Rationale for the MHI Fire Sprinkler Proposal

Introduction-Summary

The Manufactured Housing Institute (MHI) is proposing that that the Manufactured Home Construction and Safety Standards (MHCSS) be amended to specifically preempt fire sprinkler requirements, and to provide for a voluntary, uniform fire sprinkler standard that can be utilized by manufactured home builders for consumers who wish to purchase a home with a fire sprinkler system.

MHI first proposed a "where required" fire sprinkler standard in 2009 because numerous states and local jurisdictions were requiring new homes to be installed with fires sprinklers and because HUD has taken the position that it cannot preempt state and local jurisdictions from requiring the installation of fire sprinkler systems in new manufactured homes. In the last year, virtually all states have eliminated mandatory fire sprinkler requirements from their building codes. A number of these states have given local jurisdictions the power to require sprinklers.

Given strong almost unanimous actions by states, MHI is recommending a minor amendment that does not change the substance of its original proposal; however it explicitly preempts fire sprinklers from the MHCSS. At the same time, MHI's proposal provides for a uniform, preemptive standard that can be used when a consumer wishes to purchase a home with a fire sprinkler system.

Preemption

In the past, HUD has taken the position that sprinklers are an aspect of construction not covered by the HUD Code and therefore it could not extend preemption to such systems. However, the HUD standards do in fact cover fire safety. Fire sprinklers would certainly fall into this "aspect of performance" of fire safety. HUD has the authority under the manufactured housing construction and safety standards

Section 3280.210 (a) of the MHI proposal explicitly preempts fire sprinklers from the HUD Code, and this is needed to make it clear to local jurisdictions that fire sprinklers are not a requirement in the HUD code.

The MHI proposal is consistent with provisions of the Manufacture Home Improvement Act of 2000, which authorizes HUD to apply preemption "broadly and liberally." {Sec. 604 (d), P.L. 106-569}. Furthermore the fire safety provisions in the HUD Code have a number of fire safety requirements that are more stringent than requirements for site built homes.

Why Fire Sprinklers Should Not Be Required

As with site built homes the number of fires in manufactured homes has declined and continues to do so. Mandatory smoke alarm requirements, new, improved building materials, and improved fire safety awareness have contributed to this decline. From 1980 to 2007 the number of residential fires in manufactured homes has declined by roughly two thirds. Civilian injuries have declined by slightly more than one half, and the number of civilian death has declined by one-third to one-half since 1980. Manufactured Homes have a number of fire safety requirements that are more stringent than site built homes.

National Fire Protection Association's (NFPA's) data shows that the majority of fires in manufactured homes are confined fires that result in minimal smoke and fire damage and often self-extinguish without intervention by local fire departments. When sprinklers are unnecessarily automatically activated in these types of fires the result is extensive water damage.

United State Fire Administration (USFA) and NFPA data affirms that the majority of home fire fatalities occur when there are no operational smoke alarms. A 2006 USFA study on the presence of working smoke alarms in residential fires from 2001-2004 showed that 88 percent of the fatal fires occurred where there were no working smoke alarms.

Requiring sprinklers is not an answer to reducing fire loss and injury. More lives can be saved by education and other fire safety efforts to ensure that all homes have working smoke alarms.

Fire sprinklers require regular maintenance. If we know that many homeowners have difficulty maintaining working smoke alarms, than what makes us think they will maintain expensive fire sprinkler equipment. Additionally, fire sprinkler valves must be checked periodically to verify the system is activated. Sprinkler heads must be checked to be sure they are clear of obstacles. Also, if a backflow preventer is installed with the system, an annual inspection is usually mandated by the local water purveyor.

Accidental discharges occur in cases of overheating, freezing, mechanical damage, corrosion or deliberate sabotage. When sprinkler discharge occurs, 12-16 gallons of water are released per minute, which continues until the fire department arrives to turn off the water supply, since sprinkler manufacturers do not recommend that homeowners attempt to turn off the system without professional assistance.

The reliability of residential sprinklers can be questioned, specifically with respect to longevity. MHI is not aware of any data that shows how long sprinkler systems will last before needing to be replaced. In 2001 (after smaller recalls by other companies in 1998 and 1999), a major fire sprinkler manufacturer recalled 35 million sprinkler heads.

Faulty sprinkler heads can cause incredible damage. In November of 2010, a Home Depot in Maryland had a sprinkler head malfunction for no apparent reason; it may have just been old or rusted according to the fire chief on call. He also claimed the store would have been better off by just having a fire because of all of the water damage. In one 8-hour period in Lubbock, Texas on February 3, 2011

According to a clean-up company, Rocky Mountain Catastrophe, frozen and broken pipes cost homeowners between $500-$10,000, with $6-8,000 being average.
Home fire sprinklers are a significant expense, particularly for homes where the water supply might be inadequate to meet the minimum water flow and pressure for fire sprinkler systems to work properly.

Voluntary, Uniform Fire Sprinkler Standard

Section 3280.210B) of MHI's proposal adds a new subpart to Section 3280 providing for a preemptive fire sprinkler system when a manufacturer elects to install a fire sprinkler system.

The standard gives manufacturers the option of utilizing fire sprinkler systems designed in accordance with NFPA 13D or in accordance with a prescriptive method outlined in the new section 3280.210. This prescriptive method is based on the 2009 IRC code and specifically references the tables used in the IRC 2009 edition to determine pipe sizing and water pressure. One advantage of this method, as opposed to the NFPA 13D method, is that the actual design process is much simpler and can easily be done without the use of a complicated computer program. The proposal is also modeled closely from elements of the fire sprinkler standards for manufactured homes in the California code, Title 25, article 2.5, sections 4300-4318.

The proposed standard utilizes a design process that considers the production and distribution methods of factory built housing where the ultimate site location of the home is unknown. The proposal provides for the calculation of the minimum required water pressure and flow rate at the inlet to the home needed for the fire sprinkler system to operate properly, and then requires the information to be included on a Certificate placed in the home. The NFPA 13 D method uses a design approach whereby the water pressure in the street and pressure losses in the water meter and piping between the street and the home inlet must be known. This approach does not work for our industry. As noted the proposal requires that the manufacturer permanently affix a Fire System Certificate adjacent to the data plate specifying the minimum required pressure in pounds per square inch (psi) and flow rate in gallons per minute (gpm) for the water supply system(Section 3280.210(q)) .

A valve tag to be placed on the inlet of the fire sprinkler system [210 (r)], a short statement to be added to the manufacturer's installation instruction [210(t)] and a

requirement to provide a copy of any fire system component written instruction with the home [210(s)] are also required.

Under a new section 3285.603(g) the proposal would make the home installer responsible to do the following as part of the installation process:

1. Pressure test the fire sprinkler system piping system.
2. Verify that the adequacy of the supply to the system against the minimum requirements call out on the Certificate provided by the manufacturer, and
3. Provide his company name, address and date of home installation on the Certificate.

Rationale and Cost Impact of a Proposed Voluntary Standard:

The estimated cost impact for installing a sprinkler system in a new manufactured home on a "voluntary basis in accordance HUD's design, inspection and compliance regulations will significantly reduce costs from current requirements to meet state and local fire sprinkler standards that necessitate the utilization of certified fire sprinkler contractors, and other requirements for state and local inspections.

MHI's proposal will reduce the cost of installing fire sprinklers by utilizing the HUD design and inspection process and providing for a uniform design and installation system. Costs could be reduced as much as 50 % --to $3,000 from the $6,000 estimate for local installations, certifications and inspections.

A voluntary HUD standard will provide consumers with a more cost effective and functional sprinkler system should they choose to install a sprinkler system in their home or should a manufacturer decide to comply with a local jurisdiction's zoning ordinance or code requirements. While most states have reversed sprinkler mandates, at least 11 such states give local jurisdictions the option of requiring sprinklers. According to the NFPA there at several hundred jurisdictions throughout the United States that continue to require sprinklers. Manufacturers, retailers and consumers may choose to have a sprinkler installed rather than fight a local requirement.

MHI Comments on the NFPA July 2011 Report on Manufactured Home Fires:

The NFPA, July 2011 report says that post standards homes had a 54 percent lower rate of civilian death and 22 percent lower rate of injuries than pre HUD-Code Homes. The report also concludes that manufactured homes have a lower rate of fires and fire injuries than other one or two family homes.

The report is flawed in a number of important respects: Since 1999 only two percent of all manufactured home fires reported include the year of manufacture, and therefore it is

impossible to know if the deaths and injuries reported since 1999 were from fires in pre HUD Code homes.

NFPA's data comparing death rates for manufactured homes vs. site built homes includes property types that very well may not even be manufactured homes. NFPA reported fires in full time occupied dwellings that could have been park trailers, recreational vehicles, or even office trailers, all of which have different fire safety requirements than HUD code

NFPA admits that data collected on manufacture home fires from 1999-2002 is flawed and advises caution in using results from these years. This data included different analysis rules (intended to include confined fires which were not included in the data on other single family homes).

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