

Senate testimony of Peter Van Dorpe
District Chief on the Chicago Fire Department in charge of the Training Division

Hearing on the Effectiveness of Furniture Flammability Standards and
Flame Retardant Chemicals

Senate Appropriations Committee
Subcommittee on Financial Services and General Government

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Good afternoon. My name is Peter Van Dorpe. I have been a firefighter for 32 years. I am a District Chief on the Chicago Fire Department in charge of the Training Division. Since 2006 I have been one of the Chicago Fire Department's liaisons and have served as a subject matter expert for various agencies and universities that have been conducting fire safety research. These agencies include Underwriters Laboratories (UL), the National Institute of Standards and Technology (NIST), the University of Illinois, Michigan State University, New York Polytechnic and others. This research has been funded largely through the Department of Homeland Security's (DHS) Assistance to Firefighters Grants (AFG) program. Through both my experience on the fire ground and in the course of my participation in these research projects I have become acutely aware of the significant changes that have occurred over the last 40 to 50 years in both the way homes are built and the way that they are furnished. What you have seen here today [video presented earlier by representative from UL], as dramatic as it is, demonstrates only a fraction of the changes that have taken place. Put as simply as possible, we are making homes larger, building them with less massive components, and then filling them with more air and more fuel than ever before. From a firefighter's perspective this is a recipe for disaster for both the fire service and the public we have sworn to serve and protect.

Part of the reason why I was selected to speak at this hearing is because I was already scheduled to be in Baltimore tomorrow to deliver a workshop at Firehouse Expo. Firehouse Expo is one of several conferences that I and my colleagues from the Chicago and New York City Fire Departments, UL, NIST and the other research partners attend each year to deliver the findings of this research to the American fire service. We call it "bringing science to the streets" and our goal is to make sure that the firefighters that arrive at your door in your time of need come with the set of strategies, tactics and skills that best equip them to safely and effectively combat the fire they will face. The first and most important part of reaching that goal is to make sure our students understand the scope and magnitude of the changes in the modern fire environment. I hope to convey some sense of that change to you as well in the brief time that I have with you today. I will keep it simple: Stuff. More stuff. More stuff made of plastic (petroleum). More stuff made of plastic with a built in air supply (polyurethane foam, i.e. furniture). All of this stuff is fuel and we are packing more and more of it into the boxes that we live in. How this stuff and these boxes behave, interact and maintain their integrity under fire conditions goes largely unregulated so long as the box is labeled "one or two family occupancy" and the stuff is intended to be used by the people that occupy it. It should come as no surprise to us that most fire deaths occur in one and two family (read, "unregulated") occupancies. The statistics that support these statements are readily available and accessible from the National Fire Protection

Association (NFPA), Underwriter's Laboratories (UL), the National Institute of Standards and Technology (NIST), the National Institute of Occupational Safety and Health (NIOSH), etc.

In 1903, 605 people died in the Iroquois Theater fire in Chicago. In 1911, 146 died in the Triangle Shirt Waist fire in NYC. There were 294 deaths in the Consolidated School fire of 1937, 492 in the Coconut Grove Supper Club of 1942 and 100 in the Station Night Club fire of 2003. Indeed, the ten largest single building fatal fires over the last century total over 2800 deaths. Of course we are all aware of the 2666 lives lost at the fires of September 11th. Each of these tragedies, as well as many like them throughout our history, brought about a response that was proportionate to the scope and magnitude of the event. Perhaps the most important part of the response to each of these events and those like them were the significant changes made in the way we design, build, inspect and otherwise regulate the buildings we occupy and the things we put in them. We can and should be proud of the way we respond, as a society, to the disasters and tragedies that befall our communities.

However, the tragedy that is the yearly fire death toll in the United States goes unaddressed, largely because it goes unrecognized.

Each and every year, between 2500 and 3000 people die in fires in the United States. That's more than died in the September 11th attacks and more than died in the ten most tragic fires in our history, and it happens year, after year, after year. Eighty-five per cent (85%) of these fire deaths occur in homes and they most often occur in ones and twos. Hence, those of you who aren't professionally attuned to the situation are not familiar with the scope and magnitude of the problem. I hope my testimony today will help bring it to the forefront for a time. Statistically, three people died in fires while you slept last night. Another will die while we are here discussing the merits of the issues before us. Three more will die by the time you make your way home tonight, end your day and return to sleep. Tomorrow and every day will be just like today; unless and until we do something different about the way we build, protect and furnish homes in this country.

When I am teaching building construction to firefighters I make it a point to focus on the hazards of light weight construction practices used in single family homes and I always begin and end by telling them, "it ain't about the gusset plates". Gusset plates are a fastening method that has replaced traditional nails in lightweight wood truss construction. The fire service frequently points to them as the cause of early collapse of floor and roof systems in buildings using these systems. What I mean to convey to them with this phrase is that they need focus less on the components and more on the totality of the changes to the built environment and the fuel loads placed in them. Similarly, I encourage you not to get lost in the weeds of which methods of reducing residential fire loss and fire death are the most efficient, effective or environmentally friendly. While the effects of adding fire retardant chemicals to extruded foams and fills has been shown to be of limited value, this does not preclude the use of retardants in any and all circumstances. Most approaches to reducing fire growth and propagation in furniture and finishes have value and they should all be investigated and pursued. The mattress industry has demonstrated that an approach that applies a variety of methodologies is most likely to sustain its success over the long run.

Most tragedies, and certainly those that arise around accidents in the home, are not the result of gross negligence or malice on anyone's part. Rather, they are the sum of what my colleague

Vicki Schmidt, a volunteer firefighter and State Fire Instructor in Maine refers to as the “pitter-patter of little defeats”; those individually minor errors and omissions that we allow to accumulate and coalesce into a tragic event.

Please permit me to outline for you what I believe to be some effective guidance for meeting the challenge before you. Increased residential fire safety requires:

Reducing ignition sources. Today this is largely an issue related to behaviors including smoking, alcohol use, open flames such as candles, etc.

Reducing the development and propagation of fires that do occur by addressing the flammability and fire development characteristics of home furnishings and finish materials, particularly those that use or contain extruded polyurethane foam and related materials.

Reducing the impact of fires that do occur upon the occupants through more thorough and effective regulations requiring active (i.e. residential sprinkler systems) and passive fire protection and detection systems in homes.

Reducing the impact of fires that do occur upon the structural system of the home by requiring structural assemblies used in one and two family homes to be protected in the same way they are required to be protected in other occupancies.

Enabling the American fire service to do our job more safely and effectively by doing all of the above.

In closing, I wish to assure you that the challenge is not as difficult as you may think. Indeed the problem has already been solved. Look around you. This is a fire safe building. We have applied the lessons of the past and the appropriate science and technology to design an assembly occupancy that provides a safe and secure environment for its occupants. We can do the same for residential occupancies. We have the knowledge and the technology to meet all the challenges, whether they be temporal, behavioral, financial or environmental. All we need is the will to act. Thank you.