidents occurred

in our county. Some ranged from food on the stove that got burnt and smoked up the house or apartment, to fires that did some level of damage to the kitchen and home.

It has been shown that, since people continue to do things that cause cooking related fires, smoke alarms and residential sprinklers are needed to offer the greatest level of protection. In other words, these protective measures are absolutely needed because the chances are so great that most people will experience a cooking-related fire in their home or apartment.

It takes three things to have a fire – heat, fuel and oxygen.

Pete Hypes



All three are present every time you cook, and, in the case of a gas stove, you even have the fire. If cooking is something that we all do and cooking results in 3.5 out of every 10 residential fires, then we must keep our head in the cooking game.

I know that you may get tired of hearing me say the same things over and over, but until you get it, I am going to keep saying it. You have heard me say before that most firefighters love to fight fires. It does not matter whether the fire is at your house or mine. If you are not home and your nice new front door is locked, don't worry, we carry a universal key. The only problem is that you may need a new front door. Also, if your kitchen is burning, that nice bay window that you like to look out while drinking your coffee will be broken out to allow the heat and smoke to be removed. As far as the 150 to 200 gallons per minute of water that we will flow to extinguish the fire, it may cause some collateral damage that cannot be avoided.

You may say I am being too harsh, but these fires are happening every single day! I leave you with this – unexpected guests will come to your home at meal time if your cooking gets out of hand. Be safe and enjoy the holidays.



# Sprinklers Save Lives, Property AND MONEY!

## Limiting Fire Department Costs

Sprinkler ordinances are especially considered in communities where homes are built in areas that are not easily served by the fire department, or where the fire department would have to be expanded to serve the growth of the community. Homes can be built farther from a fire department, and the fire department would not have to be expanded - saving tax dollars.

## Construction Cost Savings

The Uniform Building Code provides design and construction options for sprinklered buildings which are not available to non-sprinklered structures. Design flexibility provided by some communities to sprinklered developments includes narrower street widths, steeper street grades, more space between fire hydrants, more distance from houses to the road, etc.

A study done in Scottsdale, Ariz., in 1986 found that residential sprinkler systems were costing \$157.24 for a typical 2000 sq.ft. home. The initial cost was \$2053, but after the trade-offs, both on- and off-site, the system actually cost \$157.24," said Assistant Fire Chief Frank Hodges of the Rural Metro Fire Department in Scottsdale, Ariz.<sup>15</sup>

## Insurance Rate Reductions

The effectiveness of automatic fire sprinklers in reducing fire losses has been recognized by the insurance industry for nearly a hundred years. Check with your insurance agent for information on insurance credit for residential sprinklers.

## Sprinklers Are Effective

The U.S. Fire Administration reports the following information about Residential Sprinkler Systems:

- U.S. Department of Energy reports no loss of life and greatly reduced property loss in fires from 1952-1980 in sprinkler-protected facilities of all types.

- Sprinklers are extremely effective. Excluding deaths caused by explosion or flash fire, there has been no known occurrence of multiple loss of life in a fully sprinklered building, where the sprinkler system was properly operating, due to smoke or fire.

- In most cases, a single sprinkler head is sufficient to control a fire while it is still small.

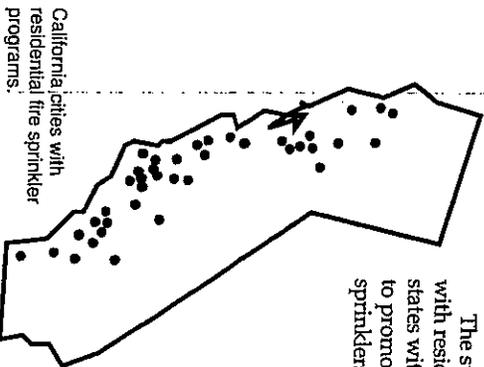
## Fire Sprinkler Performance

Approximately 100,000 fire incidents have been recorded in studies conducted by six organizations from 1886-1978. The results indicate outstanding performance by fire sprinkler systems over a period of 92 years.

Area of Study	Time-Span	# of Fires	Success
Australia and New Zealand	1886-1968	5,734	99.8%
New York City High-Rise	1969-1978	1,648	98.4%
New York City Low-Rise	1969-1978	4,061	95.8%
Nat. Fire Protection Assoc.	1925-1969	81,425	96.2%
U.S. Navy (shore facilities)	1964-1977	724	95.7%
Factory Mutual Research	1973-1977	3,292	86.1%

## Residential Sprinkler Ordinances

The state of California contains the most cities with residential fire sprinkler programs. Other states with cities that have established a program to promote or require the use of residential sprinklers include:



- |               |                |
|---------------|----------------|
| Alaska        | Nevada         |
| Arizona       | New Hampshire  |
| Colorado      | New York       |
| Connecticut   | North Carolina |
| Florida       | Oklahoma       |
| Georgia       | Pennsylvania   |
| Illinois      | South Carolina |
| Indiana       | Texas          |
| Maine         | Utah           |
| Maryland      | Virginia       |
| Massachusetts | Washington     |
| Michigan      | Wisconsin      |
| Montana       |                |

California cities with residential fire sprinkler programs.

A comprehensive automatic sprinkler requirement was instigated in 1964 in Fresno, California, and more than 5.7 million sq. ft. of commercial buildings were equipped with sprinklers. A study done in 1984 compared the fire losses before and after the city adopted a sprinkler ordinance. They found a 93.8 percent reduction in property loss after the sprinklers were installed.

Years	Total Fire Loss	Loss/per year	Number of fires
1954-1969	\$1.3 million	\$90,080	62
1970-1984	\$82,573	\$5,504	67

## The Facts About Fire Sprinklers

Automatic sprinkler systems have enjoyed an enviable record of protecting life and property for over 100 years. Yet, there are still common misunderstandings about the operation and effectiveness of automatic fire sprinkler systems:

**Myth:** "Water damage from a sprinkler system will be more extensive than fire damage."

**Fact:** • Water damage from a home sprinkler system will be much less severe than the damage caused by water from fire-fighting hose lines or smoke and fire damage if the fire goes unabated.

• Quick response residential sprinklers release 13-18 gallons of water per minute compared to 125 gallons per minute released by a single fire hose.

**Myth:** "When a fire occurs, every sprinkler head goes off."

**Fact:** • Sprinkler heads are individually activated by heat.

• Residential fires are usually controlled with one sprinkler head.

• 90% of all fires, including those in commercial structures, are controlled with six or fewer heads.

• A study conducted in Australia and New Zealand covering 82 years of automatic sprinkler use found that 82% of the fires that occurred were controlled by two or fewer sprinklers.

**Myth:** "A smoke detector is enough protection."

**Fact:** • Smoke detectors save lives by providing a warning system but can do nothing to extinguish a growing fire or protect those physically unable to escape on their own, such as the elderly or small children.

• Too often, battery operated smoke detectors fail to function because the batteries are dead or have been removed.

• According to NFPA, the combined protection of a smoke detector and a fire sprinkler system could reduce the fire death rate per thousand fires by 82%.<sup>16</sup>

**Myth:** "Sprinklers are designed to protect property, but are not effective for life safety."

**Fact:** • Sprinklers provide a high level of life safety.

• NFPA has no record of a fire killing more than two people in a completely sprinklered public assembly, educational, institutional or residential building where the system was properly operating.<sup>17</sup>

• Property losses are 85% less in residences with fire sprinklers compared to those without sprinklers. The combination of automatic sprinklers and early warning systems in all buildings and residences could reduce overall injuries, loss of life and property damage by at least 50%.

**Tom Herman**

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**From:** "Jack Sullivan" <jacksull@mindspring.com>  
**To:** <tom-herman@worldnet.att.net>  
**Sent:** Sunday, January 30, 2005 1:11 PM  
**Subject:** Report: firefighters taking longer to get to

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1-30-2005

Report: firefighters taking longer to get to fires

By Associated Press

**BOSTON - Firefighters from departments across the country are arriving at fires later each year, giving fires longer head starts, and barely over a third of calls nationwide meet national standards for response time, according to an analysis by The Boston Globe.**

In Massachusetts, only 54 percent of local fire departments were able to get to 90 percent of building fires within six minutes, a standard set in 2001 by the National Fire Protection Association.

People waited 10 minutes or more for firefighters at 214 building fires in 2002, the last year that data was available, and there have been 2,786 such fires since 1990.

Nationwide, only 35 percent of departments were able to meet the six-minute goal in 2002, compared to 75 percent in 1986, when alarm times first began to be collected.

"Fire protection in America is a myth," said Vincent Dunn, a retired New York City Deputy fire chief and author of books on fire safety.



"These two subjects are the dirty little secrets of the fire service: The response times outside the center cities are too great, and the personnel responding, inside and outside the center cities, are too few. No one wants to talk about that."

1/30/2005

The Globe reviewed public records of 3.3 million building fires collected by the National Fire Incident Reporting System by 20,000 fire departments nationwide. The paper published the findings Sunday in the first of a two-part series.

The paper's review may be the first systematic effort to measure fire department performance using the response time data, which has been collected since 1986 under the reporting system, which is kept by the U.S. Fire Administration.

The Globe found that more than 4,000 people died in fires \_ or about five per week \_ in which the firefighters took more than six minutes to respond. The true number is probably higher, because fewer than half of structure fires are reported to the database, and reporting is voluntary.

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The six-minute standard is a guideline, not law, based on the NFPA's estimation that a 911 call takes a minute to field, and firefighters take another minute to gear up and four to arrive at a fire. The NFPA does not seek perfection; the association recommends meeting that standard in 90 percent of calls.

It's difficult to tell how many deaths would have been prevented had firefighters arrived sooner, given that every fire is unique and occupants are sometimes dead even before 911 was dialed.

But there's little doubt that probability of death increases as minutes pass, according to Elaine Allen, a statistics professor at Babson College who reviewed the Globe's findings.

"Every minute counts," Allen said.

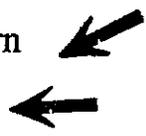
The standard has not been embraced. The National League of Cities and many small fire departments have opposed the NFPA standard, arguing that the benchmark cannot be made to fit every community. The International Association of Fire Chiefs has endorsed it.

➔ "The key is getting water on the fire. We've got get enough people in there

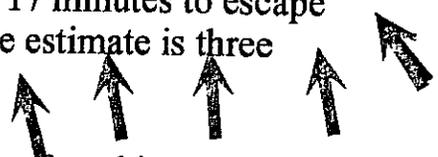
1/30/2005

quickly," said Chief Billy Goldfeder, who heads the fire department in Loveland-Symmes, Ohio, a Cincinnati suburb. "It all ties to money, what people are willing to pay for."

The problem is also exacerbated by newer, fuel efficient homes, which burn hotter because the construction holds in the heat. New roofs also collapse faster because prefabricated trusses go up faster, and modern furnishings tend to burn faster.



In the 1970s, scientists at the National Institute of Standards and Technology found that at that time, people had about 17 minutes to escape before being overcome by heat and smoke. Today, the estimate is three minutes.



The Globe found that slow-responding departments are found in a wide-range of communities: wealthy communities like Bellevue, Wash., poor urban areas like East St. Louis, Ill., and fast-growing suburbs, like the counties around Atlanta.

Some communities touted as attractive "cheap towns" to live in because of low taxes also have low response times. Bend, Ore., cited by Forbes magazine as a top "cheap town," had an on-time response rate of 18 percent.

Fire chiefs say firefighters are taking longer to get to fires because of more work and fewer staff.

Though the number of fires nationwide has declined with fire prevention efforts, the number of calls to departments has doubled over the last 20 years, in part because fire departments began handling ambulance calls in the 1970s and 1980s, but also because people routinely call over perceived emergencies, such as bats in the attic, flooding, and strange noises.

And fire department budgets are shrinking. The Globe calculated, using U.S. Census data, that fire spending went from an average of 6.1 percent of municipal spending in 1987 to 5.7 percent in 2003.

In Massachusetts, 800 paid firefighters have been lost since Sept. 2001 through layoffs and attrition.

1/30/2005

Residents may not see the need to increase spending. In Ipswich, a seaside town north of Boston, residents voted down plan to hire eight firefighters at \$786,800 per year.

The request was made after a mother and her two young children died in a house fire broke out in 2001 and there was no one in the firehouse a few blocks away, because all three firefighters on duty were on emergency calls and couldn't arrive at the home on time.

"It would have passed," said Ipswich Fire Chief Henry Michaelski, "if we'd had the vote at the funeral."

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[http://www.seacoastonline.com/news/01302005/south\\_of/61971.htm](http://www.seacoastonline.com/news/01302005/south_of/61971.htm)

**NOTE: The City of Richmond, Va. Has eliminated 40% of it's fire companies over the past 30 years and has reduced staffing by almost 50% !**

**Thomas L. Herman  
RFD Historian**

1/30/2005

12-9-09  
**Disabled vet dies in fire in S. Richmond**

11-3-09  
**Fire in eastern Henrico fatal to two half brothers**

**AROUND THE STATE**

11-19-09  
**Richmond apartment fire sends nine to hospitals, 27 displaced**

12-8-09  
**Hiltons Ave. house fire kills the husband of the director of the Cancer Fund. Officials say three volunteer firefighters responded to the fatal house fire early Sunday near Hiltons. The fire killed Bob Forester, 57, and his wife, Rita, 50. The fire destroyed the home at the intersection of Westwood Avenue and...**

11-26-09  
**Henrico fire kills mother and 2 children**

12-3-09  
**Woman is killed in Caroline house fire**  
A Caroline County woman died in a house fire early Sunday. The fire destroyed the home at the intersection of...

6-08  
**Body is found after Sunday home fire**

**Henrico investigating fire**



Two bodies were recovered from a blaze that consumed a home in Henrico. Fire investigators said the bodies were found in the basement. The fire broke out in the early morning hours of Sunday. The cause of the fire is still under investigation.

Scenes from a tragedy  
A woman and her two children were killed in a house fire in Henrico. The fire broke out in the early morning hours of Sunday. The cause of the fire is still under investigation.

10-21-08  
**Divwidere Officials await ID of fire victim**

Investigations department officials said the fire broke out in the early morning hours of Sunday. The cause of the fire is still under investigation.

6-08  
**Woman became disoriented in fatal**

Investigators identify victim in Petersburg, say blaze was...

A person died in an early-morning blaze...



# Weekend fire kills Campbell couple

Fire appears to have started inside house; no evidence of arson

BY DAVE THOMPSON  
Media General News Service

LYNCH STATION — A weekend fire killed a Campbell County couple inside their home and left nothing but the foundation and a deck standing.

Daughter says the victim was 43 and a longtime...

3-21-08  
Body discovered in Henrico house fire

The fire chief said this blaze in Brockway, Pa., early yesterday had a good head start when firefighters arrived. It melted the siding of a neighboring house.

## 10 die in Pa. house fire

Woman, 9 others under 20 are victims; most were related

Wis. house fire kills 3 kids left home alone

Five children die in Arkansas house fire

Chasapeake Fire officials say a 19-year-old woman was killed in a house fire that killed three people Thursday. Fire officials have not released the names of the victims, who were in a room above the garage at the home. One victim apparently was unable to help the others who became trapped with them.  
— From Staff and Wire Reports  
2-23-08

# Two fires in Danville area kill four people, injure one

Among the victims: a couple who'd just had their 62nd anniversary

SATURDAY, JANUARY 5, 2008

VIRGINIA'S NEWS LEADER • INRICH.COM • A MEDIA GENERAL NEWSPAPER

# Central Va. fires killed 20 in 2007

R. EDWARD (ED) RHODES

POST OFFICE BOX 29647

RICHMOND, VIRGINIA 23242

TELEPHONE: 804.360.8922 • FACSIMILE: 804.360.8502

E-MAIL: RH007@COMCAST.NET

By Electronic Mail

July 5, 2009

Mr. Steve Calhoun  
Department of Housing and Community Development  
501 North Second Street  
Richmond, Virginia 23219-1221

Mr. Calhoun:

I write this letter as public comment concerning the proposed Uniform Statewide Building Code as an individual. These regulations are now under consideration by the Board of Housing and Community Development.

My apprehension is that the inclusion of residential sprinklers will not be retained in the model code. All of the arguments being exploited by the opponents are not defensible with facts. The HBAV website even has misleading information posted to scare the public. The same tactics being used now are the same as twenty years ago with smoke alarms.

But now, occupants only have three minutes to vacate a single family dwelling that is on fire, with the time beginning when the smoke alarm sounds! What happens to those who are too young or are physically challenged? New technologies are normal in construction (light-weight construction) and furnishings are more flammable and produce more toxic smoke causing a faster burn and less time to evacuate.

Last month, the Codes and Standards Committee passed a proposal on residential sprinklers submitted by the Virginia Homebuilders Association. The Notice of Intended Regulatory Action (NOIRA) states that the proposed regulations "*have been vetted through the client groups affected by the USBC and have met no opposition.*" This could not be further from reality. This proposal has opposition and has yet to be discussed by any of the stakeholder groups. All of the arguments presented by the homebuilders have been heard at the national level and without success. This proposal needs to be withdrawn and allow it to go through the same process as all the other proposals without preferential treatment.

In closing, after retiring from the fire service with thirty years of service, I know that residential sprinklers save lives and reduce property damage. I would ask that the Board of Housing and Community Development remove the Virginia Homebuilders Association's submission from the proposed regulations and let the system work, as best as it can, for the betterment of our citizens and firefighters. What is the price of a loved one's life when it could have been saved by residential sprinklers?

Sincerely,



R. Edward Rhodes

Construction

Automotive

Industry

3 rd August

Board of Housing and Community Development  
Main Street Centre  
600 East Main Street, Suite 300  
Richmond, VA 23219  
Attention: Mr. Tom Fleury, Chairman

Dear Chairman Fleury:

A recent decision by the International Code Council (ICC) has resulted in a residential sprinkler requirement for all new one- and two-family homes and townhouses. As you are aware, in Virginia these requirements are subject to review and adoption by the BHCD. Currently, there is legislation in Virginia that, if passed, would prohibit this latest safety requirement for new home construction.

I am writing to you to encourage the BHCD to adopt the new residential sprinkler mandate when it updates the 2009 IRC for Virginia. Nearby Montgomery County, MD has long since created such a mandate along with most other US states that will adopt the ICC requirement. By prohibiting the mandate of fire sprinkler systems in new one- and two-family homes, Virginia residents would be placed at unnecessary risk.

Many of our places of employment, education and civic buildings are already protected by sprinklers. The place where families are most vulnerable - their homes - should be protected by sprinklers, as well.

Nearly 80 percent of all fire deaths occur at home. Each year, approximately 3,000 people die in home fires, and sprinklers would have saved the vast majority of them. If you have a reported home fire, the risk of death is reduced by 80 percent with sprinklers. Home fire sprinklers save lives.

Careful consideration of this most important issue is necessary. The safety of Virginia residents must be the guideline for the Virginia Uniform Statewide Building Code (USBC). The BHCD should fully adopt the ICC mandate for residential fire sprinklers in the Virginia USBC.

Sincerely,



Peter Wallace  
Head of Key Account management  
REHAU Automotive LLC.

March 27, 2009

Virginia Board of Housing and Community Development,  
The Jackson Center  
501 N. Second St.  
Richmond, VA23219

Dear Sirs:

I am writing to ask you not to adopt the requirement to install fire sprinkler systems into all new one and two family dwellings.

- Data shows that smoke alarms have provided a substantial drop in fire fatalities. The rate of fatalities is exceptionally low in new construction where each bedroom and level is required to have a hard wired smoke detector with battery backup.
- Sprinklers will actually increase insurance rates due to potential for property damage.
- Sprinklers will increase the cost of new housing and thus increase the cost of all housing. This said, taxes will be increased unnecessarily on most new and existing residences due to higher property assessments.

For these reasons, please do not vote to require fire sprinklers in all new homes.

Sincerely,



Robert Lanphear  
3709 Wakefield Road  
Richmond, VA 23235

**Shelton, Bill (DHCD)**

---

**From:** David Larimer [dlarimer@netscope.net]  
**Sent:** Monday, September 14, 2009 3:32 PM  
**To:** Shelton, Bill (DHCD)  
**Subject:** FW: I Strongly Oppose the Residential (Fire) Sprinkler Systems Proposal (Forwarded E-Mail from Senator Puckett)

Bill:  
FYI-  
Please see below e-mail.

Thank you very much!!  
David

David T. Larimer, II  
Office of Senator Phillip Puckett  
38th District  
Senate of Virginia  
(276) 979-8181

-----Original Message-----

**From:** Bill Smith [mailto:smithwythe2@yahoo.com]  
**Sent:** Thursday, September 10, 2009 3:14 PM  
**To:** Phillip Puckett; Roscoe Reynolds  
**Subject:** I Strongly Oppose the Residential (Fire) Sprinkler Systems Proposal

The Virginia Board of Housing and Community Development is considering requiring home-sprinkler systems in new all new residential construction.

Please receive this for the record as my strong opposition to the proposed requirement for residential sprinkler systems for fire protection.  
I have been involved in the residential construction industry for 32 years.

William J. Smith  
395 Chapman Rd.  
Wytheville, VA 24382  
smithwythe2@yahoo.com  
276-228-4888  
276-228-5985  
276-228-5987 Fax

9/15/2009

# SENATE OF VIRGINIA



WM ROSCOE REYNOLDS  
20th SENATORIAL DISTRICT  
ALL OF CARROLL FLOYD HENRY AND PATRICK COUNTIES;  
ALL OF THE CITIES OF GALAX AND MARTINSVILLE  
AND PART OF GRAYSON AND WYTHE COUNTIES  
POST OFFICE BOX 404  
MARTINSVILLE VIRGINIA 24114-0404  
EMAIL: DISTRICT00@SENATE.VIRGINIA.GOV

COMMITTEE ASSIGNMENTS:  
AGRICULTURE CONSERVATION AND  
NATURAL RESOURCES  
COURTS OF JUSTICE  
FINANCE  
LOCAL GOVERNMENT

September 10, 2009

William C. Shelton, Director  
Department of Housing and Community  
Development  
Jackson Center  
501 N. 2<sup>nd</sup> Street, 4<sup>th</sup> Floor  
Richmond, VA 23219-1321

**VIA: Fax Transmittal – 804-371-7090**

Dear Director Shelton:

Enclosed herewith, please find a copy of an email to me from William J. Smith indicating his strong opposition to adopting regulations requiring home sprinkler systems in all new residential construction.

I wanted to make sure that Mr. Smith's concern was called to your attention.

I would be grateful if you could have someone from staff contact Mr. Smith and discuss with him in detail why he believes this is a bad idea.

Thank you very much.

Sincerely,

Wm. Roscoe Reynolds

WRR:ew

Enclosure

**From:** Bill Smith (smithwythe2@yahoo.com)  
**To:** Phillip Puckett; Roscoe Reynolds  
**Date:** Thursday, September 10, 2009 3:14:11 PM  
**Subject:** I Strongly Oppose the Residential (Fire) Sprinkler Systems Proposal

The Virginia Board of Housing and Community Development is considering requiring home-sprinkler systems in new all new residential construction.

Please receive this for the record as my strong opposition to the proposed requirement for residential sprinkler systems for fire protection. I have been involved in the residential construction industry for 32 years.

William J. Smith  
395 Chapman Rd.  
Wytheville, VA 24382  
smithwythe2@yahoo.com  
276-228-4888  
276-228-5985  
276-228-5987 Fax

JULY 21, 2009  
BACD PUBLIC HEARINGS

Good morning. My name is Keith Brower. I am the Chief Fire Marshal for Loudoun County, Virginia. I am here today representing the position of the Loudoun County Board of Supervisors who have asked you to enact residential sprinkler requirements as part of the 2009 code cycle.

In 1986, knowing that unparalleled residential growth was imminent, the Loudoun County Board of Supervisors approved the creation of a consortium to study residential sprinklers. That study was completed in 1987 and contained recommendations to pursue residential sprinklers in the code process as well as through legislation, as needed, and to encourage homebuilders to voluntarily install residential sprinklers. Dissapointingly, some 23 years later, Loudoun County and Virginia are still at the starting line for the most part. State building codes and laws have not resulted in residential sprinklers for 1 and 2 family dwellings and townhouses and voluntary compliance has simply not worked. How will the new voluntary code change alter things?

We need residential sprinklers as today's fires are rapid energy release fires. Fed by synthetics and plastics, and in combination with unprotected engineered construction components, fires are quickly flashing over and causing structural collapsing with unprecedented speed. Occupant escape time has been reduced and firefighter danger has increased. You may have heard of Loudoun's near miss, fully involved house fire on Meadowood Court on May 25, 2008 where we almost lost 4 firefighters who became

trapped in a collapse while conducting a search on the second floor. I can give you the web site with the video that tells all.

By contrast, on June 8, 2009 a fire occurred in a 4-story sprinklered townhome in Sterling when an occupant of the home placed a pizza box on the kitchen stove and left. Within moments, the box caught fire. The smoke alarm inside the residence activated. It did not set off the sprinklers, as they don't activate on smoke. Then the fire was extinguished by a single residential sprinkler head that activated due to the heat. All the sprinklers did not go off, just the 1 exposed to the heat. Fire damage was confined to a 3' x 3' area above the stove, there was no heat or smoke damage and there was no danger posed to occupants or firefighters. There was water damage, probably about 250 gallons from the sprinkler head. Far less, however, had the home required 10-15 minutes of water from our fire hoses which flow at 150-200 gallons per minute.

Ladies and gentlemen, residential sprinklers work. The need is there and it is time for Virginia to become a leader as opposed to continuing to resist the ever improving and ever affordable advances of residential sprinklers. Continuing to rely on voluntary efforts amounts to putting one's head in the sand if the last 23 years of Loudoun County's experience is the indicator. I encourage you today to reject the code change for voluntary residential sprinklers, as this is not what the national model code requires. Instead, require the fire service, the home building industry and the allied professions to develop and submit a truly consensus and meaningful proposal that works and will save the lives of future Virginians.

Good morning Mr. Chairman and members of the board. I am Ed Rhodes and I represent a number of organizations that you will hear from today.

I want to briefly discuss residential sprinklers and to tell you that you will hear conflicting testimony from both the fire service and those who oppose residential sprinklers. You will hear how modern technology and better construction practices have made new homes safer for the consumer. But technology and construction has changed our profession immensely from when I first started over 35 years ago. No, I was not around when the horses pulled the fire equipment as some of my colleagues would have you believe. Today, the residential structures that we respond to are more dangerous, constructed of light weight components that are prone to early collapse. We face fires daily that can double in size every 30 to 60 seconds.

Keeping that last statement in mind, let us add this to the equation. In 2008, there was \$325 million in property and contents loss in the Commonwealth of Virginia due to fire; the fire service saved over \$6.0 billion in property and contents; and there were 544 civilian casualties and 336 fire service casualties. Through April of this year alone, there have been 26 civilian fire deaths in Virginia.

Now, again remembering the previous fact about fire doubling in size, the average time for evacuation from a residence is approximately 3 minutes. Let me repeat that – 3 minutes to get out of the house! This is before the structure becomes uninhabitable. Now, add in the fact that the average fire department response time is 6.9 minutes. That is an overall, statewide average that includes both career and volunteer departments.

Let me repeat this information so that each of you fully understands what we in the fire service are faced with on a daily basis with the current building practices.

1<sup>st</sup> – the fire doubles in size every 30 to 60 seconds

2<sup>nd</sup> – Escape time is 3 minutes, if you are not physically challenged or an infant.

3<sup>rd</sup> – Average fire department response time is 6.9 minutes

Yet, we in the fire service must understand the dynamics of the fire environment and the critical lines that we operate in. We are forced to make stressful decisions based on imperfect information and come up with a plan. All of this is time sensitive. When it is your house or your life or your family's life that is in peril, would you not want all of the protections afforded to you no matter the cost? What is the cost of someone's life? Given these facts, residential sprinklers are proven to be cost effective, affordable and they save lives.

We do not get the chance to do it over, we get one try and it better be right or we get to live with it.

In closing, Mr. Chairman, the opponents to residential sprinklers will use tactics that were used for over 20 years – it will increase the cost. It was used for smoke alarms, carbon monoxide alarms, now sprinklers and the DCR water quality regulations. Even to using wrong information on their website – smoke does not and never has set off a sprinkler.

Which would you rather have – a single head putting out 10 to 12 gpm in a room or a firefighter with a hose putting out 100 gpm or a nozzle in the bedroom window, putting out 250 gpm for a single room and draining it out the front door? Their arguments are old news!

Mr. Chairman and members of the board I implore you to reverse the decision of the Codes and Standards Committee on residential sprinklers and let this proposal be properly vetted by all of the stakeholders that are in this room. Remember, every argument, both for and against, has already been heard at the ICC meetings.

Thank you and I will glad to answer questions.

1 APSP-7. We would like for this Board to reject the  
2 implementation of the APSP-7 at least until the meeting in  
3 September comes to a conclusion in regard to what the  
4 ICC ruling. We look forward to working with the Board  
5 and other stakeholders regarding this process.

6 MR. CALHOUN: Ed Rhodes followed by David  
7 Thomas.

8 MR. RHODES: Mr. Chairman and Board  
9 members, good morning. My name is Ed Rhodes and I  
10 represent a number of fire service organizations  
11 throughout the state and you'll be hearing from them  
12 today also. I want to briefly discuss residential sprinklers  
13 and tell you that you'll hear probably conflicting testimony  
14 from both fire services and from the opponents of this  
15 proposal. You'll hear how modern technology and better  
16 construction practices make new homes safer for the  
17 consumers. Technology and construction has changed  
18 our profession and fire services from when I first started  
19 35 years ago. Now, I was not around when horses pulled  
20 the fire wagons and equipment some of my colleagues  
21 would have you believe. Today residential structures that  
22 we respond to are more dangerous, construction of  
23 lightweight components that are prone to early collapse.  
24 We've faced daily challenges with fires that can double in  
25 size every 30 to 60 seconds. Keeping that last statement

1 in mind, let us add to this equation. In 2008, there was  
2 \$325 million in property damage and contents loss in the  
3 Commonwealth of Virginia due to fire. The fire service on  
4 the other hand, saved over \$6 billion in property and  
5 contents. There was 544 civilian casualties and 336 fire  
6 service casualties. In April of this year alone there were  
7 26 civilian fire deaths in the state. Now, remembering the  
8 previous facts about doubling in time, the average time for  
9 evacuation from a residence is three minutes. Let me  
10 repeat that, three minutes to get out of the house. This is  
11 before the structure becomes uninhabitable. Now, add  
12 the fact that the average fire response time 6.9 minutes  
13 and that's an overall statewide average through both  
14 career and volunteer departments. I want to reiterate that  
15 fact so each of you can fully understand what we in the  
16 fire service are faced with on a daily basis with the current  
17 building practices. First the fire doubles in size every 30  
18 to 60 seconds. Two, the escape time is three minutes if  
19 you're not physically challenged or an invalid. Third, the  
20 average fire department response time is 6.9 minutes, yet  
21 we in the fire service most understand the dynamics of the  
22 fire environment and the critical line we operate in. We're  
23 forced to make special decisions based on imperfect  
24 information and come up with a plan. All of this is time  
25 sensitive. When it's your house or your life or your

1 family's lives is in peril, do you want, would you not want  
2 all the protection afforded you no matter what the cost?  
3 What's the cost of someone's life? Given the fact that  
4 residential sprinklers have proven to be cost effective and  
5 affordable. We do not get the chance to do it over in the  
6 fire service. We get one try and it better be right or we get  
7 to live with it. In closing Mr. Chairman, the opponents  
8 use the same tactics they have used for 20 years. It will  
9 increase the costs, use a smoke alarm, carbon monoxide,  
10 sprinkler head problems, the DCR water quality  
11 regulations, even using wrong information on the website,  
12 smoke does not and never has set off a sprinkler. Which  
13 would you rather have, sprinkler head putting out 10 to  
14 12 gallons per minutes or a fire fighter with a hose putting  
15 out a 100 gallons per minute or a nozzle in your bedroom  
16 window putting out 250 gallons per minute for a single  
17 room draining out the front door. Their arguments are old  
18 news.

19 Mr. Chairman and members of the Board, I  
20 implore you to reverse the decision of the Code and  
21 Standards Committee on residential sprinklers and let  
22 this proposal be properly vented by all stakeholders that  
23 are in this room. Remember, every argument, both for  
24 and against it have already been heard in the ICC hearing.  
25 Thank you.

1 MR. CALHOUN: David Thomas followed by  
2 Rand Sompayrac.

3 MR. THOMAS: My name is David Thomas and  
4 I'm a licensed fire protection engineer in the  
5 Commonwealth and have been for 20 years. I'm speaking  
6 for myself as a fire protection engineer. I'm going to  
7 request that Mr. Calhoun give each of you copies to the  
8 Board members to follow me because my data is in factual  
9 form. I apologize for that because engineers are pinheads.  
10 My subject is the consequences of the codes and  
11 standards committee June 22 action on residential  
12 sprinklers. In order that the members of the board are  
13 apprised of the consequences of the June 22<sup>nd</sup> decision to  
14 delete the mandatory IRC code requirement for sprinklers  
15 in single family and townhouse structures, I am enclosing  
16 information on actual fire tests of engineer wood floors, in  
17 basement fire scenarios. Lacking sprinkler protection, the  
18 time to failure of engineered wood floors and basement  
19 fire scenarios is as follows: Solid wood, regular old  
20 dimensional lumber, 740 seconds. Wood I-joist  
21 engineered wood, 490 seconds; steel channel joist, 462  
22 seconds; metal plate wood truss, 469 seconds; wood I-  
23 joist, 382 seconds; wood I-joist 380 seconds; wood I-  
24 joists, 414 seconds; and metal web wood truss, 325  
25 seconds. For engineered wood, time to collapse is from 5

1 minutes to 8 minutes. Fire department best case arrival  
2 is of the order of 5 to 6 minutes on scene. By the time fire  
3 departments set up occurs, the floor may well have  
4 collapsed. I enclose the original data table from the  
5 National Research Council of Canada, where the research  
6 was conducted. I urge that the Board reconsider the  
7 codes and standards committee decision, and the  
8 published initial document of the USBC 2009 Edition, the  
9 Board remain with the IRC mandate as it stands. The  
10 consequences of the codes and standards committee June  
11 22<sup>nd</sup> action are shown in the table above, and they are  
12 very grievous for the safety of citizens and firefighters.  
13 Thank you.

14 MR. CALHOUN: Rand Sompayrac.

15 MR. SOMPAYRAC: Good morning ladies and  
16 gentlemen. My name is Rand Sompayrac and I am the  
17 President of the Home Builders Association of Virginia. I  
18 want to thank you for the opportunity to comment to the  
19 2009 proposed changes to the Virginia Uniform Statewide  
20 Building Code. As many of you know, the Homebuilders  
21 Association is one of the largest business associations in  
22 the state, with nearly 5,000 business member firms and  
23 this year, HBAV celebrated its 53<sup>rd</sup> anniversary. Today we  
24 brought several builders and associates with us. I would  
25 like to ask all of those builder associates in the room

1 today who are opposed to this mandate please stand.  
2 (Members standing). Over the next year this Board will  
3 consider many proposed changes to the USBC that relates  
4 to the method of construction and materials that are  
5 required to be used in the construction of new housing  
6 and new buildings in Virginia. This is a very important  
7 responsibility. Since the USBC was first adopted in 1972  
8 HBAV has been an active participant in the process. In  
9 the most respectful manner possible, I would remind the  
10 Board that the Code of Virginia empowers you to adopt  
11 the USBC and directs you to protect the health, safety and  
12 welfare of residents of the Commonwealth, at the least  
13 possible cost. The Code of Virginia also directs you to  
14 adopt regulations that are reasonable and appropriate.

15 In that spirit, I would like to urge you to accept  
16 the recommendation of this Board's experienced and most  
17 qualified Codes and Standards Committee to make the  
18 installation of sprinkler systems an option in Virginia and  
19 to resist the unproven need to mandate sprinklers in all  
20 new one and two family dwelling units in Virginia. It's my  
21 understanding that currently not a single state in this  
22 nation has adopted a sprinkler mandate, and only one  
23 may be considering it. Only one. I would also remind you  
24 that the housing industry in Virginia is in the midst of a  
25 historic downturn. Housing starts are anticipated to

1 decline to less than 15,000 units statewide this year,  
2 down from almost 46,000 in 2005 and, those few new  
3 homes that are selling, fall into one category, lower cost,  
4 first time homebuyer category. In Virginia it's estimated  
5 that the proposed mandate will add an additional \$5,000  
6 of cost to the price of every new home that is served by  
7 public water systems and nearly \$10,000 in cost for new  
8 homes that will depend on wells for the water supply.  
9 This is not a time to dictate by state regulations additional  
10 new costs to meet this mandate because the USBC  
11 already includes many provisions and technology  
12 innovations designed to provide safety from fire. That  
13 includes fire blocking, draft stopping, emergency escape  
14 and rescue openings, outlet spacing and capacity, fire  
15 walls and fire suppression, fire separation, modern  
16 heating systems and energy efficient housing and most  
17 importantly interconnected hard-wired smoke detection  
18 systems. Most older homes do not include this full list of  
19 current fire safety provisions. Many don't even include a  
20 working smoke detector. We sincerely fear that the  
21 additional and undeniable increase in costs of these  
22 proposed sprinkler mandates will force many Virginian's  
23 to chose less safe, less costly older housing.

24 Finally, HBAV would urge you to reject any  
25 notion or suggestion that modern housing is less safe, or

1 less appropriate to be constructed in Virginia. That is just  
2 false. Modern housing is trending toward Green Built  
3 Housing, some of the most popular and energy efficient  
4 housing in America. It is the future of housing today and  
5 should be embraced and encouraged by all. It will keep  
6 housing more efficient and safer. This proposed mandate  
7 is the wrong proposal at the wrong time, and will result in  
8 very little benefit compared to the significant cost and  
9 installation and future maintenance needs. Remember,  
10 from 1979 to 2003, the death rate from house fires  
11 dropped 58 percent.

12 MR. FLEURY: Would you wrap up please?

13 MR. SOMPAYRAC: Yes, sir. Once again, HBAV  
14 expressly urges this Board to accept the recommendation  
15 of this Board's own Codes and Standards Committee to  
16 make the installation of sprinkler systems an option in  
17 Virginia. Thank you for your time and consideration.

18 MR. CALHOUN: J. R. Tolbert.

19 MR. TOLBERT: Good morning Mr. Chairman.  
20 Thank you very much for having us here today to talk  
21 about this very important issue. My name is J. R. Tolbert  
22 and I'm the advocate for Environment Virginia.  
23 Environment Virginia is a statewide citizens funded  
24 advocacy organization working for clean air and clean  
25 water and preservation of open spaces. Today I stand

1 through having more energy efficient homes makes us a  
2 win win for all of Virginia. I urge you strongly to adopt the  
3 2009 IECC Code. Thank you.

4 MR. CALHOUN: Mr. Schweiger.

5 MR. SCHWEIGER: Mr. Chairman and  
6 members of the Board, my name is Christian Schweiger.  
7 I'm Executive Vice President of the Top of Virginia  
8 Building Association and a former investigator with the  
9 Commonwealth Attorney's Office for the City of  
10 Winchester, Virginia. I'd like to speak on behalf of the  
11 150 member firms in the Winchester, Frederick, Warren  
12 County area. We are opposed to mandatory fire sprinklers  
13 and we'd like it to be an option. It always has been an  
14 option and I wonder how many people here have used  
15 that option and believing in fire sprinklers have actually  
16 gone out and done that. We have a devastating economy  
17 in our area and the Virginia Employment Commission is  
18 getting ready to open 15 temporary offices. It's a tough  
19 time for builders and a tough time for our economy and  
20 adding the extra cost and extra burden will not help  
21 what's happened in our area. We ask that you would  
22 reject that and make it an option. Thank you.

23 MR. CALHOUN: Dale White.

24 MR. WHITE: My name is Dale White and I am  
25 with Top of Virginia Building Association and I'd like to

1 say that everyone appreciates the work that the fire  
2 departments do in our lives and has done for decades in  
3 the Commonwealth of Virginia and the United States. I'd  
4 like to say that we as builders build the safest houses  
5 possible. We try everyday from the day we start  
6 construction we build as safe a house as possible to keep  
7 our employees safe and the clients that buy our houses.  
8 In conversations with many builders in our area, we are  
9 confused why it just cannot be an option. We are in the  
10 service industry and we sell homes to people that want to  
11 buy them. We put in what the people want to buy. So  
12 we're asking that this be an option and we'd be opposed to  
13 the sprinklers. Thank you.

14 MR. CALHOUN: Paul Whitney.

15 MR. WHITNEY: Good morning. My name is  
16 Paul Whitney and I spent 25 years doing fire restoration  
17 and rebuilding buildings after fires. Some years ago I  
18 started a research project and I've written a book on  
19 household fires. That book is listed on the FEMA book list  
20 and there's only two in the country that speak to this. As  
21 a result of doing all these autopsies on burned buildings, I  
22 started noticing a pattern in fire construction and one of  
23 them is that we are ventilating these fires in the early  
24 stages. Some have more ventilation than others but as a  
25 result of that, there's been some projects that have been

1 developed that connects and working towards filling these  
2 gaps in the technology that we have now. We have the  
3 sprinkler on one hand and we have very little on the  
4 other. This technology is very simple and when you use  
5 the existing circuit for the smoke detector in your home  
6 and will connect to your thermostat, go out on a phone  
7 line and make an email or a text message. For mass  
8 housing or for single family, you now have a way to  
9 respond. This little device costs .30 cents a square foot.  
10 It does an enormous job for a very small cost. I have not  
11 had anyone argue with the logic of slowing down  
12 ventilation during a fire. What I'm hoping is that we get  
13 some consideration to use the technology and there's  
14 going to be many people show up in the marketplace to do  
15 this. If we can start interrupting the early ventilation  
16 cycle in these fires, it will allow the fire fighters more time.  
17 This is easily programmed to oscillate in two minutes  
18 depending on what the owner wants to do with the  
19 notification. They now have the ability to understand  
20 what's going on in these houses in the earliest fire stages.  
21 There's a reset button on it for the convenience of the  
22 homeowner and there's a number of ways this thing can  
23 be utilized to have an enormous option here. In this case,  
24 in 25 years doing autopsies on these fired homes. We can  
25 use carbon monoxide detectors, this little signal devise

1 can be used and it's UL approved to use the signal to use  
2 the existing smoke and existing thermostat and existing  
3 communication and we can give these fire fighters a jump  
4 on these fires. Thank you.

5 MR. CALHOUN: John Conrad.

6 MR. CONRAD: Good morning, I'm John  
7 Conrad. I'm with Miller and Smith in McClean, Virginia  
8 builder and developer. I'm speaking to you this morning  
9 in hopes that I can be one small voice of reason that will  
10 allow you to reject the notion that residential sprinkler  
11 systems can be a mandatory component in new homes.  
12 During my career, I've seen any number of code revisions  
13 that have been enacted in order to make a home more  
14 safe. Smoke detectors in the home, some now have them  
15 in every bedroom. Bathrooms and exterior building and  
16 now we have them in kitchens, basements and garages.  
17 We have firewalls between units, fire protection stairs, and  
18 fire stopping petitions. Multi-family units and  
19 townhouses have fire retardant plywood on the roof and  
20 every type of residential construction we are obligated to  
21 plug every little hole to stop drafts from spreading the fire.  
22 My point is not to brief you on the aspects of building  
23 code but to demonstrate that there are many fire and  
24 safety measures that the home builders already have  
25 embraced, not necessarily because it's mandated but

1 because it makes sense. What does not make sense is the  
2 use of domestic sprinkler systems. All the things I just  
3 mentioned are rather inert, the homeowner doesn't need  
4 to do anything and the system will work. Yes, the battery  
5 backup on the smoke detector needs to be changed but if  
6 you don't make the change, the penalty will only be an  
7 irritating noise. Sprinkler systems on the other hand, if  
8 not maintained properly, will cause problems in the  
9 house. Look at where fire start, in the kitchens,  
10 bedrooms, furnace rooms. All areas that are protected by  
11 smoke detectors. You may ask what happens if the  
12 smoke detector goes off and no one is home, who will  
13 extinguish the fire. Is the sprinkler system, well, isn't the  
14 sprinkler program alleged to protect the lives, if no one is  
15 home, there's no need to protect. If someone is at home,  
16 they'll either extinguish the fire or vacate the dwelling and  
17 the smoke detector has done its job. On the other hand,  
18 when a sprinkler malfunctions when no one is home, the  
19 house will flood or if the sprinkler has a malfunction and  
20 someone is home, it causes a disaster. One of the basic  
21 axioms that I learned in my early career of homebuilding  
22 is not to introduce water pipes into an unheated attic; a  
23 recipe for disaster. A small pin hole can freeze and burst  
24 a pipe. Sprinkler systems must be checked yearly on the  
25 other hand and the way to check the system is to

1 introduce water pressure. I have seen sprinkler heads  
2 malfunction during the system checks and discharge  
3 filthy water all over the building. Many homes in Virginia  
4 are served by private wells and their well capacity is rated  
5 for domestic water use. What good would the sprinkler  
6 provide if the capacity of the well or pump could not keep  
7 up with the sprinkler system? Please ladies and  
8 gentlemen, don't allow the fear factor spread by others to  
9 cloud your judgment. Let's be satisfied with all the safety  
10 features that are now provided in a house and do not  
11 burden the homeowner with the constant threat that the  
12 sprinkler head or the power system will not function.  
13 Thank you.

14 MR. CALHOUN: Jayme Hill. Is Jayme Hill  
15 here?

16 MR. HILL: (No response)

17 MR. CALHOUN: Lynn Underwood.

18 MS. UNDERWOOD: I'm a building official for  
19 the City of Norfolk and also President of the VBCOA. I'm  
20 here this morning to assure you that Virginian's remain  
21 active in code development both at the national and state  
22 level. Before I do that, let me congratulate Governor  
23 Kaine and this Board for the achievement earned this  
24 week. CNBC has named Virginia its top state for  
25 business. One factor cited is a streamline regulatory

1 process. That includes the work we're doing here, you, to  
2 adopt the best building codes in the nation and us in local  
3 jurisdictions to enforce them, providing quality building  
4 safety to seven million Virginians while supporting a  
5 business climate that helps the economy. VBCOA has  
6 several dozen members who serve on code committees  
7 and councils with ICC. We are 75 percent effective in  
8 gaining approval of changes into these codes. At the state  
9 level, VBCOA has four code committees that review new  
10 provisions in the IBC, IRC, the IECC and the IPMC and we  
11 will suggest changes reflecting Virginia's values and  
12 interests. We have a committee to recommend improved  
13 administrative provisions of the USBC. We participate in  
14 four workgroups established by DHCD and several groups  
15 for residential sprinkler and assisted living facilities.  
16 These workgroups achieve results with all the  
17 stakeholders present. My sincere compliments to DHCD  
18 staff for their leadership in hosting these workgroups.  
19 While it takes staff time and money to do this, the result  
20 has been better code, acceptable to all. It has been an  
21 effective instrument to streamline the process and achieve  
22 consensus on these tough issues.

23 VBCOA has established positions on a few  
24 significant proposals. We support sprinkler provisions for  
25 town homes as written in the IRC and incentives or

1 tradeoffs. In addition, we support the idea of sprinklers  
2 for one and two family homes and believe that these  
3 should be voluntary while encouraging their use by  
4 providing reasonable, cost effective incentives or tradeoffs.  
5 Energy efficiency is increasingly essential with 70 percent  
6 of all electricity and 40 percent of all energy consumed in  
7 buildings. Our members have worked for changes that  
8 improve the energy code with the objective of reducing the  
9 energy demand caused by the construction of buildings.  
10 The federal cap in trade bill may have a significant affect  
11 on us. While that bill establishes a national energy code,  
12 we believe the IECC will serve that purpose, having  
13 increased energy efficiency requirements by 15 percent  
14 with an aim of an additional 15 percent in the 2012  
15 edition. We will bring you firm positions on significant  
16 proposed code changes. These include CO alarms, ARC  
17 fault devices and child proof receptacle covers required in  
18 one and two family dwellings. Required sprinklers for  
19 physician offices, schools and furniture stores, CSST  
20 Bonding, exit floor markings for high rise buildings,  
21 limitations on healthcare and assisted living facilities, pool  
22 entrapment safety, gray water, reclaimed water, rainwater  
23 harvesting, maintenance code provisions, maintenance of  
24 grease traps and cross connection devices, proposed  
25 limitations on third party inspector qualifications.

1 VBCOA values the relationship that we have  
2 with this Board and looks forward to working with each of  
3 you during the code change cycle. Thank you for your  
4 hard work and your dedicated service, your friendship  
5 and your continued support for the profession of building  
6 safety. Thank you.

7 MR. CALHOUN: Bill Long.

8 MR. LONG: Thank you Mr. Chairman and  
9 Board members, I'm Bill Long and I'm with Toll Brothers,  
10 a major national builder. We think the sprinkler provision  
11 should be an option, mainly because I've been a builder  
12 for over 40 years in the Commonwealth. I've been a  
13 member of the VBCOA 23 years. I've placed my concerns  
14 with all the other homebuilders and concerned about  
15 different factors in the homebuilding industry.  
16 Homebuilders try to build the most efficient and safe  
17 housing that we can on a limited amount of funds. We  
18 have to operate within those funding limitations. As has  
19 been mentioned before, the building code has changed  
20 and we have many things in new buildings now. We see a  
21 lot of deserted houses now. We have various components  
22 built into new buildings now and we've seen a lot of  
23 deserted houses now especially some of these town homes  
24 and you have to worry about protecting people on each  
25 side of that unit. Like we had storms through the area

1 last night and if their sprinkler systems, what do they do  
2 when no power and no water is available. What will  
3 protect the other homes? We're building homes with the  
4 best fireproof materials available but you have to be very  
5 concerned on these sprinkler systems. As I say, if there's  
6 a power problem or if it malfunctions. We make units as  
7 fireproof as best we can. It looks like we're trying to  
8 encroach the commercial code with the single family code,  
9 even though we have sprinkler systems proposed for  
10 single family dwellings. Whose going to inspect and  
11 maintain them down the road. How are they going to be  
12 inspected yearly? The average homeowner will have to let  
13 the fire marshal into the home. These are just some of the  
14 things that the Board needs to consider when you make  
15 this mandated. Thank you.

16 MR. CALHOUN: Keith Brower.

17 MR. BROWER: My name is Keith Brower. I'm  
18 the Chief Fire Marshal for Loudoun County. I'm here  
19 today representing the position of the Loudoun County  
20 Board of Supervisors who have asked you to enact  
21 residential sprinkler requirements as part of the 2009  
22 code cycle.

23 In 1986 knowing the unparallel residential  
24 growth was eminent, the Loudoun County Board of  
25 Supervisor approved the creation of a consortium to study

1 residential sprinklers. That study was completed in 1987  
2 and contained recommendations to pursue residential  
3 sprinklers in the code process as well as through  
4 legislation, as needed, and to encourage homebuilders to  
5 voluntarily install residential sprinklers. This  
6 proportionately some 23 years later, Loudoun County and  
7 Virginia are still at the starting line for the most part.  
8 State building codes and laws have not resulted in  
9 residential sprinklers for one and two family dwellings and  
10 townhouses and voluntary compliance has simply not  
11 worked. How will the new voluntary code change or alter  
12 things?

13 We need residential sprinklers as todays fires  
14 are rapid energy release fires. Fed by synthetics and  
15 plastics, and in combination with unprotected engineered  
16 construction components, fires are quickly flashing over  
17 and causing structural collapsing with unprecedented  
18 speed. Occupant escape time has been reduced and  
19 firefighter danger has increased. You may have heard of  
20 Loudoun's near miss, fully involved house fire on Meadow  
21 Wood Court on May 25, 2008 where we almost lost four  
22 firefighters who became trapped in a collapse while  
23 conducting a search on the second floor. I can give you  
24 the website with the video that tells all.

25 By contrast, on June 8, 2009 a fire occurred in

1 a four story sprinklered town home in Sterling when an  
2 occupant of the home placed a pizza box on the kitchen  
3 stove and left. Within moments, the box caught fire. The  
4 smoke alarm inside the residence activated. It did not set  
5 off the sprinklers, as they don't activate on smoke. Then  
6 the fire was extinguished by a single residential sprinkler  
7 head that activated due to the heat. All the sprinklers did  
8 not go off, just the one exposed to the heat. Fire damage  
9 was confined to a three by three foot area above the stove.  
10 There was no heat or smoke damage and there was no  
11 danger posed to occupants or firefighters. There was  
12 water damage, probably about 250 gallons from the  
13 sprinkler head. Far less, however, had the home required  
14 10 to 15 minutes of water from our fire hoses, which flow  
15 at 150 to 200 gallons per minute.

16 Ladies and gentlemen, residential sprinklers  
17 work. The need is there and it is time for Virginia to  
18 become a leader as opposed to continuing to resist the  
19 ever improving and ever affordable advances of residential  
20 sprinklers. Continuing to rely on voluntary efforts  
21 amounts to putting ones head in the sand if the last 23  
22 years of Loudoun County experience is an indicator. I  
23 encourage you today to reject the code change for  
24 voluntary residential sprinklers, as this is not what the  
25 national model code requires. Instead, it requires the fire

1 service, the homebuilding industry and the allied  
2 professions to develop and submit a truly consensus and  
3 meaningful proposal that works and will save the lives of  
4 future Virginians. Thank you.

5 MR. CALHOUN: Randy Melvin.

6 MR. MELVIN: Good morning, my name is  
7 Randy Melvin and I'm with Winchester Homes and I'm  
8 here on behalf of Winchester Homes. We appreciate the  
9 opportunity to testify before the Virginia State Board for  
10 Housing and Community Development pertaining to  
11 residential sprinklers. For those of you who might not be  
12 familiar with Winchester, we are a long time over 30 years  
13 builder and developer of single family and town home  
14 communities in Virginia and Maryland. Many of the  
15 homes we have built today and we have a lot of experience  
16 with sprinklers so we're speaking from a practical and  
17 factual aspect here today. Our position on the issue is  
18 that we urge the board to retain the option of voluntary  
19 residential fire sprinklers. The rationale and  
20 substantiation for our position or four fold. The first is  
21 that even in the absence of sprinklers, new homes provide  
22 a very reasonable and cost effective level of fire protection.  
23 Many of the other speakers have already listed many of  
24 the protections that are already built into the homes. One  
25 thing I would like to add is that many of these protections

1 have just been added in the last couple of years. Egress  
2 from the basement of every home, the fire separation  
3 distance between single family detached dwelling units  
4 and the distance on the lot line used to be three feet so  
5 there'd be six feet between units and that's been increased  
6 to ten. We haven't even seen the effects of all of those  
7 changes that have already taken place. I think you'll find  
8 the newer houses and the new codes with a lot less  
9 incidents to begin with. We do reach a point of  
10 cumulative and reach a point of diminishing returns. The  
11 second reason that we support optional sprinklers is that  
12 our experience told us that residential fire sprinklers have  
13 numerous drawbacks of unintended consequences.  
14 Heads are going to get damaged and when its in every  
15 home, it's going to be far from isolated incidences whether  
16 its kids coming in throwing balls after the game or  
17 jumping in bed or a homeowner moving a bed into the  
18 house on the edge. If you look at the attachment to my  
19 comments, you'll see that there was attachment one,  
20 \$55,733 subrogation claim for damage sprinkler heads  
21 that went off three months after occupancy. You can read  
22 more about these in our written testimony. That's just an  
23 example of the magnitude and not counting the disruption  
24 of people's lives, the personal effects they have like  
25 artwork, the damage for moving out of their house so

1 there are consequences. The third reason we support  
2 voluntary sprinklers, let me back up a second. We've  
3 done these in certain jurisdictions in Maryland. Service  
4 issues, we've done these in certain jurisdictions in  
5 Maryland. Leaking heads are not uncommon. Leaking  
6 heads on the sprinkler heads, some have independent  
7 heating units and some people have closed off their  
8 solariums in the winter time and next thing you know the  
9 pipes are breaking and freezing and there's damage.  
10 Leaks, water tanks and, service issues are not  
11 uncommon. One more reason is that if you look at the  
12 reliability of the sprinkler heads in your package, you'll  
13 see a recall of 35 million heads and you'll see another  
14 recall for 8.4 million heads. Some of this has been going  
15 on for nine years. It impacted us. You'll look in there and  
16 see the sprinkler company had questionable financial  
17 means to address these issues. If you'll look at the very  
18 last item in your packet and that indicates that sprinklers  
19 are still not an effective means of saving lives; \$48 million  
20 per life saved and there's a lot more effective ways we can  
21 save lives with a lot less money. Finally, we believe the  
22 individual family should have the choice of what's best for  
23 them and their family whether they would like sprinkler  
24 heads in their home or not. Thank you.

25 MR. CALHOUN: James Barber.

1 MR. BARBER: Good morning Mr. Chairman  
2 and members of the Board. My name is James Barber  
3 and I'm the fire official in Albemarle County and Fire  
4 Marshal. Our county is not unlike some throughout the  
5 state in that we have 750 square miles and roughly 80  
6 percent of that is rural. We have a combination  
7 department so we have paid firefighters and volunteers.  
8 We have volunteer firefighters that run out of ten stations.  
9 In our rural district our response time goal is to be on the  
10 scene within 8 minutes, that's our urban goal. In our  
11 rural the response time is 13 minutes. You've already  
12 heard that a fire grows and doubles in size every minute  
13 that it is in a free burning state. This means in the 10 to  
14 13 minutes that it takes the fire department to arrive in  
15 Albemarle County, the fire has already had a chance to  
16 grow substantially. What I'd ask you to do is reverse the  
17 action before you today and to adopt the ICC  
18 recommendation. One of the assertions about sprinklers  
19 on homes with well water is that it would be unaffordable  
20 and too costly to try. The truth is that the 13D System  
21 that's for residential sprinklers calculates the water flow  
22 from two minutes. That's roughly 13 gallons per head per  
23 minute. If you extrapolate that out, you're talking about a  
24 water tank that holds 300 gallons and a pump that will  
25 pump the water through the system. The cost is going to

1 be held down on that because the pump and the tank  
2 don't have to be rated. It's not like the sprinkler system  
3 you have here where all the components must be rated.  
4 There's already a standard out there that's a compromised  
5 standard. I would ask you to make the residential  
6 sprinklers mandatory. Thank you.

7 MR. CALHOUN: Dave Bailey.

8 MR. BAILEY: Mr. Chairman and the Board,  
9 thank you for allowing us to speak and participate here.  
10 I'm speaking today as a resident of Powhatan County. In  
11 1992 my wife and I built a home in Powhatan with no  
12 public water in my area we are on a well. In the contract I  
13 worked with my builder to set aside one week to have a  
14 residential sprinkler system installed. The Virginia  
15 Sprinkler Company installed the full 13-D System in 3  
16 days. The full system costs me \$3,020. My house has  
17 2,100 square feet of floor area. So, the cost for the system  
18 was less than \$1.50 per square foot. Obviously the  
19 insurance industry knows the benefit of sprinkler systems  
20 in buildings therefore, my insurance premiums have been  
21 reduced with a 13 percent sprinkler credit. Initially that  
22 equals to \$86 a year in savings. So, to date my premium  
23 savings have paid half the cost of the system. Over the  
24 life of the house, the system will more than pay for itself.  
25 I've heard some discussion about maintenance of the

1 system. We've had no leaks or any problems with any  
2 piping, sprinkler heads or any system components. The  
3 only maintenance I perform is to drain the system once  
4 each year but I don't have to but I do it throughout the  
5 year. I do it as well as to flush out any sediment that may  
6 have accumulated over the past year from the water in the  
7 pipes. This process is so easy, that my 11 year old son  
8 conducted the entire flushing procedure this year. Often  
9 people ask why I've done this and why I spent \$3,000 to  
10 put the system in. Like many here, since 1976 I been  
11 involved and served with the Chesterfield Fire and EMS  
12 Department. Over those years, I have run thousands of  
13 fires and seen many fire deaths. That has included men,  
14 women and children. In 1992, when we built our home  
15 and we knew that we were going to have children and we  
16 weren't satisfied with the fact of about a 50 percent safety  
17 factor. With the residential sprinkler system, our chances  
18 jump up to 97 percent to help my family to survive a fire  
19 should we have one if I'm not there. So I'm going to urge  
20 you to protect future generations of children by voting to  
21 install these sprinkler systems. Thank you.

22 MR. CALHOUN: Mark Granville-Smith

23 MR. GRANVILLE-SMITH: Good morning, my  
24 name is Mark Granville-Smith. I'm currently vice  
25 president of the Northern Virginia Building Industry

1 Association. No one from our building industry would  
2 discount the value of human life. Arguing that sprinklers  
3 won't reduce the chance of death or injury is nonsense.  
4 In fact, there is any number of ways to reduce the chance  
5 of death of injury due to fire. What criteria should be  
6 used? Clearly, the code requires the consideration of  
7 costs as well as health and safety for the homebuyers.  
8 There are two issues that strike me most interesting  
9 through these discussions were; cost is truly an issue  
10 when confronted with fire prevention and safety on both  
11 sides. Our fire officials have ranked their highest priority  
12 in most effective fire prevention method as public  
13 education and awareness. However, our current Board of  
14 Supervisors recently has cut the budget of the fire  
15 department so they have an urgent awareness. They have  
16 to focus on public awareness and education programs.  
17 Given these facts, there are better more cost effective ways  
18 to deal with this issue than mandating sprinklers in every  
19 home. Builders are being unfairly characterized as  
20 putting the dollar ahead of safety. Did our local  
21 government officials cut the education funding because  
22 they weren't concerned about fire safety, of course not.  
23 Smoke detectors were a home run in terms of saving lives  
24 as well as being cost effective. Sprinklers are not. It  
25 should be optional. An interesting fact is I'm a boater and

1 I enjoy it and the Coast Guard requires boats 17 feet or  
2 longer to have a fire extinguisher on the boat even if it's  
3 made out of aluminum. We've never offered fire  
4 extinguishers in the kitchens and garages might be a  
5 solution or partial solution to this issue. There are a  
6 number of other options or solutions and I'll give them to  
7 you in my written comments. Thank you.

8 MR. CALHOUN: James Dawson.

9 MR. DAWSON: Mr. Chairman and members of  
10 the Board, good morning. I'm James Dawson and I'm the  
11 fire marshal for Chesterfield County. I'm asking you to  
12 pull the code changes submitted by the Homebuilders  
13 Association concerning residential sprinklers. I submitted  
14 a previous written statement outlining my concerns about  
15 the process, the Codes and Standards Committee used to  
16 approve the change. I believe the Committee is very short  
17 sighted to remove a provision of a nationally recognized  
18 model code with only 30 minutes of discussion when the  
19 issue was debated for more than 8 hours at the  
20 International Code Council Hearing. In addition, the  
21 Committee's discussion included more questions about  
22 sprinklers and no discussion on the merits of these  
23 systems. I'd also like to point out something about this  
24 supporting statement presented by the Homebuilders  
25 Association in their proposed changes. In that statement,

1 there's only one sentence that really has any resemblance  
2 of a supporting statement. In fact, their supporting  
3 statement ask even more questions, a total of seven  
4 questions without answers are presented in their support  
5 for removal of this code provision. One aspect of this  
6 change the homebuilders continue to press is economics.  
7 Since I've become involved in this issue, I been trying to  
8 gain an understanding of the economic aspects of new  
9 home construction. I recently discovered a paper by Mr.  
10 Buddy Doer who holds an economic degree and Master's  
11 degree in business administration. His explanation, new  
12 home economics is enlightening, and I have included a  
13 copy of his report with my written statement for your  
14 review. Even more enlightening in his report is that  
15 residential sprinklers have a one percent increase in home  
16 costs and do not impact the affordability of new homes.  
17 I'll leave that document with you so that you can research  
18 it. Mr. Chairman, I look forward to working with all  
19 interested parties to develop the code change proposals  
20 the Virginia Residential Sprinkler Coalition will bring  
21 forward in the coming months. I hope this Board will  
22 have all its questions answered before they make a  
23 decision on accepting a code change that will decrease the  
24 safety of new homes built under our uniform statewide  
25 building code. Mr. Chairman, for the sake of time, I'll

1 leave you with a full copy of my remarks. One supporting  
2 statement in the Homebuilders Association of Virginia  
3 code change proposal found on page 212 of the codes and  
4 standards committee packet. The one sentence that does  
5 not use qualifying words like maybe and seems to, the one  
6 sentence that doesn't ask a question but rather makes a  
7 statement regarding residential sprinklers. The NFPA  
8 data and reports confirm that sprinklers do reduce  
9 deaths, injuries and property damage losses. Mr.  
10 Chairman, I believe they have that supporting statement  
11 right. It is the code change they have gotten wrong.  
12 Thank you for your time.

13 MR. CALHOUN: Mark Viani.

14 MR. VIANI: Mr. Chairman and members of the  
15 Board, I'm Mark Viani. I'm with the Northern Virginia  
16 Builders Association. A lot of what I was going to say has  
17 already been said. I'll try to keep my comments brief. I  
18 urge the Board not to make the fire sprinklers mandatory  
19 and leave it as an option. From my own personal  
20 experience, I have purchased two homes in Virginia in the  
21 last 10 years. Both of my purchases were not expensive  
22 homes. In both cases, we have done everything we could  
23 do to buy a house. Some didn't have an option. Where  
24 we had the option, we would ask about safety features.  
25 The townhouses we had internet and those systems work.

1 From a practical experience point of view, the smoke  
2 detectors were great. Two hundred town homes had  
3 sprinkler systems and I'm sure they worked when their  
4 needed but our experience with them wasn't too good. We  
5 had a Christmas tree fire and that wasn't too good. We  
6 had sprinkler head problems. There are some practical  
7 rules that can be more effective. I heard a question about  
8 education. These things are good and they're effective and  
9 probably the best way to do it. Finding out and getting  
10 information on prior history and why they would work  
11 well. By contrast, the house I live in now is built in 1959  
12 and has no sprinkler system but does have a smoke  
13 alarm. The smoke alarm went off Christmas Eve and we  
14 got it put out. It's all about choice. I think a choice  
15 should be available. I think this should be a choice. I  
16 know people have talked about the cost benefit ratio and  
17 the free market. I would ask you to support this.

18 MR. CALHOUN: Sean Horne.

19 MR. HORNE: Good morning, my name is Sean  
20 Horne here representing the Roanoke Regional  
21 Homebuilders Association. We represent a membership of  
22 nearly 400 local members and firms to come here and  
23 share with you our concern about the significance and the  
24 negative impact of mandated fire sprinklers. To cut it  
25 short, I understand that you have received all of the

1 literature that the National Homebuilding Association and  
2 the Virginia Homebuilders Association has provided which  
3 shows the decline in home fires over the past 30 years  
4 despite the tremendous population growth in America.  
5 Many of the homes have become a lot safer through the  
6 cost effective code provisions that affect a lot of  
7 organizations. Our homebuilders association located in  
8 Southwest Virginia. We are mostly rural and rely heavily  
9 on well water. It is anticipated that new home costs, as  
10 stated earlier, for homes served by well water, would be  
11 \$10,000 or more. Homeownership is out of reach for  
12 many people in Southwest Virginia. It's our belief that  
13 such a mandate will have a significant negative impact on  
14 the affordability of housing in Virginia. Additionally,  
15 homeowners with well water will have to deal with the  
16 issues for adequate storage, providing adequate flow and  
17 making sure the wells are capable of providing required  
18 flows. During dry years, such as 2008, water level at the  
19 wells could easily be too low to provide effective sprinkler  
20 system. Water tanks, pumps and generators would need  
21 to be purchased to help with these problems and that  
22 would double the cost of the sprinkler system yet again.  
23 We're asking that you not mandate fire sprinklers in  
24 Virginia and mandating it would be another hardship on  
25 homeowners and create a difficult time. Thank you.

1 MR. CALHOUN: Meredith Ward.

2 MS. WARD: Members of the Board, my name is  
3 Meredith Ward. I'm here representing the Shenandoah  
4 Valley Builders Association. I'd like to quote the Uniform  
5 Statewide Building Code and say that they are to provide  
6 a safeguard for the public welfare. We as the National  
7 Association of Homebuilders, we found numerous reasons  
8 why fire sprinkler systems are not necessary to continue  
9 fire deaths. However, I wish to bring you one further  
10 point before you today. Statistics show that the current  
11 methods of fire suppression are very effective and they  
12 continue to save lives despite the growth in housing. In  
13 fact the rates at which all these fire deaths follows the  
14 same aggression line as house fires. Alone this trend  
15 continues dating back to 1979. It can be determined from  
16 information that building sprinklers provide no significant  
17 decrease in fire deaths. This common trend can be  
18 attributed to fire prevention materials along with fire  
19 prevention education. Therefore, it is the opinion of the  
20 Shenandoah Valley Builders Association that these  
21 current practices are working to exceed the goals under  
22 the statewide building code. We urge you today to  
23 approve the recommendations to allow the option to  
24 install fire sprinklers in one and two family residential  
25 homes. Thank you.

1 MR. CALHOUN: Vince Butler.

2 MR. BUTLER: Good morning, I'm Vince Butler,  
3 second generation homebuilder and a third generation  
4 firefighter. I'm here today representing Northern Virginia  
5 Building Industry Association and president this year. On  
6 behalf of our board of 530 member companies agree and  
7 uphold the decision of you Code Standards Committee. I  
8 would add to the litany of statistics and personal stories  
9 because they play on both sides. None of us are here to  
10 argue that anything to help put out fires is a good idea.  
11 However, there is a cost benefit analysis that we have to  
12 take into account as far as any public safety decision. As  
13 has been said, you make that decision unfortunately on a  
14 daily basis. You can't put a figure on human life but  
15 trying to find the best way is the answer to protect that life  
16 within the realm of our capabilities. We have over 130  
17 million existing homes in the United States right now and  
18 this will only address new homes built; in a good year, we  
19 build maybe over a million. Similar to our energy  
20 standards, to affect an issue like this we have to address  
21 our housing stock and we have a number of ways we can  
22 do that through public education primarily. I'm sure our  
23 industry will reach out to the fire service protection people  
24 that are here throughout the state to help in  
25 accomplishing that goal. One thing I think that is

1 important to understand is just as an example of how the  
2 education works. I think both sides have talked a lot  
3 about smoke detectors and we agree they do save lives.  
4 Smoke detectors have a finite life. I believe you have to  
5 replace them after 10 years. I deal with hundreds and  
6 hundreds of homeowners every year in my business and  
7 I've yet to find one that goes bad. We bring that to their  
8 attention all the time. So I would urge you to uphold the  
9 decision of the Code Standards Committee and to extend  
10 a hand of cooperation to my fellow firefighters to work  
11 together and dedicated to fire safety. Thank you.

12 MR. CALHOUN: Hadden Culp.

13 MR. CULP: Good morning Mr. Chairman and  
14 members of the Board, my name is Hadden Culp, Chief  
15 Firefighter from Prince William County, Virginia. I have  
16 many years of experience, that includes over 35 years  
17 here in the Commonwealth. I've had the unfortunate  
18 experience of participating in many, many hundreds of  
19 fires. I've stood in the front yard of people's homes who  
20 have lost everything. I've had the unfortunate experience  
21 of citizens who have passed away out of their houses were  
22 on fire and on one occasion, I carried one of my  
23 firefighters out of a house that was on fire. Many of these  
24 fires could have been prevented through the use of  
25 sprinklers. I can tell you a quick story about a fire that

1 occurred less than 24 hours ago in Prince William County;  
2 2:30 yesterday afternoon an apartment, a mother turned  
3 the burner on on her stove and a few minutes later  
4 noticed some smoke and there was a fire and the smoke  
5 alarm went off and the mother took action to deal with  
6 that. The sprinkler head over top of that but she turned  
7 the wrong button on. But they escaped unharmed but the  
8 sprinkler went off in time to put that fire out. Sprinklers  
9 are not anything new and many houses and apartments  
10 already have them and people have installed them. We've  
11 been dealing with this issue associated with sprinklers  
12 and education is part of it and the maintenance that  
13 you've heard about, some people have been living with  
14 these sprinklers for many, many years. Last year in  
15 Prince William County we had 8 fires. The value of that is  
16 immeasurable. That amounted to \$14.5 million because  
17 sprinklers were activated and the damage was \$156,000.  
18 So I urge you to look at the value of the sprinklers and  
19 support the legislation that's come before you to keep  
20 sprinklers in the code and this will help support lives and  
21 property damage. Thank you very much.

22 MR. CALHOUN: Ernie Little.

23 MR. LITTLE: Good morning, I thank you for the  
24 opportunity to speak to you. I have a fact sheet having to  
25 do with this subject. I've been involved with the code

1 development process at the ICC level since 2006. I've  
2 seen all the discussions at the ICC and state level here  
3 now and hearing a lot of the same things over and over  
4 again and the same issues but these issues coming to you  
5 this morning are the same issues that have been in front  
6 of the ICC. The main thing I want you to think about is  
7 back in the 50s and 60s, the auto industry. We had a  
8 situation where we knew we were losing a lot of folks  
9 through auto crashes because of seatbelts or the lack of  
10 seatbelts. Seatbelts were put out there and reduced the  
11 number of deaths due to automobile accidents drastically.  
12 A little bit later on the auto industry realized that they  
13 needed the airbag and the airbags have reduced the  
14 number of deaths significantly. Now we come to the issue  
15 we're talking about today, are smoke detectors the 1970  
16 version of seatbelts. It has had a significant impact. At  
17 that time I believe the figure was around 12,000 people a  
18 year. We cut that down significantly. I offer you that the  
19 sprinkler systems are the airbags for homes. One speaker  
20 talked about somebody that built a house. People who  
21 have committed to purchasing a home because the  
22 purchase of a home is a very important thing and a  
23 significant fire can put you out of your house that's  
24 something to think about. There are relief agencies out  
25 there but the sprinkler system may decrease the amount

1 of time you're out of your house and consisting of repairs  
2 and having it rebuilt. People that have the sprinkler  
3 system if they're put out of their house by fire, they'll  
4 certainly be back in sooner than they would be without it.  
5 I'll stop there, thank you.

6 MR. CALHOUN: Kevin McNulty.

7 MR. MCNULTY: My name is Kevin McNulty and  
8 I'm Vice President of the Home Building Association of  
9 Richmond. I'm concerned about the proposal to add fire  
10 sprinklers. I do not believe that adding this equipment to  
11 your home, will make people significantly safer. Statistics  
12 can and have been presented which will show today's new  
13 houses are better built and produce fewer fire deaths than  
14 our nations older housing stock. This proposal will make  
15 new homes more expensive and place Virginia families  
16 into older homes which do not meet today's fire  
17 standards. Why not use our resources to address the real  
18 problem which is the lack of updated smoke detectors and  
19 have them in every bedroom of every home. Most  
20 statistics show 88 percent of fires in single family homes  
21 occur where there's no working smoke alarm. A recent  
22 report about smoke alarms estimates that 1 in 890 lives  
23 could be save annually if everyone had a working smoke  
24 alarm. From 2000 to 2004, 65 percent of the fire fatalities  
25 were reported in homes where smoke alarms were not

1 present or did not operate property. The cost does not  
2 outweigh the benefits. We can have a much greater  
3 impact for safety by using our resources to promote and  
4 educate the public on the maintenance of working smoke  
5 detectors. I urge you to make fire sprinkler systems an  
6 option in new home construction.

7 MR. CALHOUN: Warren Wakeland.

8 MR. WAKELAND: Good morning, I'm Warren  
9 Wakeland with the Home Building Association of  
10 Richmond with its 500 members. Much of what has been  
11 said is included in my written comments. I won't go into  
12 that specifically. There's a couple of details that I'd like to  
13 mention. The National Fire Prevention Association in  
14 January, 2008 showed that the survival rate of people of  
15 home fires is 99.45 percent where no sprinklers are  
16 present, but smoke alarms are. The same 2008 study  
17 stated and I'll quote, "Because there is evidence that  
18 working smoke alarms acts so early that they convert  
19 what would have been a reported fire into a very small,  
20 unreported fire, the potential savings from universal  
21 working smoke alarms could be even larger." Safety is a  
22 big issue on this subject but the cost is also a big issue for  
23 homebuyers. An August 2006 study of more than 2,500  
24 homebuilders nationwide and the association of  
25 homebuilders research center showed that the average

1       sprinkler system in a new home cost \$2.66 per square  
2       foot to install against almost \$5,800 in the average size  
3       new home built in 2008. That's for installation.

4       Maintenance is going to cost a little more. On the other  
5       hand, a hard-wired, interconnected smoke alarm system  
6       in a home, run by the home's electrical system, cost about  
7       \$50 per alarm. The only maintenance you're going to find  
8       is changing the backup batteries. It's been mentioned  
9       that getting people to change the batteries is a tough  
10      thing. That's where education comes in and something  
11      this Board should look at, educating more people about  
12      changing the batteries while maintaining their system.

13     When you talk about affordable housing, an 1800 square  
14     foot, single family detached home will cost about  
15     \$215,000 in the Richmond area without sprinklers. A  
16     fully installed sprinkler system in that home will cost  
17     about \$4,800 by today's terms, not in 1992. That will  
18     drive the cost almost to \$220,000. A \$5,000 increase  
19     doesn't sound like much to some people but it's a lot to  
20     consider because of every thousand dollars an additional  
21     cost to a new home in this area, you put more than 700  
22     families out of the market for that home. A sprinkler  
23     mandate would mean a lot of people won't be able to buy  
24     a new home. We've heard that many older homes are not  
25     built as safely as today's homes. Our association has no

1       problem with this Board deciding that a sprinkler should  
2       be an option a homebuyer may chose to have installed.  
3       Homebuyers should always have as much choice as  
4       possible as to what goes into their home. The government  
5       should not require something in a home that has not been  
6       proven to save more lives and more property than a less  
7       costly, just as effective alternative and will not be used by  
8       a great majority of the homes in which they're installed.  
9       The Home Builders Association of Richmond would urge  
10      you to follow the recommendation of your Code and  
11      Standards Committee and make sprinklers an option for  
12      homeowners. Thank you.

13                   MR. CALHOUN: Ray Pylant.

14                   MR. PYLANT: I'm Ray Pylant, a building official  
15      for Fairfax County. I'm here to talk about a couple of  
16      ambiguities in Section 103.5 of the building code.  
17      Strangely this section talks about the, it doesn't say the  
18      code applies for new construction. The current code talks  
19      in the negative. It says the portions not being  
20      constructed, altered or repaired does not have to meet  
21      standards of new construction. Another portion of the  
22      section and it says that the materials may be replaced  
23      with material or equivalent with similar capacity. This  
24      refers to repairs that makes sense. If you have a rotten  
25      board, particularly in the back of your house, you can

1 replace that board. Strangely, some people have  
2 determined this to mean however. If you have a house  
3 that burns down, you can replace it board by board to  
4 conform to whatever code or lack thereof may have existed  
5 at the time the house was originally built and call it  
6 repair. You cannot repair something that does not exist.  
7 Unless the house burns down and no longer exists, and  
8 you replace it, I can't call that anything other than  
9 construction. I would like to make this purely an  
10 administrative clean up of the language in the code. You  
11 may find some opposition to that. Thank you.

12 MR. CALHOUN: Charles Werner.

13 MR. WERNER: Mr. Chairman and members of  
14 the Board, thank you for the opportunity of allowing me to  
15 come here and speak today. There's many different  
16 statistics that have come before you today which would  
17 make your job very tough in trying to weight through this  
18 and try to figure out what's the best way to go. My name  
19 is Charles Werner and I'm with the City of Charlottesville,  
20 I'm the Fire chief in Charlottesville and here on behalf of  
21 the Virginia Fire Chief's Association. I'd like to take a  
22 little bit of a different stance that I think is different from  
23 most of the conversations that you heard. One of the  
24 things I'd like to say is that there are statistics that are  
25 very compelling on both sides of the isle. My suggestion is

1 that we don't move forward with the proposed amendment  
2 as it is today, the option. I say sit down and actually have  
3 a dialogue and conversation with some cooler heads and  
4 sit down and try to agree with what statistics we can agree  
5 on and really dive into this matter. I believe that  
6 sprinklers do save lives and will save lives and there's  
7 enough statistics that show that. At the same time, I also  
8 understand the expense and the issue to the housing  
9 people that have brought that information to you today. I  
10 think we have seen through the years and if you look back  
11 at all these issues, and these concern me and we've heard  
12 from Loudoun County, the volunteer aspect doesn't work.  
13 The same thing can be true if you look at smoke detectors.  
14 If you say smoke detectors are optional today, there  
15 wouldn't be smoke detectors in homes. The problems we  
16 have in the fire service and the nation as a whole, the big  
17 thing about complacency. We quickly forget the issues  
18 that happen and in many cases, we always believe fires  
19 are going to happen to someone else and that's the  
20 mentality that we're in. We hear about fire deaths but I  
21 would urge the Committee to deny the proposal and say  
22 let's put this back on the table and have a discussion and  
23 come back with a proposal that, and even though there  
24 may be some compromises and look at what are the  
25 outcomes we're trying to achieve and see if we can find

1 some middle ground. I thank you again for the  
2 opportunity to be here today and for the great, great work  
3 you are doing. Thank you.

4 MR. CALHOUN: Tyler Craddock.

5 MR. CRADDOCK: Good morning, I'm Tyler  
6 Craddock representing the Virginia Chamber of  
7 Commerce. I urge you to support the recommendations of  
8 the Codes and Standards Committee for the sprinkler  
9 system's adoption and again mandating this in the family  
10 dwellings. Our greatest concern on imposing this  
11 mandatory provision on homeowners, how that will  
12 damage efforts to make more affordable housing and how  
13 that will effect economic development in Virginia. As you  
14 may know, the state supply of affordable housing, that  
15 choice is close to job centers and are a necessary  
16 component of economic development. Houses after all are  
17 where the employees and the job centers go at night.  
18 Unfortunately, if this proposal would increase the cost of  
19 housing in Virginia and it will. The National Association  
20 of Homebuilders estimate the cost of these systems adds  
21 about \$2.66 per square foot and translate that into  
22 \$4,500 for a 1,800 square foot home. Simply imposing a  
23 mandate would add \$4,500 to the cost of a basic 1,800  
24 square foot home and that has a definite effect on home  
25 affordability and its effect on the Commonwealth.

1 Housing starts in Virginia declined by 50,000 in 2005 to  
2 less than the anticipated 15,000 in 2009. The only part of  
3 housing that shows any signs of life are homes  
4 constructed in the price range typically known as  
5 workforce houses. Housing typically designed or  
6 marketed to first time homebuyers. This mandate at this  
7 time can decimate a sector of Virginia's housing industry.  
8 It's important to remember there are over 50,000  
9 businesses typically involved in the acquisition and  
10 construction of new homes. I strongly encourage you to  
11 resist any mandate that would in anyway further affect  
12 the housing industry and endanger local development.  
13 Moreover, Virginia was ranked as the best state in the  
14 nation to do business with. The Commonwealth's weakest  
15 performance is in the cost of living and for consumers  
16 costs of housing. We're doing everything we can to make  
17 Virginia more competitive in respect to the cost of living  
18 and cost of doing business and other factors that would  
19 affect business. Please do not mandate this requirement  
20 and effect homeowners.

21 MR. CALHOUN: David Seay.

22 MR. SEAY: I'm David Seay the Henrico County  
23 Fire Marshal and a member of the Virginia Fire Prevention  
24 Association Fire Services. Some people believe that the  
25 reduction in fire fatalities in the United States is due to

1 better building codes. Where better codes have  
2 contributed to this reduction is not the only reason we  
3 have seen the number of fire fatalities in the United States  
4 reduced by over 50 percent in the last 20 years. The  
5 information on smoke detectors in new and existing  
6 homes has been one effective tool. Fire safety and  
7 prevention and education to the public plays a major role  
8 in this reduction. With the increase in fire service  
9 capabilities and emergency medical services and critical  
10 care facilities and the ability to care for the number of  
11 burn injury patients has to also be considered. Even with  
12 the improvements in building codes, occupants still  
13 continue to die even in newer homes that were subject to  
14 the new and improved code. It is important to know that  
15 even with such a dramatic decrease in civilian fire  
16 fatalities, the number of injuries has not decreased by the  
17 same percent nor has the number of fire fighter fatality  
18 injuries. This would again support the idea that codes  
19 have not had as much to do with the overall number in  
20 intensity of fires in the United States. Additionally,  
21 residents with smoke detectors are passive fire protection  
22 devices. Their purpose is to alert building occupants of  
23 fires while they're small enough to combat or to exit for  
24 safety. Residential smoke detectors do nothing to aid in  
25 terms of distinguishing a fire. If the building is

1 unoccupied, the fire will continue to grow until it is  
2 noticed by someone from the outside. Smoke detectors  
3 alone do nothing to protect those that are unable to  
4 escape by themselves. The very young, the elderly, the  
5 mentally or physically impaired have a decreased chance  
6 of survival without some form of active fire protection or  
7 rescue. Firefighters must still respond to and extinguish  
8 fires that are merely detected by the smoke detector. Fire  
9 sprinklers decrease the size of the fire or have a positive  
10 reduction in the cost of extinguishing the fire. The cost is  
11 not always calculated in the direct cost. While additional  
12 units may be requested for fires in non-sprinkler  
13 buildings, the same units could remain in service to cover  
14 other emergencies if the building had been equipped with  
15 automatic sprinklers. The reduction in service demands  
16 will equate to a decrease service delivery cost to the  
17 locality and ultimately to the taxpayer. The very same  
18 options that apply in homes today. Like the old saying  
19 goes, it takes a community to raise a child. The  
20 protection of life and property is the responsibility of  
21 everyone including building officials, contractors, fire  
22 officials, fire emergency responders and to you to develop  
23 and adopt appropriate codes.

24 MR. FLUERY: Can you wrap it up please?

25 MR. SEAY: Yes, sir. The code process has

1 included residential sprinklers as an additional step to  
2 insure that life and property is protected. There are  
3 others around that want to take this out of the Virginia  
4 Code. In my opinion, we must have an overall compelling  
5 reason to overturn that process. What if your family or a  
6 family of someone you know that would be counted as a  
7 statistic in order to prove a particular point. The  
8 resources –

9 MR. FLEURY: Thank you very much.

10 MR. CALHOUN: Jeff Ainslie.

11 MR. AINSLIE: Good morning ladies and  
12 gentlemen of the Board, I'm Jeff Ainslie. I been a builder  
13 for 25 or 30 years and I've built about 4,000 homes and  
14 I'd like the folks that are here today that would like to see  
15 the regulations include the sprinklers as being mandatory  
16 to stand up please. I'd now like to see a show of hands  
17 now from all the folks that have a sprinkler system  
18 installed in their home. Does anybody here have a  
19 sprinkler system installed in your home, in one or two  
20 family residents? Thank you. These sprinkler systems  
21 have been an option for a number of years in Virginia and  
22 if everybody thought they were so wonderful, I think you  
23 would have seen at least one or two people indicate that  
24 out of the 200 or 250 people in this room. We're not there  
25 yet. Both of them require constant maintenance to

1 remain operational. We install these systems and many of  
2 our commercial buildings and multifamily buildings.  
3 There's a great benefit analysis to be there because if  
4 they're maintained properly and tested on a regular basis,  
5 they do save lives. The cost to install is just the beginning  
6 of the system, it is still less than a, it's still affordable to  
7 less than three percent of the folks in the Commonwealth  
8 of Virginia. The cost to monitor it for a lifetime.  
9 Additional costs are enhanced water supplies, backup  
10 power supply, monitoring contract, maintenance contract  
11 will easily persuade homeowners to have these systems to  
12 either cancel the contract and abandon and then falsely  
13 have a sense of security and their system won't operate in  
14 time of need. One of the speakers mentioned the  
15 basement rate. Simply covering those exposed structural  
16 designs would eliminate that. The building code has been  
17 effective in saving lives over the last years and you have to  
18 compliment the State of Virginia, this Board for years.  
19 People that go onto other states, we're still fortunate here  
20 in Virginia to have a Board that reviews these codes  
21 through an analysis to make the right decisions in order  
22 to keep localities affordable and safe. Don't be persuaded  
23 by the NFDA test and safety results you've heard some of  
24 the speakers come up here and talk about today because  
25 in those test results none of the, the single family homes

1 are being measured because the system is so small.  
2 When you look at safety performance rates, sprinkler  
3 systems in commercial and multifamily structures is  
4 different. What I learned recently is that if you have a  
5 system in your house and it's not monitored properly and  
6 you don't have a maintenance contract and it's not  
7 maintained properly and you do have a fire, the  
8 homeowners insurance will not cover it all. Thank you.

9 MR. CALHOUN: Dan Zacharias.

10 MR. ZACHARIAS: Thank you members of the  
11 Board, my name is Dan Zacharias and I'm the Executive  
12 Director of the Old Dominion Association of Church  
13 Schools. I too am not here to talk about residential  
14 sprinklers. I have opinions but I won't share that with  
15 you. My purpose is just to address the concerns that we  
16 have. ODAC is an association of private Christian schools  
17 and we are a relatively small association. Last year 43  
18 schools around the state and we been in operation since  
19 1976 providing a variety of services and activities for our  
20 members. Our understanding is that proposed in the new  
21 code is the potential of reducing the threshold for these  
22 facility sprinklers in Group E buildings from 20,000  
23 square feet down to 12,000 square feet. Given the size of  
24 our schools, we probably would be one of the principal  
25 groups that would be affected by such a change. We'd

1 innovation of giving drugs and shocking people in the field  
2 had the same argument. Now it's time for sprinklers in  
3 the home. Time has come that will help save lives and it'll  
4 take bold action on your part to do that. I would echo the  
5 request of Chief Werner to send us back to the workroom  
6 and have them come back with a concession so that  
7 everybody will work together; you'd have a good product.  
8 Thank you.

9 MR. CALHOUN: John Broadway.

10 MR. BROADWAY: Good morning, I'm John  
11 Broadway, Virginia Association of Realtors. You've  
12 already heard many comments about the building  
13 industry. I'll simply say on behalf of our 33,000 members  
14 around the state that we're fully supportive of the position  
15 of our colleagues in the homebuilding industry. We've  
16 certainly seen a little pickup and we think that the sale of  
17 new homes around the State, sales of course, are related  
18 to price certainly in this market. We're very concerned  
19 about anything that would create an increase or decrease  
20 in housing. So we would urge you to retain the option  
21 concerning new housing. We will submit written  
22 comments later.

23 MR. CALHOUN: Anthony Shultz.

24 MR. SHULTZ: Good morning Mr. Chairman  
25 and Board members. My name is Anthony Shultz and I

1 represent the Virginia Chapter of the American Fire  
2 Sprinkler Association. We are in favor of the residential  
3 fire sprinkler code adoption. That's not surprising. We  
4 have submitted written comments which I'd ask you to  
5 read. I don't want to belabor a lot of points that have  
6 already been made. I'd like to point out that there's only  
7 one device that you can put in a home that will extinguish  
8 or contain a fire and that's a fire sprinkler. That's very  
9 important. There's a lot of things that are out there and  
10 I'd ask the board to examine the facts and make an  
11 important decision. We're available for any questions that  
12 you may have. Thank you.

13 MR. CALHOUN: Kathy Renn.

14 MS. RENN: Good morning Mr. Chairman and  
15 members of the Board. I'm Kathy Renn and I'm president  
16 of the Peninsula Housing and Builders Association, been  
17 a building in Hampton Roads. Thank you for this  
18 opportunity to speak to you today. Our members wish to  
19 convey our opposition to any change in the Uniform  
20 Statewide Building Code that would mandate fire  
21 sprinklers in single family residential construction. We  
22 urge the Board to accept the recommendations of the  
23 Code and Standards Committee to have fire sprinklers as  
24 an option to homeowners. Insurance rates do not  
25 decrease because of sprinklers. Virginia insurance agents

1 say homeowners rates will increase because of water  
2 damage, mold and other related issues. We urge the  
3 board to let new customers decide for themselves. It is  
4 important that nothing prevents a homebuyer today from  
5 installing a sprinkler system in their home and as a  
6 builder, I can assure you that if the client wants a  
7 sprinkler system installed in their house, I'll have it  
8 installed in their house but it's their choice. Fire officials  
9 contribute to a lobbying effort. Fire officials have shown  
10 today that they can look forward to an impressive lobbying  
11 effort. They suggest they have an educational campaign  
12 to the homeowners and convince the customer that their  
13 fire officials are right and that their builders will be happy  
14 to install a lot of new things. If there's one thing I've  
15 learned in many years as a builder, the customers are  
16 smart. Homebuyers can figure out on their own if the  
17 increased cost in insurance will provide enough added  
18 safety features that would be worth the cost. They can  
19 also decide whether a fire has been addressed sufficiently  
20 through smoke detectors and other technology. We ask  
21 that the VHCD Board continue to allow homebuyers to  
22 make those choices for themselves. Thank you for your  
23 time.

24 MR. CALHOUN: Doug Kingma.

25 MR. KINGMA: Good morning. I'm Doug

1 Kingma. I'm from the Charlottesville Albemarle area. I'm  
2 very uncomfortable and I'm sure everyone else standing  
3 before you arguing about saving lives. I'm sure no one  
4 opposes that. I would like to suggest to you that we as a  
5 community have a finite number of resources and that  
6 deploying those resources in other ways will produce a  
7 better savings of lives than mandating fire sprinklers in  
8 new construction. We saw a few moments ago a  
9 demonstration of how many people had these sprinkler  
10 systems in their homes. If we put them in all new  
11 construction next year or the year after, we would still  
12 have a very small percentage of the population. I'd like to  
13 suggest that the finite resources we have be used more  
14 efficiently. Thank you.

15 MR. CALHOUN: Ed Altizer.

16 MR. ALTIZER: Good morning, I'm Ed Altizer  
17 and I'm the Virginia State Fire Marshal. I'm here speaking  
18 on behalf of residential sprinklers. A lot of what I would  
19 say has already been said. I'll give you a copy of my entire  
20 comments and I will have that information sent in. I got a  
21 couple of statistics and comments that have not been  
22 given I think and those are very important. In 2008, as  
23 has been reported, there were 85 related deaths, 59  
24 percent or 47 were one or two family dwellings; 674  
25 civilian and firefighter injuries; 51.5 percent – 348 were

1 involved in one or two family dwellings. More than 5,600  
2 fires in single family dwellings representing more than  
3 \$125 million of property and content damage. This  
4 doesn't include local government cost, healthcare costs or  
5 any of those things. For years Virginia has been a leader  
6 in this country providing fire protection to citizens and  
7 visitors in buildings that are occupied by the public. We  
8 were one of the first, if not the first in the country to  
9 require equipment in homes and hospitals and nursing  
10 homes and buildings over six stories and hotels and  
11 motels over three stories in height. In addition to being a  
12 leader in providing sprinkler protection for all these  
13 buildings and other buildings. In about 1993, I did a  
14 survey for the Department of Housing and Community  
15 Development Board and Virginia was second in providing  
16 sprinkler protection at that time. New Jersey was a close  
17 second and I'm not sure if that's still good but at that  
18 time, we were the leader. The Board's Code and  
19 Standards Committee has voted to relieve the current  
20 requirement from the option proposed in 2009 of the  
21 residential code even though the Committees work group  
22 has not reached a consensus. However, the Committee  
23 did confirm in addition to fire service, their own  
24 organization supported residential sprinkler. At national  
25 hearings in Rochester, Palm Springs and Minneapolis, any

1 concerns that had been addressed about sprinklers in one  
2 or two family dwellings had been addressed. This  
3 included provisions for installation and ICC plumbing  
4 codes. We're also seeing actual cost figures which are  
5 substantially less than what some groups are indicating  
6 with improvements, the cost should fall. Also taking into  
7 consideration not only the cost of the sprinkler but the  
8 savings cost. I would encourage this board to help lead  
9 this country in helping to solve this significant fire  
10 problem by reconsidering the code and standards and not  
11 removing automatic sprinklers from the base document  
12 and leaving it in the 2009 IRC. We have properly vented  
13 our issue and hoping to provide a solution that I believe  
14 will be is a major unresolved fire safety problem still  
15 facing our citizens.

16 MR. CALHOUN: Richard Napier.

17 MR. NAPIER: Thank you very much. I  
18 appreciate all the work you folks do taking your time to  
19 work on issues like this. I'm a homebuilder and my name  
20 is Rich Napier in Powhatan County which is a rural  
21 county. We heard a few minutes ago from a gentleman  
22 from my same county in Powhatan that shows they had a  
23 sprinkler system installed in 1992 and has a house about  
24 2,000 square feet and I think he said the bill was \$3,000.  
25 I had an issue last year in Powhatan County where it was

1 a much larger home but the way we had a drain issue and  
2 created a four level home which we were dealing with a  
3 different code. The building official indicated we may have  
4 to have the sprinkler system installed. The multiple  
5 storage tanks, the well, and the pump system and  
6 everything else wasn't \$3,000 but it was over \$15,000.  
7 My customer did not chose to do that because of the  
8 affordability issue. We were able to work with our  
9 building official by making changes to the structure of the  
10 home. We removed closets that were called bedrooms and  
11 rename it. We put in some different things like fire  
12 extinguishers on each level and built different things. We  
13 were able to accomplish the goal of the customer for about  
14 \$2,500 instead of \$15,000. The gentleman from  
15 Powhatan that spoke earlier chose to have the system in  
16 his house. So I would ask you folks to make this  
17 voluntary and not mandatory. We've heard talk about  
18 when the seatbelts came in in the 70s and airbags and  
19 you name it. Smoke detectors are effective and we have  
20 them in every room on every level and they do save lives.  
21 None of us are here to talk about or have no argument  
22 about saving lives. When you get into a cost in excess of  
23 \$15,000, it's a major affordability issue. Let the citizens of  
24 Virginia chose and they know that these systems are  
25 available. People are aware of all the safety features when

1 building their homes so let them decide what to do. Just  
2 like we might quote you a thermal system or solar  
3 systems and you name it and when we give the customers  
4 the cost, they change their minds quickly because they  
5 are thinking about having to pay that. We need to stop all  
6 this mandating in our state and let's work from a practical  
7 issue. Let the market decide and dictate where we go.  
8 Thank you very much.

9 MR. CALHOUN: Jack Knapp.

10 MR. KNAPP: (No response).

11 MR. CALHOUN: Alan Givens.

12 MR. GIVENS: (No response)

13 MR. CALHOUN: Guy Tomberlin.

14 MR. TOMBERLIN: Good morning or afternoon,  
15 Mr. Chairman and distinguished board members. I'm  
16 Guy Tomberlin from Fairfax County and I'm here  
17 representing myself and I'm speaking first on the Virginia  
18 Plumbing and Mechanical Inspector's Association along  
19 with the Virginia Building Code Officials Association and  
20 VRSC. We submitted nine proposals to the Board this  
21 year for the USBC amendment and I just want to highlight  
22 a couple of them. First related to the carbon monoxide  
23 detectors, the mandated carbon monoxide detectors,  
24 anytime anyone pulls a permit for anything and we cause  
25 that to be a retroactive provision and probably prohibited

1 buildings which are four stories or less.

2 MR. CALHOUN: Tom Schwartz.

3 MR. SCHWARTZ: (No response)

4 MR. CALHOUN: John Ruffin.

5 MR. RUFFIN: (No response)

6 MR. CALHOUN: Bobby Tyler.

7 MR. TYLER: Thank you for the opportunity to  
8 speak to you today. I had no intention of coming up here  
9 and speaking and I heard a lot of information and I didn't  
10 hear the statistics I was looking for. I build houses for  
11 firefighters and I build houses for teachers, I build houses  
12 for public workers and police officers and I can tell you  
13 our business is decimated. When Mr. Ainslie asked these  
14 people to stand up and tell you how many of them  
15 supported this, and then he turned around and asked  
16 how many actually have them in their homes, I think that  
17 probably was one of the most compelling statistics I heard  
18 all day long. I live in one of the houses that I built and I'll  
19 tell you that I guess I should put a sprinkler system in it  
20 but I wouldn't. I deliver every house that I build  
21 personally. The one thing that I talk about that's very  
22 important and the one thing that will destroy your house I  
23 tell them is water. It's quiet and doesn't make a whole lot  
24 of noise and importantly it does it when you're not home  
25 most of the time. Unless we have a system that would

1 detect all those things, I'm opposed to it. I'll tell you that  
2 right now. I do love my family and love my home and I do  
3 protect my house. I install Ruffin Alarm Systems for every  
4 house we build and I allow the customer to decide  
5 whether they want it. I have weighted rise detectors that  
6 will detect heat. That's the protection that I have. I have  
7 clients that want it and I have clients that do not want it.  
8 I ask you not to make it mandatory. Thank you.

9 MR. FLEURY: That appears to be the last  
10 speaker that has signed up to speak from the sign in  
11 sheet. Are there any persons that have not spoken today  
12 on the issues for which this public hearing was convened?  
13 Any other speakers? Then the hearing is now concluded.  
14 All comments will be taken under advisement by the  
15 Board. I'd like to re-emphasize any written statements  
16 received will be considered by the Board. For members of  
17 the Board we'll now go over to our meeting room and the  
18 Board meeting and we'll see you all later. Have a good  
19 day.

20  
21  
22 PROCEEDINGS CONCLUDED  
23  
24  
25

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

2009 Code Change Cycle – Code Change Evaluation Form

**USBC – Virginia Construction Code  
Code Change No. C-310.6(R329)**

**Nature of Change:**

To require a fire extinguisher to be installed in the kitchen area of new dwelling units in lieu of a sprinkler system.

**Proponent:** Mike Toalson, Home Builders Association of Virginia

**Staff Comments:**

The proposal was considered at one of the later sub-workgroup for residential sprinklers meetings but was not agreed upon by the fire service representatives as a substitute for requiring sprinklers, but there was no objection to the requirement in addition to sprinklers.

**COMMENT RECEIVED**

Beginning on Page No. 172

**Codes and Standards Committee Action:**

\_\_\_\_\_ Approve as presented.

\_\_\_\_\_ Disapprove.

\_\_\_\_\_ Approve as modified (specify):

\_\_\_\_\_ Carry over to next cycle.

\_\_\_\_\_ Other (specify):

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2009 Code Change Cycle

Code Change Number: C-310.6(R329)

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Mike Toalson

Representing: Home Builders Association of Virginia

Mailing Address: 707 East Franklin Street, Richmond, VA 23219

Email Address: mitoalson@hbav.com

Telephone Number: 804-643-2797

Proposal Information

Code(s) and Section(s): 2009 USBC IRC R 329 and add new section on Fire Extinguishers

Proposed Change (including all relevant section numbers, if multiple sections):

R329.1 Kitchen Areas. Other than where the dwelling unit is equipped with an approved sprinkler system in accordance with R 313 or P 2904, a 10 BC fire extinguisher or an approved equivalent type of fire extinguisher shall be installed in the kitchen area.

Supporting Statement (including intent, need, and impact of the proposal): Kitchens are the top location for home fires. Many are small and controllable if discovered early, and according to the National Association of State Fire Marshall's, fire extinguishers have historically been the first line of defense for the same. According to the same professional group, if a fire is discovered in its early stages, the most effective means of protecting life and preventing property loss is to sound an alarm and then control and/or extinguish the incipient stage fire with a portable fire extinguisher. Fire extinguishers are manufactured with instructions and can be operated by untrained persons. They would provide a cost effective and enhanced active fire suppression measure to new homes. The typical 10 BC fire extinguisher would cost less than \$50.00.

According to the National Association of State Fire Marshall's, fire extinguishers provide a very good first line of defense.

Submittal Information

Date Submitted: December 4, 2009

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)

Main Street Centre  
600 E. Main St., Ste. 300  
Richmond, VA 23219

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)

Fax Number: (804) 371-7092

Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2009 Code Change Cycle**

Code Change Number: \_\_\_\_\_

Proponent Information (Check one):  Individual  Government Entity  Company

Name: Mike Toalson Representing: HBA of Virginia

Mailing Address: 707 East Franklin Street, Richmond, VA 23219

Email Address: mltoalson@hbav.com Telephone Number: 804-643-0317

Proposal Information

Code(s) and Section(s): 2009 USBC IRC R 329 and add a new section on Fire Extinguishers

Proposed Change (including all relevant section numbers, if multiple sections): R329.1 Kitchen Areas. Other than where the dwelling is equipped with an approved sprinkler system in accordance with R 313 or P 2904, a UL Rated 2-A: 10-B:C fire extinguisher or an approved equivalent type fire extinguisher shall be installed in the kitchen area.

Supporting Statement (including intent, need, and impact of the proposal): Kitchens are the top location for home fires. Many are small and controllable if discovered early and according to the National Association of Fire Marshall's fire extinguishers have historically been the first and most effective line of defense of the same. According to the same organization, if a fire is discovered in its early stages, fire extinguishers are the most effective means of protecting life and preventing damage to property. Fire extinguishers are manufactured with the instructions and can be operated untrained persons. Fire extinguishers would be a cost effective, and would enhance the fire suppression system in every new home.

Submittal Information

Date Submitted: Date First Submitted: December 4, 2009/Amended May 12, 2010

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
Main Street Centre  
600 E. Main St., Ste. 300  
Richmond, VA 23219

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

2009 Code Change Cycle – Code Change Evaluation Form

**USBC – Virginia Construction Code  
Code Change No. C-310.6(E3802.4)**

**Nature of Change:**

To delete the requirements in the 2009 IRC for having to install electrical wiring on running boards in crawlspaces of homes.

**Proponent:** DHCD Staff (at the direction of the Codes and Standards Committee)

**Staff Comments:**

**Codes and Standards Committee Action:**

\_\_\_\_\_ Approve as presented.

\_\_\_\_\_ Disapprove.

\_\_\_\_\_ Approve as modified (specify):

\_\_\_\_\_ Carry over to next cycle.

\_\_\_\_\_ Other (specify):

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2009 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Staff (at the direction of the Codes and Standards Committee)

Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s): VCC, IRC Section E3802.4

Proposed Change (including all relevant section numbers, if multiple sections):

Change Section E3804.2 of the 2009 IRC as follows:

**E3802.4 In unfinished basements and crawlspaces.** Where type SE or NM cable is run at angles with joists in unfinished basements and crawlspaces, cable assemblies containing two or more conductors of sizes 6 AWG and larger... (remainder of section unchanged).

Supporting Statement (including intent, need, and impact of the proposal):

The 2008 NEC and the 2009 IRC electrical provisions added a new requirement for supporting electrical cables in a crawlspace either by running them through holes in the floor joists or by installing running boards. Both of these processes require much additional work and are very difficult to do in a typical crawlspace due to the limitations in working space. Crawlspaces are not typically accessible to the extent that protection of these conductors is necessary as they would be in a basement; therefore, this new requirement, which could add a substantial installation cost, is not warranted. This proposal simply keeps the 2006 IRC provisions intact. There is debate over the new requirement in the NEC adoption process and it appears that the 2011 NEC will have an exception for crawlspaces less than four and one-half feet in height. If that exception passes for the NEC, then it could be considered for the 2012 IRC and the 2012 USBC; however, for the 2009 USBC, it is best to just delete the new requirement and keep the 2006 requirements while the issue continues to be debated at the national level.

Submittal Information

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
The Jackson Center  
501 N. 2nd Street  
Richmond, VA 23219-1321

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

2009 Code Change Cycle – Code Change Evaluation Form

**USBC – Virginia Construction Code  
Code Change No. C-1301(402.1.1)**

**Nature of Change:**

To reference an alternative standard for log wall construction and to specify greater window energy requirements for such installations.

**Proponent:** Michael E. Loy, representing the Log Homes Council

**Staff Comments:**

The proposal was not received in time to be fully vetted through the workgroup process; however, it was discussed at several client group meetings. The proposal references an ICC standard for log homes. Staff does have a copy of the standard. Staff notes that the proposal is from the Log Homes Council, yet the proposal is for the IECC and not the energy provisions of the IRC. Most log homes would be constructed to comply with the IRC.

**Codes and Standards Committee Action:**

\_\_\_\_\_ Approve as presented.

\_\_\_\_\_ Disapprove.

\_\_\_\_\_ Approve as modified (specify):

\_\_\_\_\_ Carry over to next cycle.

\_\_\_\_\_ Other (specify):

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2009 Code Change Cycle**

Code Change Number: C-1301(402.1.1)

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Michael E. Loy

Representing: Log Homes Council

Mailing Address: PO Box 1668, Irmo, SC 29063

Email Address: mloy@southlandloghomes.com

Telephone Number: 803-407-4601

Proposal Information

Code(s) and Section(s): IECC Table 402.1.1 Insulation and Fenestration Requirements by Component

Proposed Change (including all relevant section numbers, if multiple sections):

Add footnote "k" to the Mass Wall R-value column of IECC Table 402.1.1 "Insulation and Fenestration Requirements by Component"

Footnote "k" to read as follows : k Log walls complying with ICC400 and with a minimum average wall thickness of 5" or greater shall be permitted in Zone 4 when overall window glazing is .32 U-factor or lower and all other component requirements are met.

Supporting Statement (including intent, need, and impact of the proposal):

To direct users to the consensus standard on log construction, the footnote references ICC400. This amendment would provide a prescriptive method that code officials and design professionals can apply to log homes. It simplifies administration of the codes for log construction for all parties involved. Log construction would be held to a higher requirement for window glazing.

Submittal Information

Date Submitted: 11/3/09

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

2009 Code Change Cycle – Code Change Evaluation Form

**USBC – Virginia Construction Code  
Code Change No. C-3001.2.1**

**Nature of Change:**

To reference the newest addendum to the traditional elevator standard and to add a new standard for the evaluation of newer design or non-traditional elevators to the USBC.

**Proponent:** James D. Lawrence, representing the International Association of Elevator Consultants

**Staff Comments:**

The proposal was not received in time to be vetted through the workgroup process; however, it was discussed at one meeting of DHCD staff with the Virginia Building and Code Officials Association. It was recognized that the standard has merit for facilitating the acceptance of newer or non-traditional elevators for which the normal ASME A17.1 standard does not provide complete coverage for. It was also noted that the '08 addendum to ASME A17.1 authorizes the use of the new A17.7 standard, which might be sufficient rather than actually referencing the new standard. The proponent did not provide a copy of either the '08 addendum to the ASME A17.1 standard or the new A17.7 standard and was informed that copies needed to be provided.

**Codes and Standards Committee Action:**

\_\_\_\_\_ Approve as presented.

\_\_\_\_\_ Disapprove.

\_\_\_\_\_ Approve as modified (specify):

\_\_\_\_\_ Carry over to next cycle.

\_\_\_\_\_ Other (specify):

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2009 Code Change Cycle

Code Change Number: C - 3001.1.2.1

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: James D. Lawrence

Representing: IAEC (Int'l Assoc. of Elevator Consultants)

Mailing Address: 4214 Coles Point Way, Glen Allen, VA 23060

Email Address: jlawrence9@aol.com

Telephone Number: 804-747-0971

Proposal Information

Code(s) and Section IBC – Chapter 35 Referenced Standards (s): \_\_\_\_\_

Proposed Change (including all relevant section numbers, if multiple sections): Revised

Changed the referenced standards in Chapter 35 of the IBC as follows:

ASME

Add A17.1a-2008/CSA B44a-08 Addenda to ASME A17.1- 2007/CSA B44-07

Add A17.1b-2009/CSA B44b-09 Addenda to ASME A17.1- 2007/CSA B44-07

The next edition of ASME A17.1 will be on a three-year cycle without Addenda, which are being phased out. These Addenda will incorporate most of the upcoming changes in the next edition of the code.

Supporting Statement (including intent, need, and impact of the proposal):

A17.1a and 1b Addenda cover clarifications, corrections, deletions, additions and updates to elevator code referenced standards to the most recent available version of A17.1. A17.1a was issued December 5, 2008 and became effective June 5, 2009. A17.1b was issued December 30, 2009 and becomes effective June 30, 2010.

Submittal Information Copies of A17.1a and A17.1b submitted to VDHCD

Date Submitted: May 10, 2010 ( Supersedes 12/1/09 submittal)

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)

The Jackson Center

501 N. 2nd Street

Richmond, VA 23219-1321

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)

Fax Number: (804) 371-7092

Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

2009 Code Change Cycle – Code Change Evaluation Form

**USBC – Virginia Construction Code  
Code Change No. C-3102.5**

**Nature of Change:**

To add a provision specifically dealing with construction not extending over a lot line.

**Proponent:** John Catlett, Building Official, representing the City of Alexandria Building Department

**Staff Comments:**

The proponent offers language from the BOCA Code with some modifications. The BOCA Code was the model code used as the basis for the USBC prior to the merger of the three nationally recognized model code organizations to form the International Code Council. Staff notes that the language suggested may be administrative in nature and if necessary, should be placed in Chapter 1 of the USBC. Section 108.1 of the USBC already requires a permit if a lot line is moved. To only put the language in Chapter 32 of the IBC (which is only for encroachments into the public right of way) would raise issues of whether it was applicable on adjacent private lots. In addition, if a building was constructed under the IRC (USBC Group R-5), it was also be questionable whether a provision in Chapter 32 of the IBC would be applicable. Staff further notes that the definition of “building line” in both the IBC and the IRC specifically prohibits building across a lot line. This change was not fully vetted through the workgroup process as the proposal came in after the first round of workgroup meetings; however it was considered by a DHCD-sponsored meeting with VBCOA and a number of similar issues were raised.

**Codes and Standards Committee Action:**

\_\_\_\_\_ Approve as presented.

\_\_\_\_\_ Disapprove.

\_\_\_\_\_ Approve as modified (specify):

\_\_\_\_\_ Carry over to next cycle.

\_\_\_\_\_ Other (specify):

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2009 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual     Government Entity     Company

Name: John Catlett

Representing: City of Alexandria

Mailing Address: 301 King Street, Room 4200, Alexandria, va 22314

Email Address: john.catlett@alexandriava.gov

Telephone Number: 703.746.4200

Proposal Information

Code(s) and Section(s): USBC Construction Code (New) IBC 3201.5

Proposed Change (including all relevant section numbers, if multiple sections):

3201.5 Encroachments of buildings and structures to building line.

Except as provided herein, a part of any building hereinafter erected and additions to an existing building heretofore erected shall not project beyond the lot lines or building line where such lines are established by zoning laws or any other statute controlling building construction. This shall not affect an existing building or structure that may have been constructed over one or more lot or building lines unless being added to and the addition will be placed over one or more lot lines.

Supporting Statement (including intent, need, and impact of the proposal):

It appears to be the intent of the building code to generally not allow buildings and structures to be built over property lines. The ICC has several terms, code provisions and definitions that indicate this position.

First the ICC defines building line as the following:

**BUILDING LINE.** The line established by law, beyond which a building shall not extend, except as specifically provided by law.

However, the term is only used in one other section of the code pertaining to fire escapes.

The ICC defines Fire Separation Distance as the following:

**FIRE SEPARATION DISTANCE.** The distance measured from the building face to one of the following:

1. The closest interior lot line;
2. To the centerline of a street, an alley or public way; or
3. To an imaginary line between two buildings on the property.

The application of Fire Separation Distance is found in 406.3.7

**406.3.7 Fire separation distance.** Exterior walls and openings in exterior walls shall comply with Tables 601 and 602. The distance to an adjacent lot line shall be determined in accordance with Table 602 and Section 704.

The ICC defines Lot Lines as the following:

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

2009 Code Change Cycle – Code Change Evaluation Form

**SFPC – Virginia Statewide Fire Prevention Code  
Code Change No. F-2205.4**

**Nature of Change:**

To specify a distance from gas pumps where smoking is prohibited.

**Proponent:** Robby Dawson, representing the Virginia Fire Services Board

**Staff Comments:**

The proposal was not received in time to be considered by the workgroups. The only staff suggestion is that to facilitate a greater distance is necessary, the proposal could be modified to read as follows:

2205.4 Sources of ignition. Smoking and open flames shall be prohibited in areas where fuel is dispensed. If not marked otherwise, the area shall extend at least 25 feet (7620 mm) away from any dispensing device. (Remainder unchanged)

**Codes and Standards Committee Action:**

\_\_\_\_\_ Approve as presented.

\_\_\_\_\_ Disapprove.

\_\_\_\_\_ Approve as modified (specify):

\_\_\_\_\_ Carry over to next cycle.

\_\_\_\_\_ Other (specify):

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2009 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual     Government Entity     Company

Name: Robby Dawson

Representing: Virginia Fire Services Board

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): USBC 903.2.8 – Substitute based on Work Group Comments

Proposed Change (including all relevant section numbers, if multiple sections):

Proposed Change (including all relevant section numbers, if multiple sections):  
Change Section 2205.4 to read:

**2205.4 Sources of ignition.** Smoking and open flames shall be prohibited within 25 feet (7,620mm) ~~in areas where fuel is dispensed and shall not be allowed within 25 feet~~ of a fuel dispensing device. The engines of vehicles being fueled

Supporting Statement (including intent, need, and impact of the proposal):

This language change is in response to feedback received at the Work Group Meeting March 25, 2010. The balance of the supporting statement is listed here for reference:

The current language is subjective and is not quantifiable. Since this section applies to a variety of fueling operations that involve gasoline, LPG, CNG or hydrogen, the proposed change is to provide a measurable distance but still retain the subjective language aspect for the various circumstances based on the particular fuel to be dispensed.

As it may apply to smoking, open flames and the selected 25-foot distance, the common distances expressed in the firecode are 10, 25 and 50-foot separation from flammables and combustibles with 25-feet viewed as the most reasonable minimum distance from dispensers.

In recognition of the various circumstances that a 25-foot may be an insufficient distance, no attempt is being made to coordinate a change on how the proposed 25-foot distance would be conveyed to those using the fuel dispensers. Section 2205.6 currently requires signage to be "conspicuously posted with sight of each dispenser". It is up to the operator of the fueling facility on how to best comply with that requirement and can range from the most common scheme at public retail sites of posting signage on the dispensing unit itself or, very large free standing signs on the perimeter of a private fleet fueling area.

Submittal Information

Date Submitted: 12/16/09 Substitute submitted 3/30/2010

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR Taso (Technical Assistance and Services Office)  
The Jackson Center  
501 N. 2nd Street  
Richmond, VA 23219-1321

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150

