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NEW TOY LABELS MEAN SAFER HOLIDAYS FOR KIDS

NEW YORK, NY -- New warning labels on toys that could choke small children will mean a safer holiday season according to an announcement made today by Consumer Product Safety Commission Chairman Ann Brown.

Standing before a huge display of toys at FAO Schwartz, Chairman Brown displayed the new warning labels and said that adults will now have new information to help them choose toys that are safe for children. Brown was joined by officials from Prevention Magazine, which released a survey on toy safety.

"These warning labels will appear on all toys made for children from three to under six years old if those toys pose a choking hazard to younger children," Brown said. "These labels tell parents two critical things: They let them know that a toy isn't safe for children under three, and why its not safe."

The labels are required to be on all toys marketed for children from three years old to under six years old and manufactured after January 1, 1995, if those toys present a choking hazard to children under three.

"Before now, parents and grandparents had no way of knowing that the toys they bought for older children could be a danger to younger kids," Brown said. "Now they will have that information right in the store, and will be able to make a purchase based on safety. In addition, they will be able to buy a toy for an older child, knowing that they need to keep that toy away from younger children at home."

According to figures released by the CPSC, 5,000 children were taken to hospital emergency rooms in 1994 for aspirating or ingesting toys and parts of toys. Since 1980, nearly 200 children choked to death on balloons, marbles and small balls -- toys now covered by these new CPSC labeling requirements.

In 1994, CPSC had reports of 18 toy-related deaths. Thirteen of those deaths were associated with choking.

"These deaths were not only tragic, they were preventable." Brown said. "We want people to use these choking hazard warning labels to help them know which toy is safe for which child. We hope the information we are giving out here today will help protect our children, and make this a better holiday for everyone."

During her remarks, Brown stressed the CPSC's commitment to toy safety throughout the year -- not only during the holidays. She cited figures showing the CPSC recalled 10 million toys and children's products in 1994, and had stopped three quarters of a million unsafe toys from being imported into the

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Fire Safety Education Lowering Fire Loss in Portland

By Patti David

The Portland Bureau of Fire, Rescue and Emergency Service's Fire Prevention Division has been busy educating people from all sectors of society on fire prevention and fire safety. The results are undeniable, especially for one- and two-family dwelling units. When one considers the fact that authorities have no regulatory power over these residences, the conclusion is that fire prevention education is working

During fiscal year 1986-87, Portland's one- and two-family dwelling units were experiencing nearly 900 fires per year. That number rose to more than 900 the following year, and then began dropping steadily and have now reached an average of slightly less than 600 fires per year. This is an impressive greater than 33 percent drop over the past decade.

"On the average, one- and two-family dwellings have suffered 49 percent of the structural fires in Portland," said Don Porth, Director of Fire Prevention Education for the Portland Bureau of Fire, Rescue and Emergency Services. "So this downward trend is very encouraging, because we are lowering the incidence of fires among the segment that has traditionally suffered the most structural fires."

Except for the ordinance that requires the installation and maintenance of smoke detectors in all rental units, there are no laws requiring increased fire safety in these homes. There are no ordinances requiring sprinkler systems, and private one- and two-family dwellings are not subject to fire inspections, unless they are requested. It is therefore fire safety and fire prevention education that is responsible for the downward trend.

Fire Education Programs in Portland are varied, and geared toward different audiences. Children can learn about fire safety through the National Fire Protection Association's Learn Not to Burn Curriculum introduced in Portland's schools in 1992. First taught among Headstart preschoolers, the program has brought Portland to the national forefront in reducing juvenile set fires. Referrals of curious firesetters, (i.e., children between the ages of 3-5 years who set fires out of curiosity) have dropped 50 percent from 5.1 percent in 1990-91 to 2.4 percent in 1995-96.

"We can find no other factors for which to attribute the change among curiosity firesetters," Porth said. "The implementation of the Preschool Curriculum in 1992 seems to be the turning point for this behavior change."

In 1994, Portland was recognized as NFPA Champion City for its efforts in extending the Learn Not to Burn Curriculum to the schools that suffered the greatest number of child-set fires. The trend continued in 1995, as the program to distribute the curriculum to the remaining 79 elementary schools in Portland continued. The top 20 schools at highest risk were targeted. By 1996, the schools formerly at highest risk for juvenile fires were no longer in the top 20.

"We feel very strongly that the inclusion of the Learn Not to Burn curriculum was a major factor in this

shift," Porth said.

Children can also learn fire safety and prevention through the "Play it Safe in the Parks" program, which is presented between 30-40 times during the months of June and July throughout many of Portland's parks. The program, which lasts about 1 to 1-1/2 hours, teaches children proper match and lighter behavior, home escape plans, how to crawl low under smoke, how to feel if a door is hot, and how to stop, drop and roll, if one catches on fire.

Using a variety of recreational props along with actual firefighting equipment, the program uses a combination of classroom presentation and interactive play to make fire safety education fun and effective.

There are also public education classes available, most of which are free of charge and run roughly 45 minutes. These include: workplace fire & life safety; fire extinguisher training; floor warden training for high rise buildings; fire and life safety for employees of health-care facilities, fire and life safety for hotel employees; fire and life safety for adult foster care facilities, Fire Safe Together in Apartments and Condominiums; fire and life safety for high-rise tenants, and a 4-hour long fire and life safety directors academy.

Note that all presentations include videotapes, handouts, brochures, visual aids or hands-on materials A minimum of 25 participants is required for most programs, which are held only within Portland city limits. For more information, or to schedule a presentation, call 823-3775.

NYS Department of State **Office of Fire Prevention and Control**

JUVENILE FIRE-SETTING PROGRAMS

Professional

Nearly 8% of all fires in New York State are caused by children playing with matches. Children that cause fires to occur need to receive proper guidance and help to modify this behavior. One of the premier Juvenile Fire-Setting Programs in the nation was developed in the City of Rochester, New York. This model is now being used all across the state to modify the behavior of children to stop playing with matches and fire The Program in Rochester has a success rate that meets or exceeds the rate of any other program in the nation For more information, contact Reynaldo Tovar, Deputy Fire Chief, City of Rochester, Room 305, PSB 150, South Plymouth Avenue, Rochester, NY 14614, call (716) 428-6739, or e-mail reyt@bigfoot com.

Community

Nearly 17% of all fire fatalities that occur in New York State are victims under the age of 10 Another 8% are between the ages of 10 and 19 Together these figures represent one quarter of all fire fatalities. Many of these fatalities are most certainly a result of each child's own experimentation with fire. Please do not let your son or daughter become one of our statistics. Please make that call for someone to help. If you have a feeling that your child needs help or have only a suspicion that he or she needs help, he or she probably does. Please call your County Fire Coordinator for the number of the Juvenile Fire-Setting Program nearest you

For more information, contact the New York State Department of State, Office of Fire Prevention and Control The numbers are listed below.

E-mail: info@dos.state.ny.us
Telephone: (518) 474-6746
Fax: (518) 474-3240

Juvenile Fire-Setting Program FAQs

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Youth Firesetting: Collaboration Between Teachers And Fire Service Personnel For Early Identification And Intervention

12/98

By Jamie Haydock
King County (WA) Fire District #37

In recent news reports, the topic of violence in America's schools has been at the forefront. Tragic examples of such school violence include the deadly shootings in Moses Lake, Washington; Pearl, Mississippi; Jonesboro, Arkansas; and most recently, in Springfield, Oregon. But what about the other acts of violence to which students and teachers in thousands of schools are exposed each day? Are we, as a nation, really doing all we can to significantly reduce the incidents of youth violence both in the schools and in our communities? The answer to this question is, sadly, no. Currently, society is reacting, often with a knee-jerk type of action, to such acts of violence. To be truly effective in combating youth violence, there must be a move toward proactive education, legislation and reinforcement of non-violent behaviors. Additionally, emphasis must be placed on early identification and intervention of students who exhibit behaviors and attitudes that are indicative of violent behavior.

Every member of society is impacted by youth violence – both directly and indirectly. Physically, emotionally, financially and politically, the costs of youth violence are very high. Therefore, each member of society must be responsible for addressing and dealing with issues related to youth violence. The more angles this nation can approach the problem from, the more effective we will be at combating youth violence. Youth violence takes many forms. The forms of youth violence most Americans recognize include shootings, theft, gang activity and a variety of other offending crimes (assault, drug abuse, and vandalism). These are the examples that are depicted most frequently in the media. However, there are several other types of violence that are exhibited by children at schools across America every day.

Other examples of school violence include fighting, which many people feel has become more violent over the years, threats with weapons at school, sex related crimes, intimidation and firesetting behaviors (often such behavior can be classified as arson). The focus of this article is on youth firesetting behavior. Sadly, arson in America is classified as a property crime and not as a crime of violence even though it injures thousands of people each year and causes hundreds of deaths each year.

Few Americans realize the extent to which firesetting behaviors are prevalent in children. Children account for about fifty-five percent of arson arrests in the United States (United States Fire Administration, 1996). Each year child-set fires cause more than 400 deaths, over 3,000 injuries, and $150 million dollars in property loss. The significance of this problem is almost overwhelming. More than 400 deaths and over 3,000 injuries directly related to children using matches, lighters and other sources of ignition. . . . Why are we allowing this to go on? Why do caregivers leave sources of ignition within the reach of children? Is it any different than leaving a loaded gun within a child's reach? Why do stores sell matches and lighters right at the same level as the bubble gum and candy? Why are children allowed to purchase matches and lighters? There are laws against underage drinking and against the purchase of weapons, but isn't fire just as dangerous for children? A statement made by Mary Corso, now Washington State Fire Marshal sums up these feelings into one powerful sentence. "Fire is the only weapon of mass destruction that is available to everyone - man, woman and child."

The scope of the youth firesetting problem is extremely broad and warrants careful examination and due attention. Youth firesetting is an issue that affects all facets and levels of society. From the inner city to the country club, from the urban hubs to the rural countryside, the problem of youth firesetting touches us all. Our schools are particularly affected. Hundreds of fires occur in schools across America every day. Most go unreported and there is little or no effort to prevent the same behaviors from occurring in the future. What message is this sending to our children? Because this dangerous behavior will likely continue without intervention and education, it is important that we take the time to recognize and properly address the issue.

Firesetting behaviors can be very difficult to understand. Often fire service professionals who work with these children hear the phrases: "Boys will be boys" (the majority of youth firesetting behavior is exhibited by males); "I played with fire as a kid, it's normal"; "it's a phase, they'll grow out of it". These phrases strike fear into the hearts of those who truly know what fire is capable of destroying. The complacency exhibited by most Americans regarding children and fire is unacceptable. If a child were to take a hammer and destroy every one of his toys, he would most likely be punished for his actions. If that same child takes a lighter and burns his house down, destroying all his toys, people hold fundraisers and toy drives to help recoup the damages. This exemplifies how Americans perceive fire as "accidental". There is nothing accidental about a child lighting fires. It is simple carelessness, lack of knowledge and complacency on the part of society. We must make every effort to educate ourselves, rethink our attitudes toward fire and actively work toward solving this problem.

Some background information regarding youth firesetting may be helpful at this point. There are three basic classifications of firesetting behavior exhibited by children as outlined in A Family's Response to Firesetting: 1) Curiosity/Experimentation, 2) Reactionary, and 3) Delinquent. About seventy percent of youth firesetting behavior falls into the first category. Most of them are younger children who lack information on fire safety and have access to sources of ignition (Please note that a child's age alone does not place him/her into one of these classifications). They are curious and they want to know what fire will do. Typically, they do not understand or comprehend the danger associated with their actions. Early intervention and education is critical at this level. If the child is "successful" with the firesetting behavior at this level, it has a strong likelihood to continue and become more dangerous resulting in serious consequences such as legal issues, injury or even death.

Reactionary firesetting can occur at any age. These children tend to be upset about something in their lives and are unsuccessful at identifying and expressing their feelings. They also lack adequate problem solving skills. Their use of fire is a dangerous cry for help to grown-ups. Additionally, these children may have a history of firesetting. Again, as with the curious firesetting, lack of supervision and access to sources of ignition are contributing factors.

Delinquent firesetting is typically an adolescent behavior. These children light fires for a variety of reasons. The fires are usually lit as a prank or a dare. This speaks directly to the peer driven nature of delinquent firesetting. Most children in this category do not realize the legal ramifications of their actions.

Strategic firesetting is a growing problem. A child, usually a teen, who willfully and maliciously lights a fire to damage and destroy property and/or life, exhibits this behavior. Usually the strategic firesetter is aware of the legal consequences associated with the behavior but simply does not care. There is no value or respect for life or property. Children in this category are likely to be involved with gangs and other gang activity.

While the act of firesetting is often a crime in itself, and it accompanies a variety of other crimes, it can also be indicative of future violent behavior and should be taken very seriously. In an article highlighting the recent school shootings, Henry J. Gault (spokesperson for the American Academy of Child and Adolescent

Psychiatry) says that disturbed children may have a history of firesetting, as well as other behaviors such as low self-esteem and bullying others (USA Today, June 1, 1998, 6D). Firesetting should definitely be perceived as a serious issue especially when observed with other "at-risk" behaviors.

Over the past thirty years, several studies have been done that lend their support to the statement made by Mr. Gault. In 1959, L. Bender studied 33 children who were all under 16 years of age and had killed or been associated with the death of another person. Nearly a quarter of those children could be considered to have compulsive firesetting behaviors. In 1966, Hellman and Blackman studied 84 prisoners that were divided into two groups based on their crimes. One group was characterized by aggressive and violent crimes against people. The other group had committed crimes that were misdemeanors or non-aggressive felonies. 74% of the aggressive group exhibited the behaviors of bedwetting, cruelty to animals and firesetting. In contrast, the non-aggressive group exhibited those behaviors in only 13% of its members. In 1982, a researcher by the name of Patterson stated that the mass murderers he had studied all demonstrated a background of hyperactivity, bedwetting and firesetting. Additionally, it is rather well known that some of America's most violent criminals were firesetters (e.g. David Berkowitz, aka Son of Sam).

So what do we do? There are studies to support that firesetting behaviors are often indicative of future violent behavior. There is significant data to support that children are participating in firesetting behaviors and are significantly contributing to the nation's arson problem. Do we just brush it off as being within the realm of "normal" behavior? We, as members of society, need to take responsibility for addressing the needs of the children. This means learning the warning signs and taking fire setting behaviors seriously. *Not every kid who plays with fire is going to be a violent criminal or have serious mental problems, but every kid who plays with fire needs to be educated on fire safety and evaluated as to why he/she is setting fires.*

Early identification, intervention and education as measures of the prevention of future fire setting behavior do work. A 1997 study by the University of Maryland suggests that collaboration with families, schools and communities along with simultaneous investments in each are key to carrying out successful prevention initiatives. An effective youth firesetting program incorporates each of these key components into the process. Collaboration between the schools and the fire service is of particular importance in identifying these children as early as possible and the providing the necessary educational and, if needed, psychological intervention.

Teachers are unequivocally the most valuable windows to society's future. Every day teachers interact with students at a variety of levels. They serve as educators, coaches, disciplinarians, mentors, listeners/confidants, observers, and as people who truly care about kids. Teachers are in a critical and valuable position in helping to recognize some of the characteristics that are associated with dangerous behaviors. Teachers observe students over a period of time. They are often in contact with the student's parents/guardians. Teachers are also able to be part of educational planning teams for students along with other teachers, thus being able to communicate with other teachers and professionals about observed behaviors in a student. No doubt, increased communication between school district personnel and fire department personnel would be a powerful tool in reducing child-set fires and the devastating and violent consequences of such behavior.

Some ways that teachers can take an active role in dealing with the problem of youth firesetting is to teach and model fire safety in the classroom. This means explaining to students why the exits must be kept clear, why objects should not be placed too close to the heater and discussing the importance of fire drills among a variety of other fire safety education pieces. Demonstrating all of these things in the classroom while taking advantage of teachable moments in regards to fire safety is a great step in the right direction. Teachers can also inquire at their local fire department to increase personal knowledge and awareness of youth firesetting behavior as well as sharing that information with colleagues. Communication with agencies that have youth firesetting programs and knowledge of their resources is another great way for teachers to

actively participate in the reduction of child-set fires.

The benefits of this type of collaboration are numerous. Increasing the safety of the environments, in which America's children live and learn, is the greatest benefit. Not only will the reduction in deaths and injuries improve the overall quality of life for everyone including children, but also the children will live in a more secure environment. This includes school. If teachers increase their level of awareness about the dangerous issues affecting children and actively work toward reducing those dangers, those dangers will be limited. Thus, more attention can be placed on other things, like getting a good education in a safe environment.

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8 Hellman, D.S. and Blackman, N. (1966) *Enuresis, firesetting and cruelty to animals: a triad predictive of adult crime.* American Journal of Psychiatry, 122, 1431-1435.

9 *Myths about S.10 and truth about youth violence and juvenile justice. (1998).* http://www.childrendefense.org/s10_myths.html.

10 *Juvenile Firesetters: What you can do!* 1998. National Arson Prevention Clearinghouse. Federal Emergency Management Agency. Emmitsburg, MD.

BACK

The 10-Year

A viable new technology gets a push from a state senator before its implications have been fully explored.

Battery

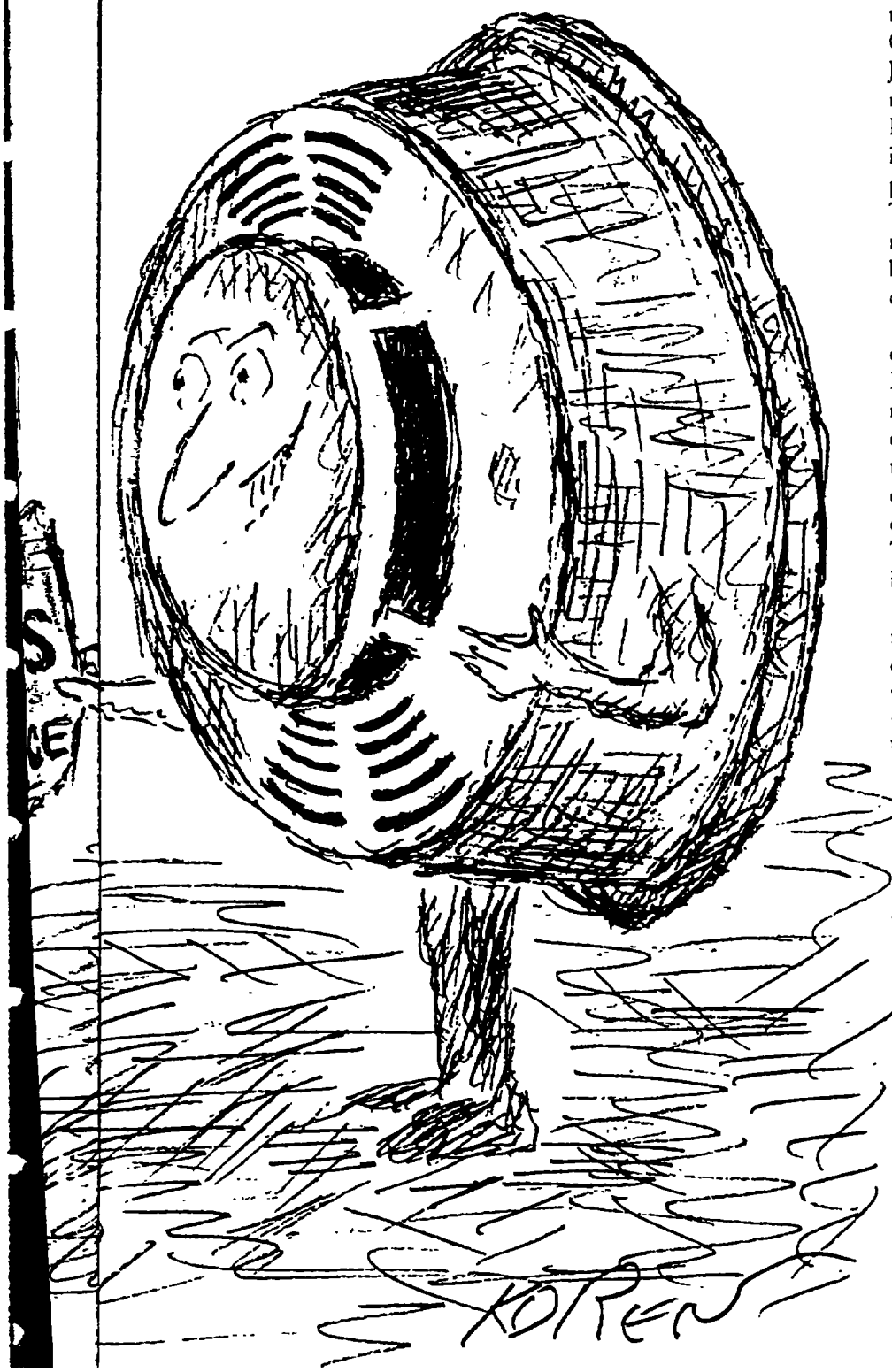

Illustration Ed Koren

Alisa Wolf

State Senator Randy Leonard, a lieutenant with the Portland, Oregon, Fire Bureau, was fired up about smoke alarms. Twenty years of firefighting had taught him that if people were standing outside a burning home, chances were it had working smoke alarms. By the same token, empty sidewalks often indicated that the home probably didn't have working alarms and that residents were trapped inside. When the Consumer Product Safety Commission (CPSC) released the results of a study in January 1995[1] that determined why 20 percent of residential smoke alarms don't sound during fires, Lieutenant Leonard was, by all accounts, shocked by its findings, which showed that the power source in 60 percent of such nonworking alarms is disconnected. The lieutenant decided it was time to do something to reduce the number of disconnected detectors and bring down the toll of injuries and deaths due to residential fires. And the senator went to work.

In 1997, according to Chief Deputy Bob Garrison of the Oregon State Fire Marshal's office, Senator Leonard proposed legislation that would have required hard-wired smoke alarms in all tenant-occupied housing. Landlords and other stakeholders thwarted the senator's efforts because of cost concerns, among them the price of retrofitting wiring to comply with NFPA 70, *National Electrical Code*®. The bill was debated until the final hours of the legislature's session.

"The bill went through three or four transmogriphications," Garrison says, "and we thought it had died." But in September, when the legislature reconvened, "we learned that the bill had gone forward in the closing hours in session." The substance of the bill, however, had changed considerably.

Rather than hard-wired smoke alarms, Senate Bill 874 had two new criteria for all residential smoke alarms in multifamily and single-family dwellings. First, the bill stated that all smoke alarms sold in Oregon, if solely battery-powered, had to have a 9-volt lithium battery. These batteries look just like the rectangular, 9-volt alkaline and zinc carbon batteries that fit residential smoke alarms, but they last longer—10 years, the manufacturer claims. The rationale behind the bill is that if people don't have to replace their batteries so often, they'll have fewer nonworking detectors.

But this won't stop people from pulling out batteries when their alarms are triggered by burnt toast or shower steam. The second requirement of Senate Bill 874 addresses this problem by requiring that each smoke alarm sold in Oregon have a hush feature that will automatically reset up to 15 minutes after it's

activated, allowing occupants to silence the alarm until the presumably harmless smoke clears.

In its intent, the bill tackles the two most common reasons for nonworking smoke alarms: missing batteries due to the owners' failure to replace them when they wear out and alarms whose batteries have been pulled out in response to nuisance alarms.

According to Oregon's State Fire Marshal, Jim Crawford, the concept is sound.

"We should be looking for an alarm as low-maintenance and tamper-proof as possible, and with the 10-year battery, we don't have to worry about the battery being replaced, so there's less chance of it being inoperable," he says. "And the hush feature during false alarms makes it less likely that a person will disable the alarm permanently or yank the battery out."

But he admits that the legislation, as originally written, had some flaws.

As the Oregon fire protection community scrambled to comply with the new bill by January 1998, its main concern was keeping the shelves stocked with smoke alarms equipped with both a 10-year battery and a hush button. Only one company, Ultralife Batteries, Inc., manufactures a warranteed 9-volt lithium battery, and many, if not most, smoke alarms on the market don't have hush buttons. According to Chief Deputy Garrison, however, these issues were more easily overcome than he'd feared.

"We had no problem at all keeping competitively priced alarms on the shelf," he says.

As more states consider legislation similar to Oregon's, however, keeping the marketplace competitive becomes a more pressing issue.

"There could be a problem creating a market demand that industry has to catch up with," Crawford says.

He's referring to the fact that other manufacturers don't seem eager to compete with Ultralife, perhaps because the 9-volt battery market itself is limited. Stakeholders nationally are concerned that, should the 10-year battery become mandatory elsewhere in the country, Ultralife could find it difficult to keep up with demand.

How the technology stacks up

New York-based Ultralife Batteries, Inc., has been selling this product since 1992, according to Greg Smith, the company's marketing manager. But it wasn't until 1995, he says, that "we started seeing results that showed it would last 10 years in a typical ionization-type detector." These results were based on accelerated-life, elevated-temperature life span tests.

Only one alarm that runs on the lithium battery currently carries a conditional Underwriters Laboratories (UL) listing, based on technical information submitted during the listing process and on confirmation testing over 2 years, according to Paul Patty, associate managing engineer at UL. This is First Alert's 10-Year Detector, which is powered either by a built-in 9-volt lithium battery that can't be removed from its housing or by three built-in lithium battery cells. Since the battery won't activate until the alarm's installed, it won't run down while it sits on the shelf. And UL continues testing the unit, which also has a hush button, to make sure that the battery does, in fact, keep going for 10 years.

Ratifying the 10-year claim isn't a safety issue as much as it is a marketing one, says Patty, because even if the battery runs down before it 10 years are up, the alarm will give the low-battery chirp to alert the user.

"In the case of the 10-year battery, the worst thing that's going to happen is it's not going last 10 years," Patty says. "At the end of its life, whether it lasts 7, 10, or 12 years, the battery trouble signal will sound. It's more of a marketing and warranty issue. Our safety concern is that at the end of the battery's life, there's a low-battery trouble signal."

Other smoke alarms packaged with the 9-volt lithium battery may also carry the UL mark, but that doesn't mean UL lists them for 10-year use.

"UL's requirements for a general purpose smoke detector, based on NFPA standards, is that, with a fresh battery, it will last one year," says Patty. "Others may be marketing alarms with a longer-life battery, but they've not asked us to confirm that they'll last 10 years."

As for hush buttons, UL considered and rejected a requirement that all smoke alarms have them, acknowledging, in essence, that hush buttons can be a useful consumer tool, but not in every case. According to Rae Erdheim, senior manager of Government Affairs at the National Electrical Manufacturers Association (NEMA), a hush button can be deadly in the wrong hands.

"You could push it in a real fire," he says, noting that this could be a real problem for people with impaired judgement, especially if they've been awakened in the middle of the night. For this and other reasons, hush buttons may not be the best choice for every room.

"You can make a good case for a hush button near a kitchen, a weaker case on an alarm in a bedroom," Erdheim says.

And for someone who can't reach the alarm, such as a person confined to a wheelchair or someone who can't distinguish the hush button from the test button, which may differ only subtly in appearance, a hush button is virtually useless.

The pros and cons of these new technologies might have been debated and settled through the NFPA consensus codes- and standards-making process like other new technologies, but the Oregon law and others like it now being considered in states such as New York and New Jersey have added urgency to the discussion. While opponents of the legislation don't object to the 10-year battery or the hush button as options, they worry that legislation mandating their use constrains the marketplace to the detriment of the consumer. Even more importantly, they wonder whether 10-year smoke alarms with hush buttons truly address the problems they were created to solve.

The best solution?

Is the 10-year smoke alarm the best solution to the problem of nonworking smoke alarms?

According to Erdheim, the issue of nonworking detectors itself may be the wrong one to focus on, the CPSC study notwithstanding. He points out that a 1997 NFPA smoke alarm study[2] concludes that the majority of fire deaths occur in the 7 percent of homes without any smoke alarms at all, and he argues that we should be most concerned about getting smoke alarms into these homes.

This isn't to say that nuisance alarms aren't a concern. But, says Erdheim, even if a 10-year battery reduces the relatively small number of cases in which consumers fail to replace dead batteries, it won't stop nuisance alarms.

Oregon's bill has inadvertently created marketplace issues that may also bear on life safety.

"In fact," Erdheim says, "if you put a detector with a 10-year battery near a kitchen or bathroom, or if you smoke, you're going to have nuisance alarms. The bottom line with nuisance alarms is that if you put alarms in the wrong places, if you don't clean them and you don't replace them after 10 years, you're going to have them. Clearly, there's a need for education. Consumers have to assume some responsibility. If people don't act safely, that's probably the biggest problem."

Oregon's Fire Marshal Crawford, on the other hand, defends the use of legislation to further life safety.

"I'm a big believer in public education," he says, "but I recognize that we also have legislation and enforcement as part of our prevention tools, and I don't think it's inappropriate to consider legislation that would deal with this problem."

Unfortunately, Oregon's bill has inadvertently created another marketplace issue that may also bear on life safety: It's effectively abolished sales of single-station photoelectric alarms, which use too much power to run the 9-volt lithium battery for as long as 10 years. Pat Coughlin, director of Operation Life Safety, an advocacy group for residential fire safety, believes that, by inadvertently keeping photoelectric smoke alarms from the marketplace, the Oregon law might, in fact, be blocking the key technology for reducing nuisance alarms.

"The biggest reason people disable their alarms is because cooking sets them off, and we already have a reasonable solution to this problem in photoelectric alarms," he says. "They don't cost that much more, —you can get them for under $20—and to prevent sales is ludicrous."

Long-life batteries in photoelectric alarms are currently being tested, but, according to Coughlin, they show that a photoelectric-type alarm may require two batteries to run for 10 years.

"The additional battery might make it cost-prohibitive," Coughlin says. "I don't know how much it would sell for."

Many experts believe that photoelectric-type smoke alarms are a better choice for residential alarms since they react better than ionization-type alarms to the smoldering phase of fires. Many fatal home fires begin with an extended smoldering phase, and an alarm during that phase would provide additional time for safe escape. Photoelectric-type alarms also resist unwanted alarms caused by cooking vapors or bathroom moisture slightly better than ionization-type detectors. However, ionization-type alarms respond quickly enough in all types of fires to permit safe escape, and NFPA doesn't endorse one over the other.

"The important thing is to have one that works," says Merton Bunker, NFPA's chief electrical engineer.

In most states, the choice of detectors is left up to the consumer or to the fire marshal's office. Deputy Fire Chief Joseph Fleming of Boston, Massachusetts, for example, supports a requirement for photoelectric-type alarms in certain rooms.

"In the new state building code, photoelectrics are required if smoke alarms are installed a certain number of feet from the kitchen and bathroom," Fleming says. The law doesn't rule out ionization-type alarms in other parts of a home.

In Oregon, however, ionization-type alarms have been elbowed off the shelves by the new law. David Christian, who represents Gentex Corporation, a maker of photoelectric-type alarms and a member of NFPA's Household Fire Warning Equipment Committee, says he has no problem with the 10-year battery technology, but he doesn't feel it should be the only choice.

"When you begin to require certain technologies, you take the ability of consumers to make choices out of their hands by dictating what they can and cannot buy," he says. "In many experts' opinions, there are better technologies in the marketplace."

Other types of residential alarms also suffer under the Oregon law. Like photoelectric-type alarms, combination carbon monoxide and smoke alarms use too much power for the 10-year battery. The same is true for combination photoelectric- and ionization-type smoke alarms. Until more testing clearly points the industry in the direction it should take to improve detection and reduce nuisance alarms, it's premature, argues Fleming, to promote one technology over another.

"I don't think we have enough information to look at in terms of risk analysis and cost benefit to absolutely decide which route to go in terms of improvement," says Fleming. "Different people in different parts of the country are taking different routes. Do I think there's a best one? Yes. But I'm not sure which route that is."

In Oregon, retailers, manufacturers, legal counselors, fire officials, retailers, and legislators are coming together to work within the boundaries of the 10-year battery mandate and iron out the kinks in Senate Bill 872 in time for the 1999 assembly.

"While there are some flaws," says Crawford, "it's incumbent on us to try to work this out without destroying the whole thing."

10-year alarms vs. 10-year batteries

According to some safety experts, however, the mandatory use of 10-year batteries introduces new safety issues that legislation can't adequately address. For example, components in existing alarms running on 10-year batteries may wear out before the battery does. In this way, 10-year batteries might encourage owners of smoke alarms that are more than 10 years old to hold onto them when they should be replaced.

"Smoke alarms should only be used for 10 years," explains Dick Bukowski, senior research engineer at the National Institute of Standards and Technology and chairman of the Household Fire Warning Equipment Committee. Based on years of testing and the application of estimation techniques to determine how long a residential smoke alarm should last, NFPA recommends a general 10-year replacement program along with regular testing.

"It's not an easy question, 'how long will a smoke alarm last,'" Bukowski says, "but we came up with a failure rate of about 3 percent a year and then asked what total fraction having failed is acceptable. Ten years seemed reasonable—you may be replacing some alarms that are still functioning, but given the low cost of most alarms, it's better to replace them than wait until they die."

The 10-year batteries are the
cornerstone, both within and outside Oregon.

Alarms with 10-year batteries built in make it easy for consumers to follow these guidelines, Bukowski points out, since they can throw the whole unit away 10 years after they install it. On the downside, a 10-year warranty might bring with it a sense of complacency. Like any other smoke alarm, the 10-year built-in battery unit should be tested—the manufacturer suggests it be tested weekly—and it should also be cleaned regularly.

"If you do not have to replace the battery," says UL's Patty, "you might not test and clean that alarm."

But Oregon's Chief Deputy Garrison points out that "if you're not testing your smoke detector regularly, it doesn't matter if you have a 1-year, a 10-year, or no battery." The 10-year battery, he contends, "isn't intended to eliminate the need for testing your smoke alarm. People should be testing it regularly."

Garrison also says that the 10-year recommendation is just that.

"The alarm may work for 13 years or more," Garrison says. And if a user tests it weekly, as instructed, safety shouldn't be an issue.

Another issue that concerns some experts is cost. In most parts of the country, people can buy a residential smoke alarm for around $7, whereas First Alert's smoke alarm with a built-in battery and a hush button costs from $22 to $30. Consumers, at least in Oregon, may also choose to spend around $15 for the 9-volt lithium battery sold in a residential smoke alarm with a hush button. And Garrison says that in Oregon, "every big box store in the state carries 10-year alarms for less than $10."

The argument for the long-term cost effectiveness of the 10-year battery may make it an attractive option for certain consumers. Over time, the cost of replacing an alkaline or zinc carbon battery every year for the 10-year life of an alarm outstrips the initial outlay for a 10-year battery.

NEMA's Erdheim is concerned that even a slight cost increase may hamper efforts to ensure that low-income homes have adequate smoke alarm coverage. In a letter to Senator Leonard, he explained that "NFPA recommends that homes have alarms on every level and outside each sleeping area. More costly batteries with smoke alarms will discourage rather than encourage alarm use." (In new construction, NFPA requires alarms in every sleeping room.)

Those opposed to the 10-year legislation acknowledge that, conceptually, the 10-year battery is a good idea, but practically, its use may be limited. Any battery that can be removed from a smoke alarm, even a 10-year battery, does little to solve the problem of missing batteries due to nuisance alarms. Hush buttons on alarms with built-in batteries might keep some users from disabling their alarms, but they introduce their own risks. Finally, by limiting the products available, legislation like Oregon's restricts the marketplace, and it may inadvertently deprive low-income consumers of even the most basic protection.

Process

These are the issues NFPA's consensus codes- and standards-making process is designed to address. H. Wayne Boyd, who represents U.S. Safety and Engineering on NFPA's Household Fire Warning Equipment Committee, opposes the Oregon law because it jumps ahead of NFPA standards.

"It's a unique law that doesn't lend itself to the product they're trying to require," says Boyd, who points out that there isn't any standard for 10-year battery protection in smoke alarms.

If a proposal for the next edition of NFPA 72 passes, the *National Fire Alarm Code* will require smoke alarms to be replaced every 10 years. A provision allowing 10-year smoke alarms wherever AC is required is also being considered, with the caveat that the technology must have an interconnect capability, which it currently doesn't.

But the committee hasn't even considered recommending the 10-year battery-powered smoke alarm over other choices for general residential use, says Bukowski.

"It's not a matter of blocking the technology," he says. "But there's not much consensus on any technical committee at this time about its advantages."

The technology has its supporters, both within and outside Oregon. Jim Hoebel, CPSC's chief engineer for fire hazards, believes that the 10-year battery takes smoke alarm technology in a productive direction.

"It's a good example of technology being developed to meet a perceived need," he says. "Basically, the CPSC report focused on the problems of lack of power in single-station smoke alarms. The long-life battery is at least one possible way of avoiding that kind of loss of power."

Focusing on alternative batteries in traditional alarms may also represent too narrow a focus. NFPA codes already require interconnected, hard-wired smoke alarms in new homes, an approach that eliminates the missing battery problem. And "smart detectors" with software and multiple sensors that can distinguish fires from nuisance alarms accurately are already well-established in commercial markets and could become affordable for home use in the future. States that legislate alarms to the extent that Oregon has may inadvertently keep such new applications off the shelves.

While acknowledging its limits, Hoebel still believes the long-life battery is a positive development. In fact, CPSC is working on 10-year battery and 10-year smoke alarm giveaway programs with the Centers for Disease Control. Significantly, though, CPSC hasn't taken a position on legislating long-life battery use.

Stakeholders in Oregon continue to address the shortcomings of Senate Bill 872, and stakeholders nationwide weigh in on code requirements for residential alarms when developing NFPA 72. Until one technology clearly answers the issues raised by different studies of residential smoke alarm use, the 10-year smoke alarm battery will remain one of many options on the national market. ♦

Alisa Wolf is editor of NFPA Journal.

1 Smith, L. E., *Fire Incident Study: National Smoke Detector Project*. U.S. Consumer Product Safety Commission, Bethesda, Md, January 1995.

2 Hall, John R., Jr., "U.S. Experience with Smoke Alarms and Other Fire Alarms: Who Has Them? How Well Do They Work? When Don't They Work?," *NFPA Journal*, Vol 91, Number 5 (September/October 1997).

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Smoke Alarms: What You Need to Know

The Impact of Smoke Alarms

In the 1960's, the average U. S. citizen had never heard of a smoke alarm. By 1995, an estimated 93 percent of all American homes – single – and multi- family, apartments, nursing homes, dormitories, etc. – were equipped with alarms By the mid 1980's, smoke alarm laws, requiring that alarms be placed in all new and existing residences – existed in 38 states and thousands of municipalities nationwide. And smoke alarm provisions have been adopted by all of the model building code organizations.

Fire services across the country have played a major and influential public education role in alerting the public to the benefits of smoke alarms. Another key factor in this huge and rapid penetration of both the marketplace and the builder community has been the development and marketing of low cost alarms by commercial companies. In the early 1970's, the cost of protecting a three bedroom home with professionally installed alarms was approximately $1000; today the cost of owner-installed alarms in the same house has come down to as little as $10 per alarm, or less than $50 for the entire home. This cost structure, combined with effective public education (including key private-public partnerships), has caused a huge percentage of America's consumers, whether they are renting or buying, to demand smoke alarm protection. The impact of smoke alarms on fire safety and protection is dramatic and can be simply stated. When fire breaks out, the smoke alarm, functioning as an early warning system, reduces the risk of dying by nearly 50 percent. Alarms are most people's first line of defense against fire.

In the event of a fire, properly installed and maintained smoke alarms will provide an early warning signal to your household. This alarm could save your own life and those of your loved ones by providing the chance to escape.

Why should my home have smoke alarms?

In the event of a fire, a smoke alarm can save your life and those of your loved ones. They are the single most important means of preventing house and apartment fire fatalities by providing an early warning signal -- so you and your family can escape. Smoke alarms are one of the best safety features you can buy and install to protect yourself, your family and your home.

Okay, where do I put them?

Install smoke alarms on every level of your home, including the basement. Many fatal fires begin late at night or in the early morning. For extra safety, install smoke alarms both inside and outside the sleeping area.

Also, smoke alarms should be installed on the ceiling or 6 to 8

inches below the ceiling on side walls. Since smoke and many deadly gases rise, installing your smoke alarms at the proper level will provide you with the earliest warning possible. Always follow the manufacturer's installation instructions.

Where would I get smoke alarms?

Many hardware, home supply or general merchandise stores carry smoke alarms. Make sure the alarm you buy is UL-listed. If you are unsure where to buy one in your community, call your local fire department (on a non-emergency telephone number) and they will provide you with some suggestions. Some fire departments offer smoke alarms for little or no cost.

Are smoke alarms hard to install?

Not a bit. In most cases, all you will need is a screwdriver Many brands are self-adhesive and will automatically stick to the wall or ceiling where they are placed. However, be sure to follow the directions from the manufacturer because each brand is different. If you are uncomfortable standing on a ladder, ask a relative or friend for help Some fire departments will actually install a smoke alarm in your home for you. Call your local fire department (again, on a non-emergency telephone number) if you have problems installing a smoke alarm.

How do I keep my smoke alarms working?

Smoke alarms are very easy to take care of. There are two steps to remember.

1. Simply replace the batteries at least once a year.
   Tip: Pick a holiday or your birthday and replace the batteries each year on that day. Some smoke alarms now on the market come with a ten-year battery. These alarms are designed to be replaced as a whole unit, thus avoiding the need for battery replacement. If your smoke alarm starts making a "chirping" noise, replace the batteries and reset it.

2. Keep them clean. Dust and debris can interfere with their operation, so vacuum over and around your smoke alarm regularly.

What if the alarm goes off while I'm cooking?

Then it's doing its job. Do not disable your smoke alarm if it alarms due to cooking or other non-fire causes. You may not remember to put the batteries back in the alarm after cooking. Instead, clear the air by waving a towel near the alarm, leaving the batteries in place. The alarm may have to be moved to a new location.

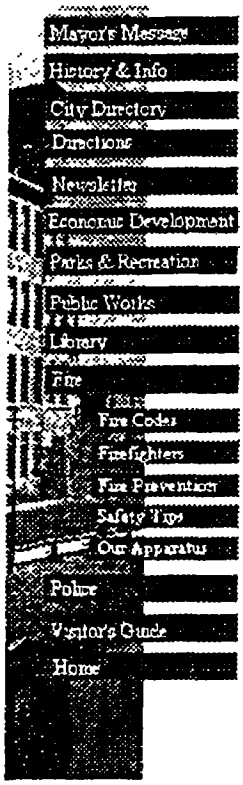
How long will my smoke alarm last?

About eight-to-ten years, after which it should be replaced. Like most electrical devices, smoke alarms wear out. You may want to write the purchase date with a marker on the inside of your unit. That way, you'll know when to replace it. Always follow the manufacturer's instructions for replacement.

Anything else I should know?

Some smoke alarms are considered to be "hard wired." This means they are connected to the household electrical system and may or may not have battery back-up. It's important to test every smoke alarm monthly And always use new batteries when replacing old ones

Last Updated: September 8, 1998



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FIRE DEPARTMENT

Protect Your Family with a Home Fire Safety Checklist

These Are Simple Changes That Could Save Your Life:

- **Change Your Smoke Detector Batteries**
  The IAFC and fire experts nationwide encourage people to change smoke detector batteries at least annually. An easy way to remember to change your batteries is when you turn your clock back in the fall. Replace old batteries with fresh, high quality alkaline batteries, to keep your smoke detector going year-long.
- **Check Your Smoke Detectors**
  After inserting a fresh battery in your smoke detector, check to make sure the smoke detector itself is working by pushing the safety test button.
- **Count Your Smoke Detectors**
  Install at least one smoke detector on every level of your home, including the basement and family room and, most important, outside all bedrooms.

- **Vacuum Your Smoke Detectors**
  Each month, clean your smoke detectors of dust and cobwebs to ensure their sensitivity
- **Change Your Flashlight Batteries**
  To make sure your emergency flashlights work when you need them, use high-quality alkaline batteries. Note Keep a working flashlight near your bed, in the kitchen, basement and family room, and use it to signal for help in the event of a fire.
- **Install Fire Extinguishers**
  Install a fire extinguisher in or near your kitchen and know how to use it Should you need to purchase one, the IAFC recommends a multi-or all-purpose fire extinguisher that is listed by an accredited testing laboratory such as Underwriters Laboratory
- **Plan and Practice Your Escape**
  Create at least two different escape routes and practice them with the entire family. Children are at double the risk of dying in a home fire because they often become scared and confused during fires. Make sure your children understand that a smoke detector signals a home fire and that they recognize its alarm.
- **Change Your Clock, Change Your Battery**
  The International Association of Fire Chiefs (IAFC) and the Somersworth fire department urge you to adopt a simple, potentially lifesaving habit: change the batteries in your smoke detector when you change your clocks back to standard time in the fall

Consider The Following:

- Eachday, an average of three kids die in home fires - 1,100 children each year. About 3,600 children are injured in house fires each year. 90 percent of child fire deaths occur in homes without working smoke detectors.
- Although smoke detectors are in 92 percent of American homes, nearly one-third don't work because of old or missing batteries.
- A working smoke detector reduces the risk of dying in a home fire by nearly half.

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RESIDENTIAL FIRE INJURY

Each year, United States fire departments respond to more than 2 million fires, or one every 15 seconds The majority of these are residential fires (75 percent), accounting for approximately 80 percent of all fire-related deaths and nearly 75 percent of all injuries Fires and burns are the third leading cause of unintentional injury-related death among children ages 14 and under. Children, especially those ages 5 and under, are at the greatest risk from home fire-related death and injury Young children spend the majority of their time in the home. A less acute perception of danger, less control of their environment and a limited ability to react promptly and properly to a fire also contribute to this excess risk. Additionally, because children have thinner skin, the burns they sustain from fire flames are more severe than those of adults

Smoke detectors are extremely effective at preventing fire-related death and injury The chances of dying in a residential fire are cut in half when a **working** smoke detector is present. Residential sprinkler systems, escape plans and fire extinguishers are also effective at preventing and mitigating this risk.

DEATHS AND INJURIES

- In 1993, nearly 1,000 children ages 14 and under died in residential fires Nearly 70 percent of these children were ages 4 and under.
- Each year, nearly 47,000 children ages 14 and under are injured in residential fires Of these children, almost 26,000, or 55 percent, are ages 4 and under.
- Each year, children playing with fire cause more than 5,000 residential fires resulting in 150 deaths and more than 1,000 injuries. The majority of these deaths are children, although typically not the children who started the fire.
- Two-thirds of all childhood fire-related deaths are from smoke inhalation, caused by the toxic gases produced as fires develop and spread Flames and burns are responsible for only one-third of fire-related deaths and injuries.

WHEN AND WHERE FIRE DEATHS AND INJURIES OCCUR

- Ninety percent of child fire-related deaths occur in homes without **working** smoke detectors
- Most home fires and home fire-related deaths occur during cold-weather months, December through February.
- Among children ages 5 and under, the majority of fire-related deaths (33 percent) occur between the hours of 9am and 3pm, during the time when children are most likely to be left unsupervised and unattended.
- The majority of children ages 5 and under (51 percent) who die from home fires are asleep at the time. Another 34 percent of these children are too young to react appropriately.
- Home-cooking equipment, followed by heating equipment, are the leading causes of residential fires and fire-related injuries. However, residential fires caused by smoking materials (e.g., cigarettes) are the leading cause of fire-related death, accounting for 24 percent of all fatalities.

- Playing with fire is the leading cause of fire-related death among children ages 5 and under, accounting for more than one-third of all fatalities in this age group These fires tend to begin in the bedroom or living room where children are often left alone to play and, in 75 percent of these fires, are started by matches or lighters.

- The South, followed by the Northeast, has the highest fire incident rates, death rates and injury rates in the country. The lowest rates are found in the West.

WHO IS AT RISK

- Children in homes without smoke detectors are at greater risk from fires and fire-related death and injury.

- Children ages 5 and under, representing 9 percent of the population, yet nearly 22 percent of all fire-related deaths in the home, are more than twice as likely to die in a fire than the rest of the population

- Males have a higher risk of fire-related death and injury than females (for all ages) Additionally, males ages 5 and under are more likely than females to die in child-playing fires

- Children from low-income families are at greater risk for fire-related death and injury, due to factors such as substandard housing, use of alternative heating sources, lack of working smoke detectors and economic constraints on providing adequate adult supervision.

- Children living in rural areas have a dramatically higher risk of dying in a residential fire Death rates in rural communities are more than 60 percent higher than rates in large cities and more than two times higher than in large towns and small cities.

- Home fires are the leading cause of injury-related death among African-American children ages 1 to 9 years.

- The use of security bars on windows as a protection mechanism from crime prevents escape and rescue, and, therefore, increases the risk of death and injury in the event of a fire in the home.

SMOKE DETECTOR AND SPRINKLER SYSTEM EFFECTIVENESS

- As of 1994, 93 percent of homes in the United States had at least one smoke detector. However, only 74 percent of all homes had at least one **working** smoke detector.

- Nearly half of all home fires and three-fifths of all fire-related deaths in the home occur in the small number of homes (7 percent) that have no smoke detectors.

- The chances of dying in a residential fire are cut by as much as 57 percent when automatic sprinkler systems are present. Yet sprinkler usage in homes that have fires (3 percent) is extremely low.

- The combination of smoke detectors and sprinkler systems could reduce fire-related deaths by 82 percent and injuries by 46 percent.

FIRE SAFETY LAWS AND REGULATIONS

- Currently, 31 states and the District of Columbia have laws that require smoke detectors to be used in both new and existing dwellings Additionally, 11 states have smoke detector laws for new dwellings only

- In 1993, the Consumer Product Safety Commission issued a mandatory safety standard requiring disposable and novelty cigarette lighters to be child-resistant. The standard is expected to prevent 100 fire-related deaths each year caused by children playing with fire

- Some states currently have laws mandating automatic sprinkler systems in new residential construction.

- Federal regulations and regional building codes have established requirements for the design, construction and installation of windows and approved devices intended to be used for emergency escape or rescue

HEALTH CARE COSTS AND SAVINGS

- The total annual cost of fire- and burn-related deaths and injuries among children ages 14 and under exceeds $7 5 billion Children ages 4 and under account for more than $4 8 billion of these losses

- Every dollar spent on a smoke detector saves at least that much in direct medical costs and an additional $55 to $70 in total costs to society

PREVENTION TIPS

- Keep matches, gasoline, lighters and all other flammable materials locked away and out of reach.

- Install smoke detectors in your home on every level and in every sleeping area. Test them once a month, replace the batteries at least once a year (unless the batteries are designed for longer life) and replace the detectors every ten years.

- For the best protection against different types of fires, consider installing both ionization detectors, better at sensing flaming fires, and photoelectric detectors, better at sensing slow, smoky fires.

- Plan and practice several fire escape routes from the home and identify an outside meeting place. Children may become frightened and confused in a fire and hide rather than escape to safety.

9/96

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COMMENTS ON

PETITION FP 99-1, PETITION FOR LABELING OF POLYURETHANE FOAM

TO

THE UNITED STATES CONSUMER PRODUCT SAFETY COMMISSION

FROM THE

AMERICAN FURNITURE MANUFACTURERS ASSOCIATION

JUNE 7, 1999

American Furniture Manufacturers Association
1600 K Street NW
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202-466-7362

INTRODUCTION:

The American Furniture Manufacturers Association (AFMA) submits these comments in response to FP 99-1, Petition for the Labeling of Polyurethane Foam (64 Federal Register, 16711), April 6, 1999. The petitioner requests the Consumer Product Safety Commission (CPSC) and/or the Federal Trade Commission (FTC) to issue a mandatory regulation providing for the labeling of upholstered furniture which contains polyurethane foam. As an interim step, petitioner proposes a "voluntary fire hazard disclosure program" to make available such information to the public, or any other relief the CPSC and/or FTC deem appropriate.

AFMA is the largest furniture industry trade association in the United States. AFMA member companies account for most of the nation's $22 billion in residential furniture shipments and $1.3 billion in residential furniture exports. Almost 86 percent of U.S. furniture manufacturing facilities employ less than 50 workers, and 40 percent of firms employ less than four workers.

AFMA shares the conviction of the petitioner that appropriate labeling of consumer products is an effective tool in promoting safety. Indeed, labeling has been an important component of several furniture safety initiatives, including the bunk bed safety standard (ASTM F1427-96) for which AFMA was given the Consumer Product Safety Commission (CPSC) Chairman's Award for Product Safety in 1996.

In the context of upholstered furniture, warnings contained on the widely-used Upholstered Furniture Action Council (UFAC) hangtag alert consumers to the potential flammability of component materials used in making upholstered furniture.[1] The importance of smoke detectors and safe smoking habits are also included on the UFAC hangtag.

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[1] The Upholstered Furniture Action Council (UFAC) was established in 1974. Working cooperatively with the CPSC, this voluntary industry organization, made up of upholstered furniture manufacturers, retailers and suppliers, developed a cigarette ignition resistant voluntary standard for upholstered furniture. UFAC established Construction Criteria, labeling requirements (featuring the UFAC hangtag) and a public information program about fire safety. Since the UFAC standard was implemented in 1978, CPSC data demonstrates that cigarette-ignited upholstered furniture fires have declined by approximately 79%. In recent laboratory testing and component surveys, the CPSC determined that 92% of individual cigarettes placed on currently manufactured upholstered chairs did not produce ignition. Further, the agency found that 90% of the dollar value of upholstered furniture conformed to UFAC criteria.

LABELING CAN BE ACCOMPLISHED UNDER THE PENDING RULEMAKING:

On April 14, 1993, NASFM petitioned the CPSC to mandate the use of California flammability standards for upholstered furniture on a nationwide basis. On May 12, 1994, the Commission approved the publication of an Advanced Notice of Proposed Rulemaking (ANPR) on small open flame ignition and deferred a decision on whether to issue an ANPR for cigarette ignition, pending an evaluation of the effectiveness of, and industry compliance with, the UFAC program.

The Commission thereby initiated the two regulatory projects referred to above, which could result in a "new or amended flammability standard or other regulation, *including labeling*" of upholstered furniture. [2] Such a regulation or labeling requirement could also address any component materials, including "paper, plastic, rubber, synthetic film, or *synthetic foam* which is intended for use" in upholstered furniture. [3]

These regulatory projects are still pending, and we are not aware that any options, including labeling of furniture or furniture components, have been ruled out. Consequently, NASFM's most recent petition to the CPSC appears to be duplicative in this regard.

BASIS FOR PETITIONER'S REQUEST IS FLAWED:

The most recent petition appears to be based on NASFM's questionable position that upholstered furniture containing so-called California or "TB-117" polyurethane foam (utilizing flame retardant (FR) chemicals) is superior to non-chemically treated polyurethane foam in small open flame scenarios. In 1994 comments on the ANPR, NASFM maintained that "serious thought must be given to simply adopting the requirements of TB-117 rather than

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[2] Flammable Fabrics Act (FFA), Section 4(a), 15 U.S.C. 1193 (*emphasis added).*

[3] Flammable Fabrics Act (FFA), Section 2(g), 15 U.S.C. 1193 (*emphasis added).*

wasting resources to create some means of doing exactly the same job." [4] NASFM has continued to support imposition of TB-117 on a national basis. [5]

In the course of its upholstered furniture flammability research, CPSC has made several findings about the role of polyurethane foam and other upholstered furniture components in small open flame scenarios.

CPSC tested TB-117 polyurethane foam and found it demonstrated "no significant added protection in small open flame scenarios" compared to UFAC-complying upholstered furniture products. [6] According to the October 1997 CPSC Briefing Package, "fabric ignition times were essentially the same when tested with or without the FR foams, and similar amounts of both FR and non-FR foams melted away due to heat from the burning fabrics." [7]

CPSC staff concluded that " ...filling materials are much less important than cover materials in determining small open flame performance." [8] This corroborates earlier research by Dr. Vito Babrauskas concluding that "foam type, i.e., whether ordinary or 'California' type, had no effect" on fire performance as measured by heat release.[9]

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4 National Association of State Fire Marshals, *Comments on the ANPR for Upholstered Furniture*, August 12, 1994, p. 14.

5 e.g., New Hampshire State Fire Marshal Donald Bliss, Presentation to an April 9, 1998 Meeting at National Safe Kids.

6 Dale R. Ray, "Briefing on Upholstered Furniture Flammability Projects," March 1996.

7 U.S. CPSC, Regulatory Options Briefing Package on Upholstered Furniture Flammability, October 28, 1997, p. 27.

8 Ibid.

9 V. Babrauskas, *Upholstered Furniture Heat Release Rates*, Journal of Fire Science, Vol. 1, Jan/Feb 1983, p. 10.

PETITIONER MISCLASSIFIES FIRE INCIDENTS:

Contrary to the research conclusions of the CPSC and other authorities, the 1999 NASFM petition stands by its focus on the role of polyurethane foam by asserting:

> *The national fire data ...seriously understates this hazard because it looks only at the item first ignited -- Whether upholstered furniture is the first or fifth item ignited, it turns small fires into large fires very quickly.* [10]

Such an analysis provides little insight into the causes of residential fires and what policies best address them. In effect, the petitioner has challenged the classification system relied upon by virtually all fire professionals and law enforcement personnel, as well as the CPSC.

The system instituted by the National Fire Protection Association (NFPA) in 1992 requires identification of the ignition source and the first item ignited, along with any unusual circumstances such as arson.[11] In this petition, the NASFM appears to dispense with this established analytic framework and simply attaches causation to any item that may be consumed at some point in the progression of a fire.

PETITIONER FAILS TO ACCURATELY IDENTIFY IGNITION SOURCES:

In characterizing the performance of upholstered furniture as a "second" or even "fifth" item ignited, the petitioner has failed to account for the ignition sequences leading up to these incidents. In a study partly funded by the CPSC, Dr. Babrauskas cautions that designating an ignitable item necessarily defines "its 'ignition source' as the one previous step in this chain." [12] For example, if a match ignites a rug, which in turn ignites a wall

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[10] NASFM, *Petition Requesting Labeling Rule for Polyurethane Foam in Upholstered Furniture*, Federal Register, April 6, 1999 (Volume 64, Number 65), p. 16711, *emphasis added.*

[11] See NFPA 921, *Guide for Fire and Explosion Investigations* (1995).

[12] V. Babrauskas, *Upholstered Furniture Heat Release Rates*, Journal of Fire Science, Vol. 1, Jan/Feb 1983, p. 10.

panel, the ignition source for the wall panel is the rug. This would represent a large open flame, a category of ignition source which the CPSC previously declined to regulate in 1994.[13]

This analytical confusion has been evident from the outset of the pending upholstered furniture flammability projects. In its 1994 comments, NASFM cited a burning Christmas tree as an example of a small open flame incident.

PETITIONER CONFUSES LARGE AND SMALL OPEN FLAME CONSTRUCTIONS:

Given petitioners failure to accurately identify small and large open flame ignition sources, it is not surprising that NASFM confuses the flammability standards which address these risks. NASFM asserts that standards for "upholstered furniture in nursing homes, hospitals, prisons and other institutional settings, as well as the seats of airplanes, automobiles, boats and other modes of transportation" are "much of the time ... met with polyurethane foam that is treated to resist ignition." [14]

In reality, seating in prisons, hospital and other institutional settings, as well as on airplanes, rely predominantly on fire-blocking interliners such as Kevlar or Nomex.[15] These non-residential constructions are aimed at large open flame risks created by the concentration of persons in unfamiliar areas or areas with limited egress, and/or by the proximity to engines and fuel sources.

CPSC has questioned the validity of these constructions for use in small open flame fires, finding that they "did not prevent ignition or cause self-

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[13] U.S. CPSC, *Vote on the Petition for a Regulation of Upholstered Furniture Flammability*, May 12, 1994.

[14] NASFM, *Petition Requesting Labeling Rule for Polyurethane Foam in Upholstered Furniture*, Federal Register, April 6, 1999 (Volume 64, Number 65).

[15] Dr. Herman Stone (Polyurethane Foam Association), *Overview of the Combustibility and Testing of Filling Materials and Fabrics for Upholstered Furniture*, July 1998.
Richard P. Driscoll (BIFMA), *Post-Hearing Comments to the U.S. CPSC*, July 24, 1998, p. 1.

extinguishment" of upholstery fabrics.[16] The CPSC test-burned upholstered chairs with interliners and all failed the agency's small open flame test procedure.[17]

WIDELY-USED EXISTING CONSUMER WARNINGS:

The petitioner requests that the CPSC and/or the FTC require warning labels on upholstered furniture alerting consumers to the flammable potential of polyurethane foam. As an interim step, NASFM proposes a "voluntary fire hazard disclosure program" to make available such information to the public.

Warnings more appropriate for consumers are already widely provided by UFAC hangtags on a voluntary basis.[18] Each year, millions of hangtags are used by manufacturers to accompany articles of upholstered furniture. All UFAC hangtags are tri-lingual (English, French and Spanish) and prominently display the following:

> *"The manufacturer of this furniture certifies that it is made in accordance with the new, improved **UFAC** methods, designed to reduce the likelihood of furniture fire from cigarettes. However, upholstery fires are still possible. Some materials used in upholstery, when ignited, will burn rapidly and emit toxic gases. Remember to practice careful smoking habits. For early warning, equip your home with properly placed smoke detectors and maintain them regularly."*

The petitioner states that consumers outside of California should be better apprised of the dangers of non-FR treated foam.[19] In fact, the warnings

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16 U.S. CPSC, Regulatory Options Briefing Package on Upholstered Furniture Flammability, October 28, 1997, p. 21.

17 U.S. CPSC, Regulatory Options Briefing Package on Upholstered Furniture Flammability, October 28, 1997, p. 21.

18 See footnote 1.

19 NASFM, *Petition Requesting Labeling Rule for Polyurethane Foam in Upholstered Furniture*, Federal Register, April 6, 1999 (Volume 64, Number 65), p. 16711.

required by TB-117 are far more perfunctory than those provided by the UFAC hangtag:

> *"Only the resilient filling materials contained in this article meet California Bureau of Home Furnishings flammability requirements. Care should be exercised near open flame or with burning cigarettes."* [20]

No mention is made of smoke detectors, which most fire authorities believe are key to avoiding fire deaths and injuries, [21] or emission of toxic gases, a hazard which NASFM has singled out as especially important. [22] It is unclear from the NASFM petition whether or not the proposed mandatory labeling would apply to upholstered furniture complying with TB-117 (containing FR-treated polyurethane foam). However, in light of the research by the CPSC and other authorities, there may be no basis for such a distinction. [23]

LABELS SHOULD INFORM, NOT CONFUSE:

Petitioner proposes that warnings provided to commercial purchasers of polyurethane foam be passed "precisely" in that form to upholstered furniture consumers. [24] These warnings are designed for the occupational context, where polyurethane foam may be stacked in large quantities, and in the words of the label cited by petitioners, exposed to "intense heat sources" such as "welding operations." Conveying such warnings to the consumer would likely create confusion rather than awareness of potential

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20 Govmark Publications, *Book of Reprints of Flammability Standards and Flammability Test Methods of Textiles, Plastics and Other Materials Used in Home and Contract Furnishings*, Second Edition, 1987.

21 Mallonee, et al, *Surveillance and Presentation of Residential Fire Injuries,* New England Journal of Medicine, 1996; 335 (1): 27-31. Also, Porth, Don, *Playing With fire*, NFPA Journal, January/February 1999, p. 58.

22 *Petition Requesting Labeling Rule for Polyurethane Foam in Upholstered Furniture*, Federal Register: April 6, 1999 (Volume 64, Number 65).

23 See Footnotes 7-9.

24 *Petition Requesting Labeling Rule for Polyurethane Foam in Upholstered Furniture*, Federal Register: April 6, 1999 (Volume 64, Number 65).

residential fire risks. Research has shown that unneeded language "added to a warning is information that may overload the reader and prevent comprehension of critical information." [25]

The tone of warnings can also bear on their effectiveness. In the occupational setting, warnings often employ explicit language and pictorial representations to compete with the hundreds of other messages that workers receive under the Occupational Safety and Health Administration's Hazard Communication Standard. In the consumer context, however, "overly explicit warnings, especially ones considered too morbid, may be tuned out by readers." [26]

Indeed, the "consumer's perception of the product's hazardousness is the primary determinant of whether they read the label."[27] Thus, warnings that unduly exaggerate the true level of risk associated with upholstered furniture are likely to be counterproductive because they may be tuned out.

SUMMARY AND CONCLUSION:

AFMA shares the conviction of the petitioner that appropriate labeling of consumer products is an effective tool in promoting safety. Indeed, labeling has been an important component of several furniture safety initiatives, e.g., the ASTM bunk bed voluntary safety standard and the Upholstered Furniture Action Council (UFAC) voluntary industry standard.

The petitioner's position on labeling may originate from its oft-stated views on the efficacy of TB-117 polyurethane foam in small open flame incidents, as well in fires it mischaracterizes as small open flame scenarios. TB-117 foam is not designed to thwart residential fires in their advanced stages, where it may be the "second" or "fifth" item ignited. Nor is it adapted to the public occupancy and transportation contexts cited by NASFM. Indeed,

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[25] Mark Lehto et al, *Warnings: Fundamentals, Design and Evaluation Methodologies* (1986).

[26] B.A. Loring et al, *Improving Swimming Pool Warning Signs*, Human Factors Society Annual Meeting (1988).

[27] M.S. Wogalter et al, *Perceptions of Consumer Products Hazardousness and Warning Expectations*, Human Factors Society Annual Meeting (1986).

CPSC and other authorities have raised serious questions whether TB-117 provides any measurable benefit in true small open flame scenarios, and whether foam is even an important determinant in how such fires occur. Labeling should be not be used to impose upon consumers unsupported assumptions about the proper approach to safety.

Even if labeling of furniture with polyurethane foam was deemed advisable, the relief requested can be accomplished by the CPSC under the pending ANPR on upholstered furniture flammability, or alternatively by the FTC under existing voluntary programs. Appropriate warnings of residential fire risks associated with upholstered furniture are presently widely provided, under the existing UFAC program.

UFAC hangtags detail the importance of smoke detectors and safe smoking habits. In contrast, the petitioner's proposed labeling requirement, a recitation of warnings provided to industrial purchasers of polyurethane foam, would not address the range of information that is appropriate for consumers of upholstered furniture. NASFM's proposal to convey industrial hazard warnings to the consumer would likely create confusion rather than greater awareness of safety risks.

Again, as an effective tool in promoting safety, AFMA supports appropriate labeling of consumer products. However, because petitioner's proposed labeling approach would likely create consumer confusion, and also because the petition under consideration fails to meet the requirements of 16 CFR 1051.9, AFMA respectfully requests that the 1999 NASFM petition be denied.

Sincerely,

Doug Brackett

Douglas L. Brackett
Executive Vice President

Lewis R. Freeman, Jr.
Vice President, Government Affairs

June 4, 1999

Office of the Secretary
Consumer Product Safety Commission
Washington, DC 20207

Re: Petition FP 99-1, Petition for Labeling of Polyurethane Foam

Dear Sir or Madam:

The Society of the Plastics Industry, Inc., (SPI)[1] on behalf of its Polyurethane Division is pleased to submit these comments to the U.S. Consumer Product Safety Commission (CPSC) concerning Petition FP 99-1, Petition for Labeling of Polyurethane Foam.[2] The members of the SPI Polyurethane Division are primarily suppliers of materials used to make polyurethanes and, accordingly, are substantially interested in any rulemaking that ultimately may impact polyurethane finished products, such as the proposal embodied in the petition of the National Association of State Fire Marshals (NASFM).

SPI opposes the regulation sought by the petition for four primary reasons:

1. The petition focuses exclusively and unfairly on one component of upholstered furniture;

2. The petition ignores the significant and ongoing efforts of the CPSC to determine whether flammability standards relating to upholstered furniture would likely significantly impact consumer safety, and, if so, how resulting regulations would relate to the requested action;

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[1] The Society of the Plastics Industry, Inc. ("SPI") is a 2,000 member not-for-profit trade organization representing all segments of the plastics industry in the United States. The Society's members include processors and manufacturers of plastics and plastics products, suppliers of raw materials, processors and converter of plastics resins and manufacturers of accessory equipment for the plastics industry. Founded in 1937, SPI is the major national trade association of the plastics industry.

[2] 64 Fed. Reg. 16,711 (Apr. 6, 1999).

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3. The petition fails to acknowledge the overall success of the existing voluntary industry standard; and

4. The petition presents no data suggesting that requiring additional warnings for consumers at the point of sale will have any material bearing on the conduct of subsequent users of upholstered furniture.

1. The Petition Focuses Exclusively and Unfairly on One Component of Upholstered Furniture.

Many years of plastics industry research have demonstrated that the combustibility behavior of a composite product such as a piece of upholstered furniture is a complex phenomenon. As the CPSC noted in its report titled Upholstered Furniture Flammability Testing: Full Scale Open Data Analysis (February 26, 1996), upholstered furniture can include a variety of fabric and filling materials, construction techniques, styles, and geometry. All of these factors have major implications for the ultimate fire performance of the finished product.

Like almost any material, polyurethane foam will burn when exposed to flame under certain conditions. Indeed, essentially all components of upholstered furniture will burn when exposed to open flame or intense heat for extended periods. Focusing solely on the fire performance of one material used in the construction of the product is unreasonable and not supported by scientific analysis.

The contention that polyurethane foam, when involved in a fire, releases carbon monoxide is, of course, true. What is not stated is that all organic materials that burn release carbon monoxide. Numerous studies examined by the CPSC staff over the years have shown that fire deaths are caused primarily by exposure to carbon monoxide rather than the presence of other possibly toxic chemicals released during a fire. Since all burning products will produce carbon monoxide, it is unclear why polyurethane foam warrants special warnings, especially when the covering materials are far more likely to become initially involved in a fire.

Numerous studies conducted by the CPSC and others have shown that tests focusing on individual components do not reliably predict the fire performance of a composite article of furniture. The synergistic relation of materials used, construction techniques, and the size and shape of the article create significant uncertainty in predicting the completed article's fire performance. A warning that focuses solely on one material overstates the material's overall contribution to fire risk. While the presence of uncovered polyurethane in large quantities (e.g., in a manufacturing plant) does create the need for precautions, there is no evidence suggesting such measures are warranted concerning the presence of covered polyurethane used in residential furniture.

2. The Petition Disregards the Results of Significant Effort Already Expended by the CPSC in Examining a Possible Federal Flammability Standard for Upholstered Furniture.

In 1993, NASFM filed a petition with the CPSC to adopt TB 116 (full-scale or mockup - cigarette ignition), TB 117 (component - cigarette ignition and small open flame), and TB 133 (large open flame) as mandatory national standards for upholstered furniture.[3] The CPSC rejected the NASFM petition for a large open flame test (TB 133) as not justified based on available data, deferred action on a mandatory cigarette ignition test, and focused on "small" open flame ignition.[4] In 1994-97, the CPSC's research focused on small open flame ignition involving three furniture areas: seat, skirt, and dust cover. The CPSC's tests showed no consistent advantage when treated foam (required by TB 117) was compared to untreated foam. Tests also showed that component tests did not reliably predict full-scale composite test performance. The CPSC's recent work has targeted the fabric covering since it is the first to ignite, including possibly requiring the use of additional flame retardant chemicals.[5]

The most recent Petition submitted by NASFM asks the Commission to issue a rule under the Flammable Fabrics Act requiring upholstered furniture manufacturers and retailers to provide flammability warnings to the public. These warning labels would be in addition to the existing requirements for labels disclosing filling and covering content, the voluntary Upholstered Furniture Action Council (UFAC) label, and labeling required under California law for furniture sold in that state. Not only is such a regulation unnecessary, it is unlikely to result in any meaningful enhancement in public safety.

The Commission staff has spent considerable time and resources investigating the need for a federal rule for upholstered furniture in response to the 1993 NASFM petition and those preceding it. The CPSC staff has, for more than a year, focused on the possible use of additional fire resistant chemicals to treat the furniture fabric covering since it is usually the first component to be exposed to a flame or smoldering ignition. In response to a congressional mandate, however, the CPSC may not publish a proposed rule until the National Academy of Sciences (NAS) completes a year-long review of the toxicological information concerning fire resistant chemicals.[6]

It would be unreasonable to promulgate an independent federal rule requiring a warning label prior to the CPSC's determination of whether it will promulgate a final rule (or voluntary

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[3] 58 Fed. Reg. 42,301 (Aug. 9, 1993).

[4] 59 Fed. Reg. 30,735 (June 15, 1994).

[5] *See* 63 Fed. Reg. 14017 (Mar. 17, 1998) and 63 Fed. Reg. 18183 (Apr. 14, 1998).

[6] Public Law No. 105-276.

industry standard) establishing a small open flame standard for upholstered furniture flammability. It is possible that a federal standard to reduce furniture flammability would obviate the need for any warning labels. On the other hand, if the CPSC decides that mandatory regulations are not justified, a stand-alone federal rule requiring warning labels would be nothing more that a technical regulatory burden for manufacturers providing no measurable benefit to consumers in terms of safety.

3. The Petition Fails to Acknowledge the Overall Success of the Existing Voluntary Industry Standard, Which Has Resulted in a Documented and Substantial Reduction in the Number of Fire-related Injuries and Deaths Involving Upholstered Furniture.

The Upholstered Furniture Action Council was founded in 1974 to make upholstered furniture more resistant to ignition from smoldering cigarettes.[7] Household fires from smoldering cigarette ignition have been reduced substantially since UFAC's inception. According to the latest CPSC figures (1978-1994), there has been a 76.8 percent decline in the number of upholstered furniture fires from cigarette ignition. The existing UFAC voluntary industry program, which includes a public awareness program and state-of-the-art construction techniques, is directly responsible for the dramatic decline in the number of furniture-related deaths. Other factors, such as increased use of smoke detectors, education, and an overall reduction in smoking, have also contributed to the decline in fire deaths. Whatever the reason, since the overall statistics show that upholstered furniture fires are declining, the need for warning labels at this time is unclear.

The existing UFAC label includes the following statement in English, Spanish, and French:

> Some materials used in upholstery, when ignited, will burn rapidly and emit toxic gases. Remember to practice careful smoking habits. For early warning, equip your home with properly placed smoke detectors and maintain them regularly.

The voluntary label has proven to be successful, in part because it draws the attention of customers in an understandable way to the risk of fire posed by the article of upholstered furniture rather than the specific contents used to make the article. Since there is no way the polyurethane foam could ignite without the covering material first being exposed to flame or

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[7] The UFAC standard has been adopted as ASTM E1353 and NFPA 260.

smoldering ignition, there is no meaningful benefit to be gained in warning consumers about the specific filling materials used in the article.

4. The Petition Provides No Data Suggesting That The Requested Regulation Will Change Consumer Behavior.

The NASFM has presented no information demonstrating that additional warning labels will result in any modification in the behavior of consumers. Warning labels attached to products in conspicuous places are almost always removed by consumers soon after purchase. Labels attached in less conspicuous places, as in the case of mattresses, are not removed as often, but because of their location do not provide the type of exposure that would result in any measurable change in consumer conduct. Indeed, it is possible that the combined efforts of UFAC, groups like the NASFM, the CPSC, and others, have done such an effective job in publicizing the risk of upholstered furniture fires that a meaningful further reduction in fires from the requirement of additional warnings cannot be anticipated. For example, the significant reduction in upholstered furniture fires caused by cigarettes has not been accompanied by a comparable reduction in the number of fires caused by small open flames. Small open flame fires are often attributed to children playing with matches — a behavior that is obviously dangerous, but one that it is unlikely to be corrected by requiring additional warnings.

* * *

SPI supports the goal of reducing the risk of injuries from upholstered furniture fires. Members of SPI's Polyurethane Division have engaged in extensive fire research programs, and have developed a wide range of foam products to meet fire performance requirements desired in specific applications. Our primary concern is that the petition asks the Commission to single out a specific type of upholstered furniture component for a warning label before the justification for regulatory action has been demonstrated.

We appreciate your attention to the concerns we have expressed in these comments. Naturally, we stand prepared to any questions that the Commissioners or staff may have.

Respectfully submitted,

Lewis R. Freeman, Jr.
Vice President, Government Affairs