

DHCD, DBFR 2009 Code Change Process

Summary of June 3, 2009

Workgroup 4 Sub-Workgroup on Residential Sprinklers Meeting

CODE ISSUES:

1. 2009 IRC provisions

The IRC R313 mandate for sprinklers in townhomes and one and two family dwellings was discussed by the group. The effective date in the IRC would not be valid in the 2009 USBC. The BHCD sets the effective date and could set an enactment date. There was also discussion that for townhomes both 13D and P2904 could be used to install sprinklers.

2. ICC changes

ICC code changes that were either denied or withdrawn were discussed for the purpose of allowing attendees to be aware of what other options had been explored at the ICC level for incentives and only requiring townhomes to be sprinkled. Some of the incentives noted were allowing townhomes with a current two hour fire wall requirement to be reduced to a one hour fire wall and for one and two family dwellings, the consideration of reduced fire separation distances, deleting emergency egress openings, reducing smoke detectors and allowing more glazing.

3. Manufactured Homes

There was discussion on the fact that manufactured homes are sold primarily in rural areas. No code changes to include manufactured homes have been submitted to date, nor did any of the attendees speak in favor of such a mandate. At the last meeting a representative from the industry spoke against including these homes in the mandate. Ron Dunlap, Executive Director of the VMMHA, was present and indicated VMMHA would oppose a code change for this mandate if one is submitted.

DISCUSSION - OPTIONS:

The following options were discussed during the course of the meeting:

Mandatory with a delayed implementation date:

No consensus was reached on this option.

Deleting the mandate completely:

A code change has been submitted for the deletion by HBAV. Proponents felt this was necessary due to cost and a lack of evidence that the mandate will

have a significant impact on fire related deaths. Opponents of the code change disagreed and expressed the belief that the mandate will reduce the number of deaths (38 civilians and two firefighters over the past nine years) and injuries. No consensus was reached on this option.

Mandatory with incentives available to offset costs:

No consensus was reached on this option. It was noted that the Sprinkler Coalition will be discussing this possible incentives at their June 8th meeting.

Non-mandatory with or without incentives:

A code change has been submitted for this by HBAV. No consensus was reached on this option.

Passive construction improvements:

Possible options, such as requiring Type X gypsum on ceilings to protect joists and trusses from early failure were discussed. This option would allow occupants more time to exit and the cost would be substantially less than sprinkling. This would give firefighters additional time for rescue. No consensus was reached on this option.

Changing the mandate to require sprinklers for townhomes only, deleting the requirement for one and two family dwellings:

Proponents of this option stated that this would be beneficial for the safety of individuals residing townhomes that are three or less stories, since sprinklers are now required only in those townhomes that are four or more stories. There was a discussion on the possibility of offering incentives for townhomes, such as a reduction in the fire wall. This was opposed by parties who felt these incentives would reduce the fire safety in adjacent homes. No consensus was reached on this option.

Fire Data and Recent Fires in Prince William and Loudoun Counties:

Representatives from Prince William County and Loudoun County gave a presentation regarding recent fires in those localities. Part of the presentation noted new fire data showing that the burn time of contents has been reduced from 17 minutes to three to four minutes. The representatives pointed to a number of reasons for this reduction, including highly flammable furniture, carpeting and other materials. It was also noted that changes in house styles, floor plans and construction methods have contributed to homes burning faster.

The group discussed causes of home fires, including the top five, which are smoking, cooking, electrical, open flames (candles) and heating equipment/fireplaces.

OTHER FACTORS

1. Water fees

Fire services representatives indicated they are engaging local water purveyors and feel this issue might not have the adverse cost impact as previously thought for one or two story homes, especially for homes sprinkled under P2904 using the same piping as the potable water supply.

2. Lightweight construction

There was discussion concerning whether or not improvements were necessary. Proponents of improvements stated that firefighter safety is a concern with this type of construction. Opponents stated that the associated costs would be high and would be passed on to the consumer. It was also stated that this type construction has resulted from a push to build more environmentally friendly buildings.

3. Fire-safe cigarettes

Legislation has been adopted requiring fire-safe cigarettes. NFPA indicated fire-proof cigarettes and arc-fault devices could reduce deaths per year (currently, there are between 800 – 1000) over a period of time. There was discussion as to the potential number of lives that could be saved in Virginia alone (possible 10, based on the national figures).

4. Arc fault devices

The group discussed what impact the arc-fault devices will have on home fires (refer to item 3).

5. Insurance

The group discussed the impact of insurance companies paying claims for homes that were totally lost to fire as opposed to paying for clean up for water damage, possible mold, etc. that could result from sprinklers.

6. Cost data

There was a lengthy discussion on the cost impact on affordable housing versus the possible significant reduction in deaths, injuries and property losses. There was discussion on how long it would take (10 years, 20 years or more) for data to be available that would demonstrate the number of lives and or homes saved. Fire services representatives believe cost is not the key issue in the debate. They pointed out that there can be community infrastructure savings, such as a reduced need to build additional fire stations and purchase costly fire trucks and other equipment. They further stated that if an entire community was sprinkled, narrower roads, increased spacing for fire hydrants and other community cost reductions could be put into place.

Builders expressed the viewpoint that cost was an important consideration for this and all other mandates being imposed in the 2009 model codes, including energy

measures. It was stated that even though the cost of a sprinkler system, amortized over the loan period, may appear to be insignificant, the more important factor is individuals being able to qualify for a home where construction costs have to be increased thousands of dollars.

The group discussed costs with a lot of debate over the methods used to calculate installation and maintenance cost for sprinklers. Fire services representatives pointed out that overall community costs must be taken in to consideration. These include funds that would be saved by fire departments with respect to having fewer large fire incidents, funds saved by localities for insurance payouts to families of firefighters lost, continued medical insurance/disability costs for disabled firefighters, and the earlier mentioned reduction in the need for additional fire stations and equipment, along with the reduction in property losses if sprinklers are required.

Builders stated there would be a significant cost impact on families buying their first home. An estimate from staff indicates a possible range from \$1.61 to \$2.55 per square foot as averages for installation of sprinklers, recognizing that Northern Virginia homes are generally larger with more stories and higher ceilings and there are higher labor rates, which would mean homes in that area may cost over \$2.00 per square foot. It was stated that rural communities on wells will have significantly higher costs (over \$2.00). There was much discussion as to what the actual cost increase for homes with well/septic systems would be. The staff estimate indicates that most of the rest of the state would be at the lower range (below \$2.00) and, assuming there would not be hook-up fees, the cost range would be \$3200 to \$5100 for a 2,000 square foot home. Again, these figures were debated and different parties felt the costs would be either higher or lower.

7. Educational efforts and operational practices

An analogy was given that, prior to the law being passed requiring seat belts be worn, many efforts had been made to educate the public on the safety benefit of wearing seat belts. Yet, vehicle accident deaths remained high and many motorists did not wear seat belts. Once the law was passed, deaths were dramatically reduced. The analogy was that the same general principal could be used with respect to the sprinkler issue; though people might know sprinklers can save lives, many will not have them installed in their homes unless it is mandated.

Builders disagreed and stated that newer homes will not have the same fire records as older homes so the seatbelt comparison was incorrect. They pointed out that since the IRC inception, homes built after 2000 have hard-wired/battery back-up smoke detectors and better fire stop requirements. Fire officials believe new homes will have the same fire records and that those fires will give occupants less time to exit as owners/tenants are buying furnishings, etc. with more flammable materials. VDFP data doesn't include the age of homes, but does indicate if smoke detectors were present and were operable (whether or not the occupants stated they heard the detectors).

Builders expressed the view that other, less expensive options might be viable, such as public education and requiring all existing homes to have smoke detectors.

8. **Current USBC Group R-2 Exemption**

A code change is planned to be submitted to delete the USBC IBC903.2.7 exemption for R-2 apartment buildings two story and 16 dwelling unit or less, where there is not adequate volume and pressure of water.

NEW BUSINESS

There was a discussion on the need for periodic inspections to detect damaged heads or piping and painting of sprinkler heads. Opponents of the sprinkler mandate felt that significant costs could be incurred for repair/maintenance of sprinklers. It was also stated that there could be potential liability issues if a home is sprinkled and the system fails due to lack of maintenance. Fire services representatives disagreed and stated that the maintenance issue would be no larger than with current potable water systems and home appliances.

No further meetings are planned as proponents/opponents were unable to reach a consensus on any of the options discussed.

For now the BHCD's Codes and Standards Committee has these choices: 1) to allow the IRC sprinkler mandate to stand; 2) to delete the mandate; 3) to amend the mandate to optional; and, 4) to select from other options.