Adoption of Residential Sprinkler Requirements

September 25, 2009

Revised 11/17/09 – Appendix A

Joint Ad-Hoc Residential Sprinkler Committee
Guidance Document

INTERNATIONAL CODE COUNCIL
ICC
COLORADO CHAPTER

FIRE MARSHAL'S ASSOCIATION
COLORADO

Purpose

The purpose of this document is to provide guidance to local jurisdictions contemplating the adoption of the residential sprinkler requirements found in the 2009 International Residential Code (IRC). These recommendations are based on discussions with numerous stakeholders as part of the efforts of the Joint Ad-Hoc Residential Sprinkler Committee ("Committee"). They are intended to provide uniformity in code adoptions and help to remove barriers to successful implementation.

The primary focus of these recommendations is to introduce fire sprinklers into communities that have never contemplated them before and to provide enough incentives to gain their commitment during the adoption process. For those communities that already have residential sprinkler ordinances, they are encouraged to contemplate the new philosophies and options found in the IRC and continue to maintain or further improve their community's level of safety.

Background

The 2009 IRC includes provisions that require all new one- and two-family dwellings and townhouses to be protected by a fire sprinkler system. If adopted with no amendments, the requirement for townhouses would be immediate and the requirement for one- and two-family dwellings would be effective on January 1, 2011. In anticipation of the adoption of these requirements, the Fire Marshal's Association of Colorado and the Colorado Chapter of the International Code Council formed the Joint Ad-Hoc Residential Sprinkler Committee. The goal of the Committee is to gain acceptance of residential sprinklers and remove the barriers that would prevent their wide-spread, cost-effective, efficient, and quality installation.

Many barriers have been identified and the Committee has divided into three subcommittees (education, legislation, and technical) to begin addressing them. Some of the major barriers that appear to be affecting the local adoption process include:

- Decision-makers do not fully understand how sprinklers work and the value of their installations.
- The housing market is in a significant decline and any new requirements that increase home costs may further challenge the market's recovery.
- There are existing developments in progress that have insufficient infrastructure (e.g., water meters, taps, pipe size, etc.) to accommodate sprinklers.
- Water purveyor concerns need to be addressed in order to reduce costs and improve ease of installation. These entities are also often in possession of many incorrectly-sized water meters and it may take some time/funding to replace them in preparation for sprinkler systems.

- Legislation needs to be enacted that will streamline regulation, recognize the various methods of system installation introduced by the IRC, encourage cost reduction, and maintain quality.
- Any new rules introduced by legislation need to be implemented with time for associated education and certifications for installers and inspectors.

It is important for city councils and other adopting bodies to understand how residential sprinklers work, the various stakeholder concerns, and the efforts of the Committee to address those concerns and make the adoption of sprinkler requirements a success. The Committee also needs to be sensitive to the housing market and its impact on local jurisdictions, as well as the time it will take to remove barriers that have a direct impact on the cost of sprinkler systems. Therefore, the Committee recommends the following uniform approach to the adoption process.

Recommendation

1. Encourage the adoption of the 2009 IRC, including the requirements for residential sprinklers and Section P2904.
    - Now is the time for decision-makers and the citizens to learn about sprinklers and commit to their mandatory installation.

2. Amend the IRC to have an effective date of January 1, 2013 for the installation of sprinklers in both one- and two-family dwellings and towhhouses.
    - One- and two-family dwellings and townhouses should be treated the same, as they are presented with the same implementation challenges.
    - Moving the effective date to 2013 will provide time for the many barriers to be addressed and provide sprinkler opponents with one more opportunity to remove the sprinkler requirements during the 09/10 ICC code development process (i.e., preparation of the 2012 IRC). While the Committee is confident that the sprinkler requirements will remain, a final determination will be made in late 2010.

3. Amend IRC Section R302.2 (exception) to ensure the fire-resistance rating of the wall assembly separating townhouses is only reduced when a sprinkler system is installed.
    - The existing exception was added based on the assumption that all new townhouses would be protected by sprinklers upon adoption of the IRC. Since Committee Recommendation #2 recommends a delay in the effective date for townhouse sprinklers, it is appropriate to also ensure that any code reductions do not apply until the sprinklers are installed.

4. Amend the IRC to exempt existing developments (or portions of developments) that are already in progress or substantially completed, where the infrastructure has already been installed and is inadequate for sprinkler design.

- The primary concern is the size of the domestic water mains and water meters that have already been installed for the development. If they are too small, then there may be a significant cost to upgrading this infrastructure. The philosophy would be to exempt the subdivision since the code of record under which it was designed did not contemplate sprinklers.
- Any new developments, or future phases/filings of existing developments, that have not started site preparation would not be exempt and would have ample time to prepare the necessary infrastructure.

5. Amend International Fire Code Section 102.5(1) to reflect the actual scope of the IFC with respect to residential sprinkler permits.
    - As written, this section of the IFC would require a sprinkler permit to be issued by the fire department for all residential sprinkler systems. This may or may not be true, depending on the how the local building and fire department will address the plan review, permit and inspection processes. This may be further defined by the type of sprinkler system design (hydraulic, pipe-schedule) and the associated design standard (NFPA 13D, IRC P2904). State regulation may also vary based on similar criteria. Therefore, when adopting this section of the IFC, some flexibility should be incorporated into the amendment to recognize other entities that also regulate residential sprinklers.

6. Avoid local amendments that increase the number of requirements or processes needed to install sprinkler systems.
    - Building and fire departments are encouraged to work together to determine the most appropriate administrative processes that result in reduced costs and time delays.
    - Residential sprinklers are intended to provide life safety to occupants and control the spread of the fire until suppression personnel arrive. Additional design, installation, and maintenance requirements beyond those of national standards should be pursued cautiously to avoid unnecessary cost increases. It is also recognized, however, that certain trade-offs and additional requirements may be necessary to address access, water supply, response time, local staffing levels, or other suppression capability challenges.
    - Ultimately, it is hoped that the design and installation of residential sprinklers in one- and two-family dwellings and townhouses will be simplified and require minimal review and permitting prior to installation. This is a shift in philosophy for most AHJ's, but needs to be considered in order to make the transition to low-cost, high-production systems.

Conclusion

The Committee recommends adopting the 2009 IRC, but with a delayed effective date for residential sprinklers. That way, the commitment to residential sprinklers will be

clearly stated and captured in the adopting ordinance. In the meantime, efforts will continue to make necessary legislative changes, train personnel, reduce system costs, and gain more acceptance for wide-spread residential sprinkler system installation.

Appendix A
Participating Members

Andy Walsh	Westminster
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Becky O'Guin	South Metro
Ben Greene	Englewood
Bob Leigh	Aurora
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Carol Gill-Mulson	Eagle River
Chad McCollum	Thornton
Chris Allison	Longmont
Craig Wiseman	Western States Fire Protection
Dan Stanek	Eagle County
Daryl Kuiper	CO Board of Plumbers
David Lowrey	Boulder
David Nuss	NFPA
Debra Thorson	Denver
Don Wyman	Denver Water
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Janine Snyder	Frisco
Jeff Dorrell	North Metro
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Keith Brown	North Metro
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Tom Malmberg	Denver Water
Tom Meyers	Colorado Code Consultants
Tracey Taylor	Fire & Life Safety Educators of CO South Metro
Woody Percival	Pueblo

2009 INTERNATIONAL CODE ADOPTION AND FIRE SPRINKLERS

Jurisdiction	2009 Code Adoption Date	Fire Sprinkler Effective Date
Arapahoe County	Summer/Fall 2010	1/1/2013
Aspen	Fall 2010	Unknown (requires now based on size)
Aurora	Late 2010	Unknown – Council will give direction
Blackhawk	Summer 2010	Unknown - Possible amendments
Boulder County	Summer/Fall 2010	Unknown (Already requires based on size)
Broomfield	Summer 2010	1/1/2013 - need to bring back before City Council before 1/1/2013 to confirm
Commerce City	Fall 2010	Unknown
Denver	Summer 2010	New Single Family 1/1/2013 Townhouses upon adoption date
Douglas County	Late 2010/Early2011	1/1/2013
Georgetown	Unknown	Unknown
Golden	1/1/2010	1/1/2013
Greeley	1/1/2010	Unamended
Greenwood Village	Fall 2010	Amended out – base on IFC fire flows
Lakewood	Unknown	Unknown
Littleton	1/1/2010	Amended out entirely
Longmont	1/4/2010	1/1/2013
Louisville	1/1/2010	Amended out entirely – will revisit during 2012 adoption
Mountain Village	June 2010	1/1/2013
Parker	1/1/2010	1/1/2013
Pueblo	4/1/2010	1/1/2013
Thornton	August 2010	1/1/2013
Westminster	Summer 2010	1/1/2013

Delayed effective date of 1/1/2013 is based on the CCICC/FMAC Joint Ad Hoc Residential Sprinkler Committee recommendations dated September 25, 2009. Copy of this report is available on CCICC website - www.coloradochaptericc.org