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LD 659/HP427 An Act to Reduce Housing Costs by Not Requiring Fire Sprinkler Systems for Single-family Homes and Duplexes

STATEMENT

I would like to provide comments on the greater discussion of residential fire sprinkler systems beyond the debate of affordability versus life safety. There are additional factors and considerations affecting towns and cities at stake which I attempt to describe below.

BACKGROUND

There are both obvious and less obvious reasons municipal fire departments and planning boards have worked so tirelessly with other municipal officials to include residential fire sprinkler requirements in their ordinances. The obvious overriding reason is to better safeguard the lives of their citizenry from the threat of fire in the one place where they feel most safe yet where most lives are lost, in their homes. Citizens are currently protected by fire sprinkler systems in most types of new residential occupancies including multi-family dwellings with three or more units, hotels, lodging or rooming houses, congregate living facilities, and dormitories. Additionally, most public assembly occupancies are protected as are other large buildings and schools. Why would we not want to protect people in their homes, where they spend the majority of their time, much of it asleep?

A residential fire sprinkler system responds quickly to extinguish a fire in a dwelling and aids in allowing occupants to safely escape. There are ever-increasing amounts of furnishings manufactured from synthetic materials, especially petroleum (plastic)-based products, found in all dwellings today. These synthetic materials release their energy (heat) at an alarmingly fast rate as compared to legacy natural fiber materials and unlike legacy materials, release very dense black smoke and associated toxic chemicals. The development of a fire and the release of the associated products of combustion occur so quickly that the warnings within a dwelling from an adequate number of properly positioned and working smoke alarms (which is not always the case), can be too late to permit the occupants to readily escape unharmed. The open floor plans of many new homes allow these products of combustion to spread throughout

the dwelling more quickly than in older compartmentalized homes, thereby potentially cutting off normal egress routes.

One less obvious (to the public) consideration of requiring residential fire sprinklers is to better safeguard firefighters who respond to dwelling fires. A residential fire sprinkler system can greatly reduce the chances of a firefighter being injured or killed when they arrive at a dwelling fire and engage in extinguishment. The fire continues to grow while firefighters are responding and upon their arrival, they are facing much greater and more dangerous challenges than they would have encountered in a home with a residential fire sprinkler system where the fire had already been extinguished. When lightweight building components, like roof trusses and plywood I-beam floor joists, began to replace full-thickness dimensional lumber, this type of construction was supposed to be accompanied by the installation of residential fire sprinkler systems however this rarely happened. These lightweight building components with their minimal mass, can be quickly compromised by a fire and result in a firefighter falling through the floor or the roof, or having parts of the dwelling collapse onto them. When construction became more affordable by the introduction of lightweight components, the savings could have shifted to providing safer homes for occupants and firefighters by including residential fire sprinkler systems.

There are other less obvious considerations for requiring a residential fire sprinkler system in a new home. Extinguishing an expanding fire in a dwelling without a residential fire sprinkler system typically requires the application of hundreds or perhaps thousands of gallons of water, as compared to the limited amount of water discharged in a dwelling protected by a residential fire sprinkler system. Where a single sprinkler head might discharge twelve to twenty gallons of water per minute to extinguish a developing fire, a single firefighting hose line will likely flow a minimum of one hundred and twenty-five gallons per minute. Usually more than one hose line is utilized by firefighters at a well-developed dwelling fire and for an extended period. The smoke and toxic gases emitted from a dwelling fire along with contaminated water runoff from firefighting efforts, enters and pollutes the environment. Quick extinguishment by a residential fire sprinkler system saves water and can greatly reduce or eliminate pollution entering the environment. Additionally, cancers related to firefighting are at the top of the list for firefighter fatalities. The more fire incidents experienced by a firefighter, the greater their risk of having cancer.

WATER AS AN EXTINGUISHING AGENT

Water is the extinguishing agent used for most fires and each fire engine carries a limited amount onboard. The fire engine may supplement its supply by receiving water from other apparatuses, from a pressurized water system (wet hydrant), or from a static (rural) water source (dry hydrant). The presence of pressurized fire hydrants, the size watermain to which

they are connected, their spacing, and their accessibility, has guided the appropriateness of developing property where there is a public water supply. The development of residential occupancies, especially subdivisions, in those rural areas of municipalities with no public water supply typically have called for some amount of stored water sources from which the fire department can access to fight fires. Unlike the unlimited water supply from pressurized hydrants, the static water supply sources are limited.

The municipalities with rural properties and no public pressurized water supply tend to rely on stored water sources consisting of open bodies of water like ponds, both natural and manmade, and cisterns. Open bodies of water are a challenge to maintain as they can become dry or have a reduced volume of water from lack of natural refill. Open bodies of water are also susceptible to being infilled with vegetation or silt resulting in a reduction of the amount of available water. There can be concern about liability for the municipality with open bodies of water regarding the possibility of the public being injured on the water or drowning. For these reasons, some municipalities have prohibited open bodies of water as water supply sources and have allowed only cisterns as part of new development. The path for the City of Saco was to move away from any new open bodies of water and for many years, to allow only new cisterns until residential fire sprinklers became mandatory for all new one- and two-family dwellings approximately four years ago.

Many municipalities without residential fire sprinkler requirements allow developers and builders the option of installing residential fire sprinkler systems in new homes in rural areas (subdivisions) or providing a water supply. The developers and builders consistently choose to utilize an open body of water or a cistern and dismiss incorporating residential fire sprinkler systems as part of the construction. This choice can sometimes reduce the amount of land available for new homes because some buildable lots are sacrificed for the installation of an open body of water or cistern.

The water within an open body of water or a cistern has no true effect on saving lives or property until such time as the fire is discovered and reported to 911; the Dispatch Center notifies the fire department; the firefighters respond with their apparatus; water is removed (pumped) from the water supply; and the water is delivered to the fire scene, to eventually be discharged through a hose line. These actions take time and all the while, the fire is growing, and lives are potentially in peril. Typically, one or two residential fire sprinkler heads activate to extinguish the developing fire in a dwelling, perhaps before the firefighters are even notified. This is not to say, although it is often implied, that the presence of pressurized fire hydrants in a neighborhood will provide for rapid extinguishment of a dwelling fire. The same factors of discovery, notification, dispatch, response, and extinguishment which exist for rural water supplies also exist for intown locations with a public water supply.

Once a planned-to-be municipality-owned open body of water or cistern water supply is accepted as public infrastructure and the developer or builder no longer has any responsibility, the municipality is tasked with the upkeep and repair of those water supplies. Towns and cities are forever required to maintain the water supplies and address those items associated with them. The maintenance and associated items include keeping the water supplies filled and regularly pump tested to ensure proper dry hydrant operation; painting the external plumbing components of dry hydrants; mowing the lot; plowing the apron; maintaining the pavement and in some locations, culverts; and maintaining directional signs. These actions demand financial and staff resources, which could likely be better utilized elsewhere within the municipality. Local ordinances which implement residential fire sprinkler systems allow the municipality to not have to accept, own, and maintain any new water supplies.

BUILDING AND LIFE SAFETY CODES

Maine and every other state across the nation utilize nationally recognized model building codes and life safety codes as the basis for their own individual state codes. The process of utilizing model codes typically occurs via their adoption by reference. The International Code Council, Inc. (ICC) is an organization which authors numerous codes including the *International Residential Code* (IRC) and the *International Building Code* (IBC) upon which the *Maine Uniform Building Code* (MUBC) is based. Many municipalities rely heavily on ICC publications. Fire departments rely heavily on National Fire Protection Association publications, especially the *NFPA 101 Life Safety Code.* The combined use of these codes works well to ensure safe buildings of all types for tenants and for first responders but only to the extent allowed by the MUBEC.

In Maine, the Technical Building Codes and Standards Board (TBCSB) is responsible for proposing and accepting by vote, the next edition of the MUBC. Prior to endorsing the updated the MUBC, the TBCSB will debate and decide what edits, if any, will be incorporated into the MUBC. Effective with the 2009 edition of the IRC and the 2006 edition of NFPA 101, residential fire sprinkler systems have been required for all new one- and two-family dwellings. Maine and all other states except California and Maryland, have at the time of implementing their newest building code, consistently removed the sections of the IRC and NFPA 101 requiring residential fire sprinkler systems. It is my understanding that the significant lobbying by the National Association of Home Builders and the National Association of Realtors is the driving force for the consistent removal of the residential fire sprinkler system requirement from each new edition of the Code. Their united message speaks to the need to avoid additional costs to the construction of a new home thereby relegating the life-saving feature of residential fire sprinkler systems as unnecessary. The counter argument in the public safety world is that many lives of citizens and firefighters could be saved and even a much greater number of injuries

prevented each year, along with reduced property damage if residential fire sprinkler system requirements remain in the Code as written.

RESPONSE CONSIDERATIONS

Most municipalities continue to grow, resulting in an increase in the number of calls for service for their fire department, especially medical emergency responses. Local governments struggle due to budgeting constraints, to increase the number of on-duty firefighters, whether full time or per diem, to be available to immediately respond to incidents. The nature of any fire department is that business is unpredictable. There are days when the entire crew is available to respond as a team to a house fire, however, frequently the number of remaining crew members not already engaged in an incident and available to respond to the next call, especially a house fire, is limited. The cause of an inability to respond is many times due to ongoing simultaneous and overlapping ambulance calls which utilize most if not all members.

Mutual aid assistance from neighboring fire departments has always been an important component of firefighting strategy. The increasing call volume seen by a particular fire department is also being seen by their neighbors. This situation often limits the ability for neighbor to assist neighbor. When resources are borrowed from a municipality, that town or city can then find themselves delinquent in the staff and apparatus they need to protect their own citizens. A domino effect is created as that delinquent municipality burdens the next mutual aid fire department down the road which now also becomes delinquent in resources.

When the need for mutual aid assistance is the result of a dwelling fire in a community, this domino effect is greatly expanded immediately. Due to low staffing levels, it requires many mutual aid apparatuses to respond out of their municipality and to the out-of-town fire, sometimes many miles away, to be able to have available at the fire, the minimum number of firefighters required by National Fire Protection Association standards. In rural settings without public water supplies, the responding mutual aid apparatuses are also providing the water they carry for firefighting efforts.

SUMMARY

Once more political process is attempting to lessen the safety of not only the citizens whose best interests the politicians profess to ensure but also the safety of the first responders who are sworn to protect those same citizens. It is difficult to understand how the intent of LD 659/HPT 427 provides for the betterment of the public or our public safety officers but instead seems to benefit those organizations affiliated with housing. The requirements to provide fire sprinkler systems in one- and two-family dwellings have been contained within both fire life safety codes and building codes since 2006 and 2009 respectively. Intense

lobbying, not only in Maine but across the country, has caused the sections of these codes which prescribe residential fire sprinklers to be consistently removed with each adoption of the next edition. The route for those municipalities which are committed to and have the resources needed to provide for the life safety of citizens and of first responders, has been to enact ordinances at the local level, typically with great difficulty. It would be unfair to prevent sensible and caring municipalities from attempting to safeguard their citizens and their public servants with the installation of fire sprinkler systems because of State imposed restrictions which ban new and/or remove existing fire sprinkler requirement ordinances and programs. Each municipality must be able to determine their own level of safety at or above the State minimum for all requirements including life safety items.

With no disrespect to realtors, developers, or builders, some who are family or friends, I feel that they may not have educated themselves but certainly have provided very little education to future owners of one- and two-family dwellings regarding the benefits of residential fire sprinkler systems in new homes. In my experience if there have been discussions between these groups and their customers, it has been to say that residential fire sprinkler systems are an expensive and unnecessary system for the home. Yet the same groups are content to sell the homeowner additional construction features, fixtures, and amenities, inside and outside the home in lieu of the expense.

What could be more valuable than having the ability to save your loved ones? Given the true details about the value of residential fire sprinklers along with removing all the associated myths, many new homeowners would gladly choose to install a system to protect their family and forgo upgrades to other home features. Now this option is proposed to be removed at the local level. It is unfathomable.

For close to twenty years, as mentioned previously, fire sprinkler systems should have been (as reflected in code) one of the necessary systems in a home, along with heating, cooling, plumbing, and electrical systems before moving on to pricing the rest of the home components. If realtors, developers, and builders had placed their efforts into promoting safer homes instead of spending millions on lobbying against safeguards, residential fire sprinkler would now be another commonly accepted system incorporated into a new build.

With so many existing homes without a residential fire sprinkler system, there will always be a need for robust fire departments. Allowing municipalities to keep current or incorporate new fire sprinkler requirements in their ordinance (or especially a State-wide requirement) if they wish, will help reduce the burden on towns and cities going forward.

Any fire which can be quickly controlled will lessen the need for mutual aid resources to assist in the neighboring community. This means not leaving a municipality unguarded and unprepared for their own next event, less wear and tear on apparatus and staff, less chance of

apparatus being involved in an accident, less costs to repair or replace tools and equipment lost or damaged at a mutual aid fire, and less payroll for the responders going out of town.

I strongly recommend that LD 659/HP427 ought not to pass.

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Thank you for considering my testimony.