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The number one way that we can protect lives and property from fire is with sprinkler systems. There is no other action the Fire Service can undertake to save more lives and property than to require fire sprinklers. If we are all truly committed to saving lives then we will not allow LD 659 to pass.

The most common type of building where people die from fires is a residential home, specifically single-family homes, as the majority of fire fatalities occur in private residences.

- **High percentage of deaths:** Over 75% of civilian fire deaths happen in residential buildings.
- **Smoking as a leading cause:** Smoking is often cited as a major contributor to fatal residential fires.
- **Bedrooms and living rooms:** These areas are most commonly identified as fire origins in fatal residential fires.

Residential sprinkler systems are important and save lives because they can quickly detect and suppress a fire in its early stages, significantly reducing the risk of smoke inhalation and burns by limiting the fire's spread to the room of origin, allowing occupants to safely escape and minimizing property damage; essentially, they act as a first line of defense against a home fire when paired with smoke alarms.

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. Most public assembly occupancies are protected, as are other large buildings and schools. Again, I ask why we would not want to protect people in their homes, where they spend the majority of their time, much of it asleep? Are we truly committed to saving lives from fire?

Key points about residential sprinkler systems:

- **Early detection and rapid response:**

Sprinklers activate immediately when they sense heat from a fire, which means they can begin extinguishing the flames before they spread. Residential fire sprinklers typically activate within 30 to 60 seconds of reaching their critical temperature, meaning they respond very quickly once a fire starts, with the goal of extinguishing it in its early stages; most will begin to discharge water almost immediately upon detecting significant heat near the sprinkler head. Residential sprinklers are specifically designed to react rapidly to heat, making them faster than many other types of sprinkler systems.

- **Activation temperature:**

When the surrounding air reaches a predetermined temperature (usually between 135 and 165 degrees Fahrenheit), the sprinkler activates.

- **Localized water dispersion:**

Only the sprinkler closest to the fire activates, delivering a concentrated water spray directly on the fire source, minimizing water damage.

- **Reduced fire spread:**

Quickly controlling the fire, sprinklers prevent flames from spreading to other rooms and floors, allowing for safe escape routes.

- **Smoke reduction:**

Sprinklers can significantly reduce smoke generation, which is a major cause of fire fatalities.

- **Life-saving potential:**

The National Fire Protection Association (NFPA) has reported that home fire sprinklers reduce the risk of dying in a fire by 85%. Sprinklers also reduce injuries and property loss. It's important to help the public understand that home fire sprinklers can prevent fire casualties and devastating home damage by putting out flames quickly. Sprinklers can limit the damage caused by smoke and fire and are less damaging than water damage caused by firefighting hose lines.

- **Civilian deaths**

From 2017 to 2021, civilian deaths in homes with sprinklers were 89% lower than in homes without sprinklers.

- **Injuries**

From 2017 to 2021, civilian injuries in homes with sprinklers were 31% lower than in homes without sprinklers.

- **Property loss**

From 2017 to 2021, property loss in homes with sprinklers was 55% lower than in homes without sprinklers.

- **Firefighter injuries**

From 2017 to 2021, firefighter injuries in homes with sprinklers were 48% lower than in homes without sprinklers.

Fire now doubles every 30 seconds and an entire room can flashover or become fully involved in fire in less than 3 minutes depending on the room size, ventilation, and fuel load, with modern homes potentially reaching flashover even faster due to increased combustible materials; however, in certain situations, it can happen much quicker, even within seconds if conditions are right.

We could have appropriately staffed fire stations in every community less than five minutes travel from every home, and fire sprinklers would still be the tool that saves more lives. Without fire sprinklers, we have the time lost until 911 is activated. Someone has to notice the fire and make the call. Meanwhile, fire continues to double every 30 seconds. The firefighters need to be dispatched, dress out in their gear, and then respond. This total time could be 7-10 minutes if there is an appropriately staffed station close by. At this point, the fire death has already

occurred. The reality in Maine is that 90% of departments are predominantly volunteer. This requires another 5-10 minutes just to get to the station. The arrival time for volunteers is often 15-20 plus minutes after the incident. Oftentimes, buildings are already partially collapsed when they arrive.

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. Our business is unpredictable. There are days when the entire crew is available to respond as a team to a house fire; however, more often than not, 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. In Kennebunk, 58% of the time when we have an emergency call other overlapping calls commit our entire duty crew, leaving no one to respond to the next emergency. This is common across almost all communities in Maine.

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 municipality burdens the next mutual aid fire department 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 expanded greatly. 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.

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 our understanding that 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 reality is that residential sprinkler systems cost \$1.50-\$3.00 per square foot in new construction. This equates to \$3750-\$7500 on a 2500 square foot home that has an average cost in Maine of \$375,000-\$750,000 total cost; and \$5250-\$10,500 on a 3500

square foot home that would cost an average of \$525,000-over- over a million dollars.  
Residential sprinklers are not the problem for the overall housing cost. Is \$3750-\$10,500 worth knowing that the occupants will all survive their house fire?

I strongly recommend and urge that LD659/HP427 NOT pass.

Respectively,

*Justin Cooper*

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