

**CARBON MONOXIDE POISONING:
SOUNDING THE ALARM ON A SILENT KILLER**

HEARING

BEFORE THE

SUBCOMMITTEE ON CONSUMER PROTECTION,
PRODUCT SAFETY, AND INSURANCE

OF THE

COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION

UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

DECEMBER 17, 2009

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ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

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THURSDAY, DECEMBER 17, 2009

U.S. SENATE,
SUBCOMMITTEE ON CONSUMER PROTECTION, PRODUCT
SAFETY, AND INSURANCE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:33 p.m. in room SR-253, Russell Senate Office Building, Hon. Mark Pryor, Chairman of the Subcommittee, presiding.

OPENING STATEMENT OF HON. MARK PRYOR, U.S. SENATOR FROM ARKANSAS

Senator PRYOR. I would like to call this hearing to order.

Today's subcommittee hearing will consider, the risk of carbon monoxide poisoning and steps consumers can take to protect themselves from exposure. As the Chairman of the Consumer Protection Subcommittee, I believe this is an important consumer protection issue that requires this Committee's scrutiny and collaboration.

Where consumers are being harmed by safety risk or product defects, my colleagues and I work hard to protect them. Senator Klobuchar, who's been a leader in the area of carbon monoxide poisoning prevention, has introduced S. 1216, the Residential Carbon Monoxide Safety Act. Today we will consider her legislation. And I commend her for her excellent efforts in this area, and I look forward to this afternoon's discussion. And I want the witnesses and the audience to know that we're here because she requested this hearing and it's part of her leadership on this issue.

We're joined by an expert panel of witnesses who have agreed to testify before us. They will share with us their insights regarding carbon monoxide poisoning prevention. I welcome them, and I thank them for their presence and contributions here today.

Our witnesses will present their remarks on one panel, and they're already set up. And each of you will have 5 minutes to deliver your oral statement, and then we will have an opportunity to ask questions and follow up on some of your opening statements. Your written statements will also be included in the record, so if you want to abbreviate your testimony, that's up to you.

Carbon monoxide is known as the "silent killer," because it is elusive. We can neither see it, nor taste it, nor smell it. And each year in the United States, approximately 500 people die, and there are 4,000 hospitalizations that occur as a result of it, and about 20,000 emergency department visits from this every year.

I look forward to learning more about this issue, and I look forward to the witnesses' testimony.

But, first, Senator Klobuchar.

**STATEMENT OF HON. AMY KLOBUCHAR,
U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. Well, thank you very much, Senator Pryor. And thank you for your leadership for this Committee, really. You have always been there on the front line. I remember the pool safety bill, and there was a family—maybe Ms. Burt remembers this—from Minnesota, that, tragically, lost a little girl. Senator Pryor was right there, and got that bill done. And I'm hopeful the same thing will happen with the legislation that I've introduced here.

I first wanted to recognize Cheryl Burt. I was thinking, as Senator Pryor said, asking to have this hearing, quite a day to do it. Most people might have thought we'd be out of session, but I just had hope we'd still be here. And I'm glad that it all worked out for everyone.

But, when I think about what motivates me to get this thing done and keep moving with this legislation, it would be someone like Cheryl Burt. She's from Rochester, Minnesota, the home of the Mayo Clinic, and she's been a leading and tireless advocate for carbon monoxide awareness.

She, tragically, lost two of her sons to carbon monoxide poisoning 14 years ago. Cheryl's here today to share with us her important story and to help educate us on the importance of carbon monoxide alarms in the home. So, I first wanted to welcome her, and thank her for coming, along with the other witnesses.

In my State of Minnesota and across large sections of this country, winter temperatures arrived a few weeks ago. And they'll likely stick around for a while. That means our home furnaces, fireplaces, and chimneys will be getting a good workout over the next several months. And with that comes a danger: the potential for accidental carbon monoxide poisoning.

Known as the "silent killer," carbon monoxide is an odorless, colorless, poisonous gas produced by burning fuel like propane, kerosene, natural gas, gasoline, and charcoal. These deadly fumes can leak from family furnaces, from water heaters, or from stoves. They can be trapped inside by a blocked chimney or a flue. Other sources include, running a car engine in an attached garage, burning charcoal in the house, or operating a gas-powered generator in a confined place.

When inhaled, carbon monoxide is quickly absorbed into the blood, and it becomes deadly when it replaces the blood's oxygen. Early symptoms of this kind of poisoning are sometimes confused with the flu, with symptoms like headache, nausea, fatigue, and dizziness.

About 500 people die every year in America due to accidental carbon monoxide poisoning. Another 150,000 people end up in the emergency room—150,000 a year. Children are especially vulnerable. According to the Centers for Disease Control, 92 Minnesotans died of accidental carbon monoxide poisoning between 2002 and 2006. This need not happen.

One of the simplest and most effective defenses against this insidious killer is the installation of a carbon monoxide alarm in the home. You don't just take my word for it, the American Red Cross, the Mayo Clinic, and American Lung Association all recommend the installation of carbon monoxide alarms in the home.

In Minnesota, this isn't just good advice, it's the law. Since 2008, all homes in our State are required to have working carbon monoxide alarms. Nationally, however, it's estimated that fewer than 30 percent of homes actually have them. And so, we're here today to think about ways to get more families to install carbon monoxide detectors in their homes.

We're also here today to talk about legislation that I've introduced, along with Senator Bill Nelson, which would require the U.S. Consumer Product Safety Commission to enforce stronger standards to protect people against the deadly dangers of carbon monoxide. It's called the "Residential Carbon Monoxide Poisoning Prevention Act." It includes three key provisions:

First, it would strengthen the safety standards for carbon monoxide alarms. Currently the Consumer Product Safety Commission has set voluntary safety standards for carbon monoxide alarms which are underwritten—which are written by Underwriter Laboratories. The legislation would make these safety standards mandatory for all carbon monoxide alarms sold in the United States. This is especially important in my State, because substandard alarms tend to fail in low humidity areas, like Minnesota's cold, dry winters.

Second, this legislation would require the Consumer Product Safety Commission to determine whether portable generators sold in the U.S. can be equipped with safety mechanisms that detect the level of carbon monoxide in the surrounding area, and then automatically turn off.

In recent years, carbon monoxide deaths caused by generators have been on the increase. It typically happens after natural disasters, like hurricanes—that's why Senator Nelson is so interested in this legislation in Florida—or ice storms, something I might be more interested in, when there's a power outage and people are tempted to use generators in their homes.

Last year, events tragically drove this point home. In 2008, two men and a boy died in a Minneapolis home from carbon monoxide poisoning due to the use of a portable generator in the home.

And finally, the bill authorizes the CPSC to provide grants to States with laws on the books that promote the inclusion of carbon monoxide detectors in apartment buildings and new homes.

You know, when someone dies from accidental carbon monoxide poisoning, it's not just a private tragedy; it's a public tragedy, too, because we know that so often we could have prevented these deaths with the right safeguards.

When I was a prosecutor, I was always frustrated by—that by the time a case got to our office, the damage had already been done, the crime had already been committed. I knew that the best way to protect public safety was to prevent the crime in the first place.

And on this committee, we're in the position to protect families and prevent unnecessary accidents from ever happening at all. That's what we want to do with this carbon monoxide legislation.

And so, we are here today to sound the alarm on a "silent killer." That is carbon monoxide poisoning.

I look forward to hearing from our witnesses.

Thank you, Senator Pryor.

Senator PRYOR. Thank you.

And we're going to—what I'm going to do is just briefly introduce all four witnesses on the panel, and then just let you give your testimony. I'd love to do it—keep it to 5 minutes, if at all possible.

First, we have Alan Korn. He's the Executive Director and General Counsel for Safe Kids USA. Then we have Cheryl Burt, of Rochester, Minnesota. Then we have—is it John Andres?

Mr. ANDRES. Andres.

Senator PRYOR. Yes. He is the Director of Engineering, Kidde Residential and Commercial Division. And then we have Kelvin Cochran, the U.S. Fire Administrator, U.S. Fire Administration, Department of Homeland Security.

So, I want to welcome all of you all to the Subcommittee today. Thank you for your time. I know it's late in December, and you probably have a lot of other things you could be doing today. But, thank you very much for your preparation and, for those of you who traveled—those of you—we appreciate you very much.

So, Mr. Korn, do you want to lead off?

**STATEMENT OF ALAN KORN,
EXECUTIVE DIRECTOR, SAFE KIDS USA**

Mr. KORN. Chairman Pryor and Senator Klobuchar, thank you for giving me the opportunity to testify here today on such an important injury prevention topic—carbon monoxide poisoning—one that, in our view, gets very little attention. So, we very much appreciate the opportunity to increase the discourse here today.

This subcommittee knows very well that Safe Kids USA spends just about every waking moment working to protect children from their number-one killer: unintentional injury. This subcommittee, and, quite frankly, Senator Pryor and Senator Klobuchar, have been very helpful in that effort throughout the years. We know children and children's safety are in good hands with these two Members of Congress. That help continues here today.

The vast majority of Americans don't realize that the number-one killer of children is injury. It's not cancer. It's not obesity. It's not violence. It's not abduction. It's car crashes, drownings, fire and burns, and yes, poisoning, like carbon monoxide. So, as far as I know, this is the first time Congress has ever had a fully dedicated hearing to CO poisoning, and we think it's about time. So, thank you very much, Senator Klobuchar and Senator Pryor.

I have a portion in my testimony where I kind of talk about how it happens, and what the results are. But, Senator Klobuchar, I think you addressed that pretty clearly in your testimony. I'll do it by way of making two analogies:

One is, this is not like smoke. Smoke, at least arguably, you can see in the home. You can taste it. You can smell it. There's at least an opportunity for you to react to it and get out of the home. By

the way, I'm not making a case for not having smoke alarms; they're very, very important. But, carbon monoxide, you cannot see, you cannot smell, so that makes detection all the more important.

And I'm reminded of a story, along with the Burt's story, of a family of four who died in Maryland. They found the father dead in his bathroom on the floor, with shaving cream on his face. That's how quickly it happened to him. Two children died, and the mother, and, Senators, they found the dog dead on the mat. There was no opportunity to detect that this was happening, because there was no carbon monoxide detector in the home. They had an attached garage, and they left a car running.

I'd be remiss if I didn't talk, just briefly, about a couple prevention opportunities here and what—how we think these things can be prevented. Then I'll talk more specifically about your piece of legislation, Senator.

Number one, and the most important thing—in fact, the two most important things—are, if you have a source of combustible fuel in the home, you'd better darn well have a carbon monoxide detector in your home. I do, on each level of my home, outside my sleeping area, and in the living areas of my home. They're not expensive. This is a safety device that's not used enough. It's not like smoke alarms, which are in the vast majority of homes. These are still highly underutilized. Your legislation, Senator, is going to help get these into homes. I'll talk about that in a second.

The second concept in prevention is to prevent it from happening in the first place; that is, the CO entering the home. So, check your gas appliances, get them installed by professionals, per the manufacturer's instructions—quite frankly, something I should do better—every year, getting your gas appliances checked.

A couple other things, and then I'll talk briefly about your legislation.

Never, ever, ever use your gas ranges or your ovens to heat your home. That happens. That's a source of carbon monoxide. And don't leave your cars running near the home or in an attached garage. You talked about portable generators. It seems that far too many people use their generators inside their home, an opportunity for CO to build up in the home, and that's when the deaths and injuries happen, to the tune of about 500 a year across the entire injury risk area.

Of course, the Residential Carbon Monoxide Prevention Act, if passed, is going to help us greatly in these prevention efforts. And we very much appreciate your leadership on this.

The bill does much, but I'm going to talk about two things on it:

One is the State Incentive Grant Program. If passed, it would establish an Incentive Grant Program, as you said, to encourage States to pass CO laws that require approved alarms be installed in commercial dwellings and construction—new construction. Congress has used incentive grants many, many times before. We think the philosophy is a sound one for booster seats, .08, pool safety legislation, which both of you were supportive of. So, this is quite consistent with that philosophy.

I would make one change to the bill, and I'll work with your staff on that. Right now it applies to just rental properties, new construction and it just applies to commercial residential properties.

Existing, older homes are just as important; in fact, I believe, even more important, because they've got the older gas appliances—I think you're going to hear from the Burts on that matter, particularly—and they have the tendency to be faulty and fall into disrepair. So, for the existing homes, also, like we do for pools, like we do for booster seats—we don't require booster seats in just new cars, it's all cars—so, we would like you to consider that change.

And then, there's a second concept here, with—which is your mandatory standard—I'm running out of time—we're quite supportive of that. I'm happy to talk with you on why we think a mandatory standard serves a better and more vibrant prevention aspect than a voluntary standard.

I will say, I'm not worried about these carbon monoxide detectors. This is a pretty good company, with a very good reputation. But, a mandatory standard helps us police the marketplace a little better, just in case we don't have the good companies and products out there.

And one final point. When parents reply on this to serve a safety purpose, we believe it better serve that safety purpose. And it's nice to have a mandatory standard in place to make sure that it meets that goal so that we, who have these up in our homes—they behave and react the way their supposed to. We rely on it too greatly.

So, thank you very much. Sorry to go over for just a few seconds. [The prepared statement of Mr. Korn follows:]

PREPARED STATEMENT OF ALAN KORN, EXECUTIVE DIRECTOR, SAFE KIDS USA

My name is Alan Korn, and I am the Executive Director of Safe Kids USA, a member country of Safe Kids Worldwide. Safe Kids thanks the Senate Commerce, Science, and Transportation Subcommittee on Consumer Protection, Product Safety, and Insurance, and in particular Senator Pryor and Senator Klobuchar, for holding a hearing on carbon monoxide (CO) poisoning prevention.

I. History of Safe Kids Worldwide

Safe Kids Worldwide is the first and only international organization dedicated solely to addressing an often under recognized problem: *More children ages 1-14 in the U.S. are being killed by what people call "accidents" (motor vehicle crashes, fires, drownings and other injuries) than by any other cause.* Safe Kids Worldwide unites more than 600 coalitions in 19 countries, bringing together health and safety experts, educators, corporations, foundations, policymakers and volunteers to educate and protect families against the dangers of accidental injuries. Our USA network includes coalitions in all 50 states and the District of Columbia.

Founded in 1987 by the Children's National Medical Center and with support from Johnson & Johnson, Safe Kids Worldwide and its member country, Safe Kids USA, rely on developing injury prevention strategies that work in the real world—conducting public outreach and awareness campaigns, organizing and implementing hands-on grassroots events, and working to make injury prevention a public policy priority.

The ongoing work of Safe Kids coalitions reaching out to local communities with injury prevention messages has contributed to a decline in the childhood unintentional injury death rate by 45 percent since 1987. However, with more children still dying from accidental injury than from cancer, heart disease and birth defects, Safe Kids Worldwide, Safe Kids USA and its fellow member countries remain committed to reducing unintentional injury by implementing prevention strategies and increasing public awareness of the problem and its solutions.

II. The Problem: Carbon Monoxide Poisoning

Carbon monoxide is often called the "silent killer" since you cannot see it, smell it or taste it. This colorless, odorless gas is responsible for more than 500 unintentional deaths, approximately 20,000 emergency department visits and more than 4,000 hospitalizations each year in the United States.

Significantly, however, because symptoms of CO poisoning are similar to the flu, food poisonings and other common ailments, it is possible that many deaths have not been classified as CO poisoning and as a result, the number of fatalities, injuries and hospitalizations could be much higher than reported. CO is produced when any fuel is incompletely burned—potentially resulting in flu-like illnesses, such as dizziness, fatigue, headaches, nausea, and irregular breathing. Common fuel-burning appliances, like furnaces, stoves, fireplaces, clothes dryers, water heaters, and space heaters can produce lethal amounts of CO under certain conditions. Motor vehicles are another common source.

Young children are especially vulnerable to the effects of CO. They are more susceptible to carbon monoxide and may experience symptoms sooner than a healthy adult. Due to their smaller bodies, children process CO differently than adults and may be more severely affected by carbon monoxide in their blood. According to the Centers for Disease Control and Prevention, from 1999–2004, 135 children ages 14 and under died from unintentional, non-fire related CO poisoning. Every year, more than 25 children ages 14 and under die from unintentional CO poisoning.

Regardless of who is affected by CO, the treatment for CO is the same—oxygen therapy to treat symptoms and to lower carbon monoxide levels in the blood or the use of a full-body hyperbaric chamber that applies air pressure to remove the carbon monoxide faster. For those who survive a carbon monoxide poisoning, the long-term effects can be severe. Victims have reported memory loss, impaired motor skills and heart and lung problems. Often times, they deal with the CO injury for the rest of their lives.

III. The Solution: Installation of Carbon Monoxide Alarms and Other Prevention Tips

A. Installing Carbon Monoxide Alarms Is a Must in Many Types of Homes

The frustrating thing about CO poisonings is that many of these incidents can be prevented. The single most effective safety device available to reduce injuries and fatalities related to carbon monoxide poisonings is a CO alarm. A CO alarm in the home can give families an early warning when concentrations of carbon monoxide reach dangerous levels. It is estimated that CO alarms may prevent half of such related deaths from occurring. CO alarms are not only lifesaving devices, they are also cost effective. A CO alarm costs as little as \$20, about the same as 2 movie tickets. Since many CO alarms should be replaced every 7 years, this cost equals less than a penny a day. A very small price given the protection they provide.

An improperly installed or poorly maintained CO alarm is often an ineffective alarm. Homeowners should always follow the manufacturer's instructions for installation. Safe Kids, the Consumer Product Safety Commission (CPSC) and other injury prevention organizations recommend that a CO alarm be installed in the hallway outside the bedrooms in each separate sleeping area of the home. Safe Kids also recommends that an alarm be installed on each level of the home to ensure proper detection coverage. To avoid false alarms, however, do not place the device in kitchens above fuel burning appliances. Hard-wired or plug in alarms should always have battery-back up and/or separate additional alarms that are battery operated just in case power is lost in the home. Check your CO alarm each month and replace the batteries every year when you change the time on your clocks each spring and fall.

B. Other Carbon Monoxide Poisoning Prevention Tips

Safe Kids USA and its network have long worked to educate parents across the country on the need for rapid detection of carbon monoxide and have distributed CO alarms to countless families in need. Safe Kids knows, however, that installing CO alarms is not enough. All homeowners who live in residences with a source of combustible fuel or an attached garage, especially those homes with children, should always follow these additional, basic, prevention tips:

1. Never, ever ignore a CO detector that is alarming. It is warning you of the presence of a very dangerous poison. Do not try and find the source of the CO. Immediately go outside to fresh air and then call 9–1–1. Once outside, at your pre-determined, designated meeting place, do a head count to check if all persons are accounted for. Do not go back inside until you are given the “all clear” from the professionals;
2. Never leave a running vehicle closely adjacent to a home or in an attached garage even if the garage is open. Running cars are a common source of CO poisoning;
3. Make sure appliances are installed and operated according to manufacturer's instructions and have heating systems like gas furnaces, gas water heaters, gas

ranges and ovens, gas or kerosene space heaters and fireplaces professionally checked and serviced annually to ensure proper operation. Make certain that flues and chimneys are connected, in good condition and not blocked;

4. Never burn charcoal inside a home, garage, vehicle or tent. The same goes for portable generators that are often used when there is a power loss (*i.e.*, like during a hurricane). Generators should be used outside and placed at a safe distance from the home; and

5. Never use gas appliances such as ranges, ovens, or clothes dryers to heat your home.

IV. Support for State Carbon Monoxide Alarm Laws

Safe Kids knows that the installation of carbon monoxide alarms will go a long way to protecting children and their families from the dangers associated with CO. Safe Kids and our network of coalitions have strongly advocated for the passage of these state laws requiring residential CO alarms in order to properly protect entire families from this silent killer.

Currently, 23 states and some local jurisdictions have passed legislation requiring the use of CO alarms in some types of residences (Alaska, Colorado, Connecticut, Florida, Georgia, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Oregon, Rhode Island, Utah, Vermont, Washington, West Virginia and Wisconsin). These laws have proven to be effective. One study shows a dramatic correlation between CO alarm ordinances in cities and lower death rates from CO. In Los Angeles, where CO alarms are not mandatory, 15 percent of CO exposures were fatal. Compare this to Chicago, where CO alarms are required and only 0.4 percent of people exposed to carbon monoxide died.

Safe Kids notes that the existing 23 laws mentioned above are a patchwork of requirements. Some states only require a CO alarm in newly constructed homes (Florida, Connecticut and Georgia). Others require a CO alarm installation when the home is sold or otherwise transferred or remodeled (New Jersey, Maine and Vermont). Some just apply to rental properties or hotels (North Carolina, Montana, Maine) or day care centers (Tennessee and Texas). Only six approach the safety coverage that we think is appropriate given the insidious nature of the poison (Illinois, Massachusetts, Minnesota, New York, Rhode Island and Wisconsin). Clearly, there are safety gaps in coverage around the country that need to be closed. Specifically, all dwellings, no matter what the type, should have a CO alarm if the dwelling relies on the combustion of fossil fuels for heat, power or if the home has an attached garage. Safe Kids hopes that the incentive grant program contained in the pending law as discussed and improved below, would motivate that comprehensive coverage around the country (See Section V(A) below).

V. Support for the Residential Carbon Monoxide Poisoning Prevention Act (S. 1216 and H.R. 1296)

Safe Kids USA strongly supports the Residential Carbon Monoxide Poisoning Prevention Act. (S. 1216 and H.R. 1296). We applaud the leadership of the legislation's sponsors, Senator Amy Klobuchar, Senator Ben Nelson and Representative Jim Matheson in the House of Representatives, for the introduction of this critical safety measure which will help prevent the potentially deadly effects of CO poisoning.

A. State Incentive Grant Program for CO Alarms

If passed, the Residential Carbon Monoxide Poisoning Prevention Act would establish an incentive grant program to encourage states to pass CO alarm laws that require approved CO alarms be installed in all commercial dwelling units and all new dwelling unit construction. We know that congressional incentive grants to encourage states to pass safety legislation are not a new concept and have worked in the past. Congress has used this mechanism to promote state transportation safety laws as well as pool safety laws. The passage of the Residential Carbon Monoxide Poisoning Prevention Act could do for CO prevention what incentive grants have done for booster seat child occupant protection laws, primary enforcement safety belt laws, .08 drunk driving laws and open container prohibition laws. In each of these cases, incentive grants motivated states to do the right thing. Today, for instance, all but three states (South Dakota, Florida and Arizona) have some form of a booster seat law and many of these states were motivated by the Federal attention.

Safe Kids does note, however, that the legislation as drafted and as mentioned above only applies to commercial dwellings and new construction dwellings. The law does not promote, through the incentive grant program, states to require alarms in single family, existing dwellings. Safe Kids believes that CO alarms obviously serve

a very important role in these structures also. In fact, it is more important that these dwellings have these safety devices given that most CO poisonings happen in older, existing homes that have older gas appliances that are more likely to malfunction or fall in disrepair. This Subcommittee and the bill's sponsors should consider adding a requirement that conditions the awarded grant on not only installing CO alarms in commercial dwellings and new construction, but also existing, single family homes. Safety will be well served by this addition.

B. Mandatory Safety Standard for Carbon Monoxide Alarms

The legislation would also ensure the quality of CO alarms available for sale in the marketplace by requiring a mandatory safety standard for these devices. Presently, CO alarms sold are only subject to a voluntary standard. There is no requirement that they meet basic safety characteristics. We believe they should. Parents (and all homeowners for that matter) rely on these devices to serve a critical safety purpose—to alarm before CO amounts reach dangerous levels. Given this special reliance, consumers should be completely confident that they work as purported. A mandatory standard, with its accompanying and heightened government policing, will supply that confidence.

Congress, the Senate Commerce Committee and Federal agencies of jurisdiction have agreed with and implemented this philosophy on many occasions. Products of special characteristics or that serve a safety purpose that, in the past, have only been subject to a voluntary standard are now (or soon will be) subject to a mandatory standard. Those products include, bike helmets (pursuant to the Consumer Product Safety Act), pool and spa drain covers (pursuant to the Virginia Graeme Baker Pool & Spa Safety Act), and toys, ATVs, cribs, baby bath seats, play yards, and bassinets (pursuant to the Consumer Product Safety Improvement Act). Carbon monoxide alarms share these special characteristics and, therefore, should be subject to a mandatory standard.

Significantly, Congress has recently addressed and supported this very concept. In the recently passed CPSC Reauthorization legislation, the Conferees on that law stated:

The Conferees support carbon monoxide devices being installed in all residential dwelling units and support the efforts of individual states that have enacted legislation requiring the installation of carbon monoxide devices in homes and other dwelling places. *The Conferees believe the CPSC should consider the adoption of the American national Standards Institute/Underwriters Laboratories standards ANSI/UL 2034 . . . for carbon monoxide devices sold in the United States. . . .* (Emphasis added.)

The pending Residential Carbon Monoxide Poisoning Prevention Act is completely consistent with that past Congressional directive. Passage of the law will accomplish it.

VI. Conclusion

As carbon monoxide-related injuries and deaths can easily be prevented, parents, caregivers, state and Federal policymakers, and communities must make this issue a priority. Safe Kids commends Senator Klobuchar and Senator Nelson, along with the other members of this subcommittee, for promoting awareness of this hidden hazard to the public. We look forward to working with you on any efforts designed to protect children from poisoning-related injury and death.

Senator PRYOR. Thank you.

Ms. Burt.

STATEMENT OF CHERYL BURT OF ROCHESTER, MINNESOTA

Ms. BURT. Good afternoon. My name is Cheryl Burt, and I'm from Rochester, Minnesota. And thank you, Chairman Pryor and members of the Committee, for giving me the opportunity to talk about carbon monoxide poisoning. And I'd like to thank Senator Klobuchar for inviting me to tell my story. I commend her and Senator Nelson for their commitment to take the issue of CO awareness to a national level.

When you have a fire in your home, you know it. You can see the smoke, you can smell the fumes, feel the heat. And since smoke

alarms have been required in homes for many years, chances are you will also hear that smoke alarm sound.

When you have carbon monoxide in your home, you cannot see it. You cannot taste it. You cannot smell it. You will feel its effects—a headache, nausea, dizziness—but you don't realize that you're being poisoned. You don't comprehend the danger, and, if you do, you are completely helpless to take action to save yourself or your family. I know. Fourteen years ago this January, carbon monoxide poisoned my family and killed two of my three children.

Let me start by saying that I lived by life's safety rules. I had smoke alarms in my home. I used safety gates, child locks, and I thought my home was safe. And I was wrong.

On this particular evening, I progressively got sicker and sicker with what I thought was a family-sized case of the flu. In fact, I had brought my sons to the doctor each week for about 2 months, with different symptoms, and I knew something was wrong. But, everyone, including the doctors, thought I was overreacting.

I now know that by the time we reached the doctors, my sons had received enough fresh air that—the CO was causing them to be sick, and it had dissipated. But, back then I never thought that we were being poisoned. By the time I realized something was terribly wrong, I didn't have any idea just how terribly wrong it really was. I didn't realize that my babies were dying, just rooms away from me. And I couldn't help them, or even help myself.

A carbon monoxide alarm would have saved my children's lives, but I didn't have one in my home. And that night, my two youngest children died in their sleep from carbon monoxide poisoning due to a malfunctioning furnace. The rest of my family, while we were severely injured, we managed to survive this horrible experience, only to wake up the next afternoon in the hospital with our lives tragically changed forever.

I was asked to give testimony today, to give reasons why I support S. 1216, which would give States that passed CO alarm laws incentives to raise awareness, and would require a mandatory standard for all CO alarms in the U.S. I can give you three very good, very precious reasons for my support: Nicholas Todd Burt, Zachary Todd Burt, and Ryan Todd Burt.

Excuse me.

My little Nick turned 4 years old just 8 days before he died. In fact, we had been too sick to have his birthday party. I now know that our illness was really the beginning of carbon monoxide poisoning. But, at that time, we had decided to wait to celebrate, once we all got better. And that day never came. He's my reason number one.

Reason number two is Zach. Zach was just shy of 16 months old when he died. I had woken up with Zach many, many times during that horrible night. And looking back, I should have realized that something was very, very wrong in my home. But, I was too sick, I was too poisoned to know. Instead it was Zach who I could not pick up to rock back to sleep. It was Zach who had trouble breathing. And the carbon monoxide just made me too weak to lift him up or to soothe him. Instead, I hung onto his crib rails, I was trying to keep myself standing, trying to keep from passing out, and I prayed he would just go back to sleep. I wanted to go to bed, my-

self. I listened to his labored breathing, and I was unable to comprehend the danger that my baby was in. I was unable to realize that he was dying. And now I listen to Zach's labored breathing every night in my sleep, and I would give anything to have that night back, to have been able to think clearly and save my baby.

Reason number three is Ryan. Ryan was 5-and-a-half when we were poisoned. He barely survived. He's lived the past 14 years with the knowledge that, while he lived, his two brothers died right next to him. And that weighs on a 19-year-old's mind, believe me.

What haunts me is that I could have prevented their deaths. As a mother, I felt I should have prevented it. I knew a little about carbon monoxide poisoning, and I knew about alarms. But, I didn't realize their lifesaving value. In fact, just a few weeks before this incident happened, I was shopping for the holidays, like we are now, with a friend, and we talked about buying alarms. And I opted to buy my son Nick another toy truck, instead, for his birthday. And now I have that truck, but I do not have my son.

In the years since my children died, I have made it my mission to tell anyone who will listen about the need for CO alarms in our home. I've heard from families who have bought an alarm because of my story, and who later had that alarm sound, saving their lives or lives of their loved ones. These stories are why I continue to do my part to raise awareness.

Knowledge is power. We warn about all sorts of health and safety issues—the flu, H1N1, proper seatbelt usage, other dangers—but, there is no national awareness about CO poisoning. And I won't rest until every family has a CO alarm in their home.

This bill would help provide funding to educate people about carbon monoxide dangers and the need for those alarms.

Thank you.

This December 28 would have been Nick's 18th birthday. He would be graduating from high school. Zach would be 15, probably just getting his driver's permit. And I often think of how different my life would be today if I had a CO alarm in my home.

I wish, with all my heart, that my State would have had a law in 1996, like the one that we have now, requiring all homes to have a CO alarm. I know, without a doubt, that I would have had one in my home. Had there been more public education at that time, I would've bought that alarm that day, instead of that toy truck, and I would not be speaking before you today. There would be no need.

Instead of extreme sadness during this holiday time of year, I would be home, baking, enjoying the holiday season, and probably stressing about what to get my three active children for Christmas.

I couldn't save my sons, but you have an opportunity to save someone else's family. I urge each of you to consider the safety of the citizens of your State, and help protect them by supporting S. 1216.

Again, thanks for allowing me to speak before you. And thanks for all you do to protect the citizens of the United States.

[The prepared statement of Ms. Burt follows:]

PREPARED STATEMENT OF CHERYL BURT OF ROCHESTER, MINNESOTA

Good afternoon. My name is Cheryl Burt, and I am from Rochester, Minnesota. Thank you, Chairman Pryor and Members of the Committee for giving me the opportunity to talk to you about carbon monoxide poisoning. I'd also like to thank Senator Klobuchar for inviting me to tell my story. I commend her and Senator Nelson for their commitment to take the issue of C-O awareness to a national level.

When you have a fire in your home, you know it. You can see smoke. Smell the fumes. Feel the heat. And since smoke alarms have been required in homes for many years, chances are you will also hear your smoke alarm sound.

When you have carbon monoxide in your home, you cannot see it. You cannot taste it. You cannot smell it. You will feel its effects—a headache, nausea, dizziness—but you don't realize that you're being poisoned. You don't comprehend the danger, and if you do, you are completely helpless to take action to save yourself or your family.

I know. Fourteen years ago, this January, carbon monoxide poisoned my family, and killed two of my three children.

Let me start by saying that I lived by life's safety rules. I had smoke alarms in my home. I used safety gates and child locks, and I thought my home was safe. I was wrong.

On this particular evening, I progressively got sicker and sicker, with what I thought was a family-sized case of the flu. In fact, I had brought my sons to the doctor each week for about 2 months because they kept having flu-like symptoms. My instinct told me something was wrong, but by the time we reached the doctor's office, my sons were better. Many, including the doctors, thought I was overreacting. I now know that they would feel better whenever I took them out of our CO-filled house and into fresh air. But back then, I never thought that we were being poisoned. By the time I did realize something was terribly wrong, I had no idea just *how terribly wrong* it was. I didn't realize that my babies were dying, just rooms away from me. I couldn't help them, or even help myself.

A carbon monoxide alarm would have saved my children's lives. But I didn't have one in my home. So that night, my two youngest children died in their sleep from CO poisoning due to a malfunctioning furnace that was venting dangerous levels of CO throughout our home. The rest of my family, while severely injured, managed to survive this horrific experience. . . . only to wake up the next afternoon in the hospital, with our lives tragically changed forever.

I was asked to give testimony today . . . to give reasons why I support S. 1216, which would give states that pass CO alarm laws incentives to raise awareness, and would require a mandatory standard for all CO alarms sold in the U.S.

I can give you three very good, very precious reasons for my support: Nicholas Todd Burt, Zachary Todd Burt, and Ryan Todd Burt.

My little Nick turned 4 years old just 8 days before his death. In fact, we had been too sick to have his birthday party. I now know that our illness was really the beginning of CO poisoning. But at the time, we decided to wait to celebrate once we all "got better." That day never came. He is reason number one.

Reason number two is Zach. Zach was just shy of 16 months old when he died. I was up with Zach many, many times during that horrible night. Looking back, I should have realized that something was very, very wrong in my home, but I was too sick, *too poisoned* to know. Instead, it was Zach who I could not pick up to rock back to sleep. It was Zach who was having trouble breathing. But, the carbon monoxide made me too weak to lift him or soothe him. Instead, I hung onto his crib rails, trying to keep myself standing, trying to keep from passing out, and I prayed that he would go back to sleep. I listened to his labored breath, but was *unable* to comprehend the danger my baby was in, unable to realize he that was dying.

Now, I listen to Zach's labored breathing *every night* in my sleep. I would give anything to have that night back, to have been able to think clearly and save my baby.

Reason number three is Ryan. He was five and a half when we were poisoned. He barely survived. He has lived the past 14 years with the knowledge that while he lived, his two brothers died right next to him.

What haunts me is that I could have prevented their deaths. As a mother, I feel I should have prevented it. I knew a little about carbon monoxide alarms, but didn't realize their life-saving value. In fact, just a few weeks before this incident happened, I was shopping for the holidays with a friend, and we talked about buying alarms. I opted to buy my son another toy truck instead. Now I have the truck, but I don't have my son.

In the years since my children died, I have made it my mission to tell anyone who will listen about the need for CO alarms in our homes. I've heard from families

who bought an alarm because of my story, and who later had the alarm sound, saving their lives or their loved ones. These stories are why I continue to do my part to raise awareness.

Knowledge is power. We warn about all sorts of health and safety issues: the flu, H1N1, proper seatbelt usage, and other dangers. But there is no national awareness about CO poisoning. I won't rest until every family has a CO alarm in their home. This bill would help provide funding to educate people about carbon monoxide dangers and the need for alarms.

This December 28 would have been Nick's 18th birthday. He would be graduating from high school. Zach would be 15 and probably just getting his driver's permit. I often think of how different my life would be today had I had a CO alarm in my home. I wish with all my heart that my state would have had a law in 1996, like the one we have now, requiring all homes to have a CO alarm. I know without a doubt that I would have had one in my home. Had there been more public education at that time, I would have bought the alarm instead of that toy truck, and I would not be speaking before you today. Instead of extreme sadness during this time of year, I would be home baking, enjoying the holiday season, and probably stressing about what to get my three active boys for Christmas.

I couldn't save my sons. But you have an opportunity to save someone else's family. I urge each of you to consider the safety of the citizens of your state and help protect them by supporting S. 1216. Again, thank you for allowing me to speak before you, and thank you for all you do to protect the citizens of the United States.

Senator KLOBUCHAR. Well, thank you very much, Cheryl. And we're just glad you're here. And I can't imagine—I don't think any of us can—what you went through, in having—have the memories of that night. But, you have the courage to share them with us, to make sure it doesn't happen to other children. So, thank you very much.

Ms. BURT. Thank you.

Senator PRYOR. Yes, thank you for being here, and your courage and dedication.

Mr. Andres.

**STATEMENT OF JOHN ANDRES, DIRECTOR OF ENGINEERING,
KIDDE RESIDENTIAL AND COMMERCIAL DIVISION**

Mr. ANDRES. Good afternoon. My name is John Andres. I'm the Director of Engineering for Kidde Residential and Commercial, located in Mebane, North Carolina.

Thank you, Chairman Pryor and members of the Committee, for the opportunity to contribute to the discussion on the prevention of carbon monoxide poisoning in the United States. Kidde Residential and Commercial is part of UTC Fire & Security, a subsidiary of United Technologies Corporation.

We are a proud leader in manufacturing life safety residential carbon monoxide alarms, and other life safety devices. We are committed to leading the industry in product safety and strict compliance to industry standards.

Kidde supports enactment of S. 1216, the Residential Carbon Monoxide Safety Act. The Centers for Disease Control and Prevention reports, each year unintentional CO poisoning kills more than 400 Americans, requires 20,000 more to seek emergency medical attention, and causes more than 4,000 hospitalizations.

S. 1216 is a strong first step toward preventing these tragedies. I commend Senators Klobuchar and Nelson for their continued leadership in alleviating this critical public health and safety issue.

S. 1216 would focus much-needed Federal attention and resources toward ending accidental carbon monoxide poisoning. The bill's provisions to grant—to create a grant program supporting res-

idential CO alarm laws are especially important. However, for the purposes of today's meetings, my comments will focus on describing the carbon monoxide hazard and how CO alarms operate to provide warning. I will also explain why it is necessary to establish mandatory Federal product safety standards, as laid out in S. 1216.

Known as the "silent killer," carbon monoxide is a byproduct of incomplete combustion. Potential sources are gas burning appliances, such as a furnace, water heater, stove, or grills, as well as other fuel burning devices, like fireplaces and engines. If such devices are improperly installed or malfunction, carbon monoxide can quickly build up inside a home. It easily mixes with the air and can quickly reach dangerous levels.

Because one cannot see, taste, or smell carbon monoxide, the only safe way to detect the gas is to install working carbon monoxide alarms. Kidde and fire safety experts, such as the National Fire Protection Association, recommend placing CO alarms outside each bedroom and on every level of an occupied dwelling.

When inhaled, carbon monoxide bonds with the blood's hemoglobin to form carboxyhemoglobin, which then deprives cells of oxygen. A CO alarm works by measuring CO concentrations over time to ensure that an alarm will sound before a person's blood level reaches 10 percent carboxyhemoglobin. Below this level, a normally healthy adult will not experience symptoms of CO poisoning.

Consumers must have confidence that a properly installed and maintained CO alarm will warn them about the presence of dangerous CO levels and avoid nuisance alarms. This need for accuracy and reliability is the cornerstone of Underwriters Laboratories Standard 2034. The UL 2034, is an American National Standards Institute, or ANSI, accredited standard, that combines input from medical experts, approval bodies like UL, government agencies such as the CPSC, the National Fire Protection Association, users, and manufacturers in order to create a robust standard of performance.

First published in 1992, UL 2034, has gone through several revisions, each of which is based on years of field test data intended to progressively strengthen the standard. Kidde supports the standard, because it specifically tests the product design for electrical safety, mechanical robustness, and the accuracy of CO detection over time and in different environmental conditions.

UL 2034 is continually reviewed by a standards technical panel in order to keep pace with technological advances and past lessons learned. This revision process has led to the creation of CO sensing technology that is more advanced, stable, and reliable than past generations.

To date, 23 States have enacted laws requiring CO alarms in residential dwellings, and, while most mandate that CO alarms meet UL 2034, there is no uniform requirement. More States will likely adopt similar legislation. In order to avoid confusion among regulators, consumers, and the industry, State lawmakers need a consistent standard to define what constitutes an approved alarm. Without such a reference, conflicting regulations arise that counter one of the CPSC's main objectives, which is to develop uniform safety standards for consumer products and to minimize conflicting State and local regulations.

Again, I thank Committee members for their consideration of S. 1216 and for raising awareness about CO dangers. Senator Klobuchar, Senator Pryor, we look forward to working with you to pass this important legislation expeditiously.

Thank you again for the opportunity to contribute to the discussion. I'll be glad to answer any questions you may have.

[The prepared statement of Mr. Andres follows:]

PREPARED STATEMENT OF JOHN ANDRES, DIRECTOR OF ENGINEERING,
KIDDE RESIDENTIAL AND COMMERCIAL

Good afternoon, I am John Andres, Director of Engineering for Kidde's Residential and Commercial Division located in Mebane, North Carolina. Thank you, Chairman Pryor and members of the Committee, for the opportunity to contribute to the discussion on the prevention of carbon monoxide (CO) poisoning in the United States. Kidde Residential and Commercial Division is part of UTC Fire & Security, a subsidiary of United Technologies Corporation. We are a proud leader in manufacturing life-saving residential carbon monoxide alarms and other fire safety devices. We are committed to continuing to lead the industry in product safety and strict compliance to industry standards. We work closely with industry professionals, health, safety and fire experts, as well as nonprofit partners, to educate consumers on residential fire and carbon monoxide safety.

Kidde supports enactment of S. 1216, "The Residential Carbon Monoxide Safety Act." The Centers for Disease Control and Prevention reports that each year, unintentional CO poisoning kills more than 400 Americans, requires 20,000 more to seek emergency medical attention, and causes more than 4,000 hospitalizations. S. 1216 is a strong first step toward preventing these tragedies. I commend Senators Klobuchar and Nelson for their continued leadership in elevating this critical public health and safety issue and for their willingness to explore increased consumer protections in the form of mandatory Federal product safety standards.

S. 1216 would focus much-needed Federal attention and resources toward ending accidental carbon monoxide poisoning. The bill's provisions to create a grant program supporting residential CO alarm laws are especially important. However, for the purposes of today's hearing, my comments will focus on describing the carbon monoxide hazard and how CO alarms operate to provide warning, and on explaining why it is necessary to establish mandatory Federal product safety standards, as laid out in S. 1216.

Known as the "silent killer," carbon monoxide is a by-product of combustion from common household sources, including appliances such as a furnace, water heater, gas stove, or grill, as well as other fuel-burning devices like a fireplace or engine. If such sources are improperly installed or malfunction, carbon monoxide can build-up inside a home. Carbon monoxide follows the air current through a home and, based on the source and the residence's ventilation system, can buildup either rapidly or slowly. Either can be deadly. Because one cannot see, taste or smell carbon monoxide, the only safe way to know that the gas has reached toxic levels is to install a sufficient number of working CO alarms. Kidde and fire safety experts such as the National Fire Protection Association recommend placing CO alarms outside each bedroom and on every level of an occupied dwelling.

A CO alarm functions by calculating CO concentration over time to determine when an alarm will sound. This time-weighted ratio ensures that the higher the level of CO and the steeper the rate of increase, the earlier the alarm will sound. This equation takes into account the effect of CO on the human body. When inhaled, carbon monoxide bonds with hemoglobin in a person's bloodstream, and displaces the oxygen that cells need to function. By operating off the principle of the calculated percentage of carboxyhemoglobin, or CoHb, in the blood, the alarm sounds earlier in the presence of higher CO levels.

CO alarms continuously monitor the home's environment. They are designed to sound before a healthy adult would feel the effects of CO poisoning. Consumers should have confidence that a properly installed and maintained CO alarm will warn them about the presence of dangerous CO levels, and avoid unwanted nuisance alarms that may cause them to doubt the alarm's accuracy. This need for accuracy and reliability is the cornerstone of Underwriters Laboratories (UL) 2034, the independent, third-party CO alarm standard to which U.S. carbon monoxide alarms are voluntarily tested and listed.

UL 2034 is an American National Standards Institute—or ANSI-recognized standard that combines input from medical experts, approval bodies like UL, government

agencies such as the Consumer Product Safety Commission (CPSC), the National Fire Protection Association (NFPA), users and manufacturers in order to create a uniform requirement.

First published in 1992, UL 2034 has gone through several revisions, each of which is based on years of field test data and is intended to strengthen the standard. Kidde supports this standard because it specifically addresses electrical safety, mechanical robustness and the accuracy of detection across different humidity levels and temperatures over a long period of time. It also verifies performance. UL 2034 is continually reviewed by a standards technical panel in order to keep pace with technological advances and past lessons learned. In accordance with ANSI rules, any member can recommend a revision in order to improve product performance or reliability. This revision process has led to the creation of CO sensing technology that is more advanced, stable, and reliable than prior generations.

Currently, a manufacturer may voluntarily test and certify its CO alarms to the UL 2034 standard. While most states with laws requiring residential CO alarms mandate that they meet UL 2034, there is no uniform requirement. To date, 23 states have enacted laws requiring CO alarms in residential dwellings, and more states are likely to adopt similar legislation in the coming years. In order to avoid confusion among regulators, consumers, and the industry, state lawmakers need a consistent standard to define what constitutes an "approved" alarm. Without such a reference, conflicting regulations may arise, which would run directly counter to one of the CPSC's guiding objectives "to develop uniform safety standards for consumer products and to minimize conflicting state and local regulations." By setting a mandatory Consumer Product Safety Standard, the Federal Government would provide an umbrella of protection for all consumers in the U.S.

In closing, each week we hear of families whose lives have been saved through the use of CO alarms. Having a CO alarm does make the difference between life and death. Consumers must have confidence that their CO alarm will work reliably and accurately. A Federal standard would give consumers that peace of mind.

Again, I thank Committee members for their thoughtful consideration of S. 1216, and for raising awareness about CO dangers in the home. Senator Klobuchar and Senator Nelson, we look forward to working with you to pass this important legislation expeditiously. Thank you again for the opportunity to contribute to this discussion, and I will be glad to answer any questions.

Senator PRYOR. Thank you.
Mr. Cochran.

**STATEMENT OF HON. KELVIN J. COCHRAN, ADMINISTRATOR,
UNITED STATES FIRE ADMINISTRATION, FEDERAL
EMERGENCY MANAGEMENT AGENCY, DEPARTMENT OF
HOMELAND SECURITY**

Mr. COCHRAN. Mr. Chairman, Senator Klobuchar, other members of the Committee, again, I'm Kelvin Cochran, Associate Administrator for the Federal Emergency Management Agency, United States Fire Administrator of the Department of Homeland Security.

I appreciate the opportunity to participate today in this discussion. And since this is my first hearing following my confirmation, it's a great opportunity to participate in this important issue. And I look forward to working with you on many other life safety and fire prevention initiatives over the next 3 years.

Each year, carbon monoxide poisoning kills or sickens thousands of Americans. This colorless, odorless gas adheres to red blood cells considerably faster than oxygen, which interrupts the exchange of oxygen. Consequently, the loss of oxygen in the body leads to tissue damage, and in some cases, death.

From 1999 to 2004, approximately 450 Americans died from unintentional carbon monoxide poisoning. On an annual basis, approximately 20,000 people visit emergency rooms, and more than 4,000 are hospitalized due to carbon monoxide poisoning. Approxi-

mately 73 percent of those exposures occur in homes, 41 percent occur during the winter months, between December and February. Carbon monoxide poisoning is most fatal for citizens above the age of 65.

Common causes or sources of carbon monoxide poisoning include house fires, faulty furnaces, heaters, wood burning stoves, internal combustion vehicle exhaust, electrical generators, propane-fueled equipment, such as portable stoves, and gasoline powered equipment, such as lawn mowers.

The fire and emergency services of the United States of America have been aware of this “silent killer” for many, many years, and have been trained on how to respond to and mitigate suspected cases of carbon monoxide poisoning. Municipal fire departments across the country respond to an estimated 60,000 nonfire carbon-monoxide incidents on an annual basis.

Individuals and families can take proactive steps to reduce the risk of carbon monoxide poisoning by installing home carbon monoxide detectors. Carbon monoxide detectors provide a crucial early warning of elevated levels of carbon monoxide. The United States Fire Administration believes citizens will be best prepared for an emergency in their homes if they install both smoke alarms and carbon monoxide detectors during this critical period of the year.

We have produced fact sheets and other information, in conjunction with the Department of Housing and Urban Development and the National Institute of Standards and Technology, entitled “Smoke and Carbon Monoxide Alarms for Manufactured Homes.” This fact sheet and other materials referenced here today can be accessed on the United States Fire Administration’s website at www.usfa.dhs.gov.

Americans can also do more to reduce the risk of carbon monoxide poisoning. Homeowners should regularly check and vent their homes’ heating systems, regularly clean their chimneys, and never leave vehicles running in a closed garage. These are other simple steps that can assure that carbon monoxide levels do not rise to dangerous levels within our homes.

In recent years, the emergency management community has experienced—or expressed concerns regarding post-disaster deaths from carbon monoxide poisoning. Data has shown that, on average, 170 people die every year as a result of carbon monoxide poisoning associated with portable gas generators. Such post-disaster deaths are also caused by charcoal grills used inside of homes or enclosed garages during power outages.

Research from the Center for Hyperbaric Medicine at the Virginia Mason Medical Center in Seattle, Washington, shows the number of carbon monoxide poisoning deaths or—in emergency rooms spike 2 to 3 days following power outages, as survivors begin to recover.

The United States Fire Administration has developed many brochures with guidance on the proper use of generators following disasters, so survivors who operate these machines can do so safely. The Federal Emergency Management Agency’s Administrator has directed the United States Fire Administration to look at how we can better prepare and respond to power outages in order to educate survivors and prevent these tragedies from occurring.

Finally, the United States Fire Administration will be working closely with the Centers for Disease Control and Prevention to distribute multilanguage brochures and develop public service announcements to better prepare citizens prior to disasters. We're also highlighting carbon monoxide poisoning in our monthly public education series. For January 2010, the "Focus of the Month" will be "Alternative Heating Sources," which focuses on the dangers of carbon monoxide.

I appreciate the opportunity to present before you today, and look forward to working with you on this and other critical life safety and fire prevention initiatives.

[The prepared statement of Mr. Cochran follows:]

PREPARED STATEMENT OF HON. KELVIN J. COCHRAN, ADMINISTRATOR, UNITED STATES FIRE ADMINISTRATION, FEDERAL EMERGENCY MANAGEMENT AGENCY, DEPARTMENT OF HOMELAND SECURITY

Good afternoon, Mr. Chairman, Ranking Member Wicker, and members of the Committee. My name is Kelvin J. Cochran and I am an Associate Administrator at the Federal Emergency Management Agency (FEMA) in charge of the United States Fire Administration (USFA) at the Department of Homeland Security (DHS). I appreciate the opportunity to appear before you today to discuss the dangers of carbon monoxide poisoning.

Each year carbon monoxide poisoning kills or sickens thousands of Americans. This colorless, odorless gas adheres to red blood cells considerably faster than oxygen, which interrupts oxygen exchange. The loss of oxygen in the body leads to tissue damage and, in some cases, death. Each year from 1999 to 2004, approximately 450 Americans died from unintentional carbon monoxide poisoning. Annually more than 20,000 people visit emergency rooms and more than 4,000 are hospitalized due to carbon monoxide. Approximately 73 percent of these exposures occur in homes, and 41 percent occurred during winter months (December to February). Carbon monoxide poisoning is most fatal to those 65 or older.

Sources of carbon monoxide include house fires, faulty furnaces, heaters, wood-burning stoves, internal combustion vehicle exhaust, electrical generators, propane-fueled equipment such as portable stoves, and gasoline-powered tools such as lawn mowers. The fire and emergency services in the United States have been aware of this silent killer for many years and have been trained on how to respond to suspected cases of carbon monoxide poisoning. Municipal fire departments respond to an estimated 60,000 non-fire carbon monoxide incidents annually.

Individuals and families can take proactive steps to reduce the risk of carbon monoxide poisoning by installing home carbon monoxide detectors. Carbon monoxide detectors provide a crucial early warning of elevated levels of carbon monoxide.

The USFA believes citizens will be best prepared for an emergency in their homes if they install both smoke and carbon monoxide detectors. We have produced a fact sheet in conjunction with the Department of Housing and Urban Development and the National Institute of Standards and Technology entitled, "Smoke and Carbon Monoxide Alarms for Manufactured Homes." This fact sheet and other materials referenced here today can be accessed via the USFA website at www.usfa.dhs.gov.

Americans can also do more to reduce the risk of carbon monoxide poisoning. Homeowners should regularly check and vent their home heating systems, regularly clean their chimneys, and never leave vehicles running in a closed garage. These and other simple steps can ensure that carbon monoxide levels do not rise to dangerous levels within their homes.

In recent years the emergency management community has expressed concerns regarding post disaster deaths from carbon monoxide poisoning. Data has shown that on average 170 people die every year as a result of carbon monoxide poisoning associated with portable gas generators. Such post-disaster deaths are also caused by charcoal grills used inside the home or enclosed garages after power outages. Research by the Center for Hyperbaric Medicine at the Virginia Mason Medical Center in Seattle, Washington, shows the number of carbon monoxide poisoning deaths or emergency room admissions 2-3 days following a power outage spike as survivors begin to recover.

The USFA has developed brochures with guidance on the proper use of generators following disasters so survivors who operate these machines do so safely. The FEMA Administrator has asked USFA to look at how we can better prepare and respond

to power outages in order to educate disaster survivors and prevent these tragedies from occurring. USFA will be working closely with the Centers for Disease Control and Prevention to distribute multi-language brochures and to develop public service announcements to better prepare citizens prior to a disaster.

We are also highlighting carbon monoxide poisoning in our January 2010 “Focus of the Month” on alternative heating. Educating the public on the dangers of carbon monoxide poisoning has been a part of our “Winter Fire Safety” focus for many years and we will continue to warn the public of its danger.

Thank you for the opportunity to appear before the Committee on this important issue, and I would be happy to answer any questions at this time.

Senator PRYOR. Thank you, Mr. Cochran.

And I want to thank the entire panel for your testimony today. It's very helpful to the Subcommittee.

Mr. Korn, let me start with you, if I may. And that is—you have a stack of carbon monoxide alarms there—detectors there. How can we do a better job—whether it's through the CPSC or some other outlet—how can we do a better job of getting the word out to people like Ms. Burt and her family on the importance of having carbon monoxide detecting in every home?

Mr. KORN. Well, there are lots of different ways, two of which I'll mention. I think the Incentive Grant Program contained in Senator Klobuchar's bill will go a long way. One of the best motivators for families to behave properly—we see it in booster seats, we see it in pools, we see it in .08, open primary seat belt laws—is to pass the State law that requires them in the homes—and, I would suggest, Senator, all homes that have combustible fuel. So that's one. It seems like it gets the imprimatur of the government saying, “Hey, I need to have this done,” so there's compliance on the other side.

And as to the Consumer Product Safety Commission, maybe it's time that they address this issue the same way they do fireworks or the same way they do toy safety, where there is one time a year, every year, maybe the start of home heating season, where they do the same type of education and partnership, with Safe Kids and other groups, about the importance of getting these detectors up in the homes, kind of address it in the same—with the same magnitude they do those couple of other areas. I would suggest they also do that for pool safety, and I think they're on their way to that.

And then, finally, there's nothing for, at least me, more motivating than hearing stories. So, anytime a parent is willing to share their story about a child dying, and their experiences, it's—that's one of the best.

And let me say this, I deal a lot with parents that lose children. And it is, in my view, the most selfless act for a parent like the—like Cheryl to share their story. There may be 15 minutes in a day where she doesn't think about her two children, but when she volunteers herself to express and educate others, she's allowing all of us to intrude on that 15 minutes, including this hearing. And I think that's a pretty special gift, and very selfless. So, as long as parents are willing to tell their stories, that's the best motivator.

I have a 9-year-old. It's an unthinkable thought to lose a child. So, I'm going home tonight and checking my smoke alarms and carbon monoxide detectors, because of the story.

Senator PRYOR. I agree. Thank you, very much.

Mr. Andres, let me ask you a question about Kidde and what, in your view and the company's view—what makes a—for a good carbon monoxide alarm, and, you know, what makes one better than others?

Mr. ANDRES. Well, I'd start with what makes a good alarm. I mean, what you really want with an alarm is, you want selectivity to carbon monoxide gas only. You don't want an alarm that's going to react or sense other gases that are commonly found in a home, and you don't want that to be viewed by the alarm as carbon monoxide. So, selectivity just to carbon monoxide is an important attribute.

Also, long-term stability. You know, if we think about what we're doing with a carbon monoxide alarm and the technology, we're trying to detect parts per million of a molecule that cannot be seen, smelled, or tasted. So, you know, long-term accuracy of the technology so that, over time, it's just as good on day one as it is, you know, on—in year 7, is an important attribute.

I'd say, those are two aspects that I would look for in carbon monoxide alarming. And to help support that, there's a standard out there the UL ANSI-accredited standard, UL 2034, which really looks at these attributes, in addition to a whole bunch more, to make certain that those products that carry the UL mark meet these requirements.

Senator PRYOR. Yes. Thank you for mentioning the UL 2034, because in your opening statement you mentioned that it gets updated from time to time. Is the current status of UL 2034 current with technology today? And basically—I mean, is it ready to be followed for a long time, or does it need to—some improvement, as well?

Mr. ANDRES. Yes, it has—I mean, since it was first published in 1992, it's gone through a number of revisions. A lot of those revisions made good sense. Revisions, for example, to incorporate tests to avoid nuisance alarms. Revisions to the standard to prove long-term reliability and stability.

Basically, any problems that the Standards Technical Panel came across, of which CPSC is a member of, those were addressed and the standard was modified to ensure that future designs didn't have similar issues. So, progressively getting better and better with time. And it's a very good standard at this point.

Senator PRYOR. And so, you think the standard, as it exists today, is right where it needs to be?

Mr. ANDRES. Yes. Yes, I do.

Senator PRYOR. Senator Klobuchar.

Senator KLOBUCHAR. Well, thank you very much, Senator Pryor. I was looking at these and remembering that I go home by myself a lot on weekends, and I came in once and I think mine—there was something wrong. It was just going off all the time, and I unplugged it. So, maybe I'll buy one of these from you. I can't take it, Mr. Andres so—

Mr. ANDRES. OK.

Senator KLOBUCHAR.—you have to put a price on it.

Mr. ANDRES. Yes.

Senator KLOBUCHAR. Or—

Mr. ANDRES. Right.

Senator KLOBUCHAR.—we'll have had a public violation of the ethics law.

[Laughter.]

Senator KLOBUCHAR. OK, very good.

Well, I wanted to thank, again, all of you. And I—just to follow up on a few of Senator Pryor's questions about the standard and how it's improved over time. Is it difficult for manufacturers to meet the standard? And why do you think it's important to have a mandatory one instead of a voluntary one?

Mr. ANDRES. Well, to answer the question, it is difficult to meet the standard. I mean, the UL standard incorporates over 50 different performance tests. It's—it takes time. It's not inexpensive. But, at the end of the day, what we end up with, as an industry, is, you know, a product that's been designed to comply with the performance standard.

And if we just think about not doing that for a moment, what we open ourselves up to is the risk of putting products into the marketplace, ultimately exposing ourselves, in the entire carbon monoxide alarm category, to consumers not having a belief in the way they would work, or should work. We don't want to do that. And we have an opportunity now, with S. 1216, to prevent that from happening, reduce the risk, build the consumers' confidence, and maintain the reputation of carbon monoxide alarms, in total.

Senator KLOBUCHAR. And then, did the smoke alarms have a similar mandatory standard that this bill would ask for, for carbon monoxide?

Mr. ANDRES. Smoke alarms—there's a UL standard for smoke alarms. It's UL 217. I don't believe it's mandatory, but I believe most States do require smoke alarms be listed to the UL 217 standard. It's a little bit different. You know, smoke alarms have been around for quite some time. And if you look at the history of smoke alarms, there were actually businesses that had put smoke alarms into the marketplace without a UL mark. Those businesses aren't around anymore. And I think what we have here is the opportunity to prevent that from reoccurring.

Senator KLOBUCHAR. And how much does one of these typically cost, a carbon monoxide alarm?

Mr. ANDRES. I'd say the range is anywhere from \$18 to \$40, depending upon, you know, the feature set—

Senator KLOBUCHAR. And then you just—

Mr. ANDRES.—that comes—

Senator KLOBUCHAR.—install it—

Mr. ANDRES.—with it.

Senator KLOBUCHAR.—by plugging it in, is that right?

Mr. ANDRES. Yes. They're—well, you see some of the examples that Mr. Korn has.

Senator KLOBUCHAR. Yes.

Mr. ANDRES. Some are simple—

Senator KLOBUCHAR. Oh, that's who can I buy it from.

[Laughter.]

Mr. ANDRES.—installing batteries, just like in a remote control; and others, just directly plugging into a wall outlet. That's how simple it is.

Senator KLOBUCHAR. Mr. Korn, we talked about the fact that, I think its 23 states, including Minnesota, have laws on the books that require carbon monoxide alarms in the home. Can you talk about the effectiveness of these State laws? Is there any evidence of them reducing the carbon monoxide—or the number of times that they’ve effectively warned people of this “silent killer”?

Mr. KORN. Yes. There are 23 states that have carbon monoxide detector laws. But, you know, frankly, there’s a patchwork of requirements. Some require—like Minnesota, Rhode Island, a few others—a very good carbon monoxide law that covers all dwellings. Others—I believe it’s Maine; I’m doing it off the top my head, but I have the information—just hotels. Some just require a carbon monoxide alarm, only when there’s a transfer of a home, during a sale or otherwise changing hands.

In our view, a more comprehensive law is important. I think the laws of chemistry are—exist the same in a rental unit, with a combustible source of fuel, as they do in a home that’s been around for 30 years. Carbon monoxide isn’t any less poisonous just because it’s in existing home or because it’s in a new home or just because it’s in a rental property.

So, we would hope that your incentive grant, and also the State legislatures, would kind of pick up on this,—I think it’s a fairly new risk area; people don’t know about it—and pass the laws to require them in the homes.

And I’ll just mention, casually, that Arkansas does not have a carbon monoxide detection law, so maybe we can move toward that end.

Senator KLOBUCHAR. You know, Ms. Burt’s tragic story really brought home the fact that kids are more vulnerable to this than adults, even. And adults obviously are, as well. But, could you talk about that, the body weight and the reasons that—

Mr. KORN. Yes.

Senator KLOBUCHAR.—children are more vulnerable?

Mr. KORN. Well, there are three or four different reasons, but one is, first, children are smaller. So, something that’s particularly toxic getting into their bodies affects them negatively faster than it does for an adult, although, rest assured, at enough—or higher levels, it’s going to affect even a large adult, also.

And second, children don’t have the ability to react like a parent would or an adult would. It is at least possible that a adult would recognize that something’s wrong and maybe, maybe make a connection to carbon monoxide. A child won’t. A child will fall asleep or go unconscious, and that’s the end of it.

So, I think children are a particularly vulnerable population, requiring that early detection just as much as, or if not more, than others. I think seniors, also, are the same case. In fact, many carbon monoxide poisoning and deaths happen to seniors, because they can’t react to it as a healthy adult would.

Senator KLOBUCHAR. I think it was your testimony, Mr. Cochran, talking about when this—who’s vulnerable, when this spikes. You noted that the number of emergency room admissions associated with carbon monoxide spike around 2 to 3 days after a power outage, meaning that people are using the portable gas generators and charcoal grills inside their homes after a hurricane or a storm.

What's the best way, if you could just use your expertise here, to prevent injury and death associated with these generators?

Mr. COCHRAN. Well, assuring that proper venting is taking place in homes and when garages are used to store heat from appliances that generate carbon monoxide, even making sure that venting is appropriate in those areas, as well, and just monitoring, having CO detectors available, so that, even if the venting is not adequate enough, that the carbon monoxide detector will sound, to alarm, to let them know that dangerous levels are present.

Senator KLOBUCHAR. And I noticed also you talked about how many of these are—OK, this may be a selfish question here, but everyone should know the answer—some of the State laws differ, as Mr. Korn discussed, but what is recommended? I think our law, in Minnesota, says the alarm should be installed within 10 feet of every bedroom, and then some just say every floor. It—I would assume it's recommended there be on—one on every floor, or—is that correct, or not?

Mr. COCHRAN. One on every floor is pretty consistent. Beyond that, it's—usually boils down to different standards or family preferences. But, one on every floor is a consistent standard that we stand by.

Senator KLOBUCHAR. OK. Ms. Burt, I know that you have spent a lot of time reaching out to families about the dangers of carbon monoxide poisoning. Have you seen some change in people's knowledge, with these State laws passing over the last 15 years, since the tragedy?

Ms. BURT. I have, actually. When I first started doing this, and I was telling my story, or just telling friends and family or people I meet, a lot of people were just like, "Carbon monoxide, boy," you know, "don't really know anything about that," or along those lines.

And as the years went on, the more people I would talk to, they'd be like, "Oh, yes, yes, yes. We know all about that. My Mom and Dad got us one for Christmas," or, you know, they knew a lot more. And it has been—over the years, it's prevalent that people do know about it.

But, even after hearing my story, they still don't actually go out and purchase one and put it in and use it. And that's the part that gets me, is that—you know, it's great to know about it, but not everybody's taking the steps needed to protect themselves. And that's the part where this can come in handy.

Senator KLOBUCHAR. And another part of your story, that was just so—had just—sitting, as a mother, thinking about this—is, you kept going back to the doctors and, you know, trying to figure out why you were all sick at the same time. Has there been some increase in that kind of training or education for doctors, EMTs, firefighters, emergency-room workers, people that would be asking the right questions to identify how this happened?

Ms. BURT. There has been. I know that it—at the Mayo Clinic, I've talked with a panel of people on it. And it is more prevalent. It's something that—doctors do think about it. But—now, that's in my State, in one place. I don't know that all doctors would think "carbon monoxide poisoning," at this point, when someone would present the way we were. Certainly more public awareness and—on it would address that and get it further promoted. I would like

to see doctors think faster—when someone's coming in constantly with the same type of symptoms, and they're just saying, "Mmm. She's a kook, hypochondriac," you know, it's not—I'm not blaming the medical community, by any means, but I would want more knowledge out there so that that is foremost in their thought—

Senator KLOBUCHAR. Mr.—

Ms. BURT.—or at least—

Senator KLOBUCHAR.—Cochran—

Ms. BURT.—considered.

Senator KLOBUCHAR.—do you want to add to that at all?

Mr. COCHRAN. Yes, ma'am. I can speak to the issue of training and preparedness for firefighters—especially those who are emergency medical technicians are extremely well aware and trained, this particular time of year, to focus on signs and symptoms, that may be presented by patients, that could result in carbon monoxide poisoning. In addition to that, this time of year, municipal fire departments, and volunteer agencies who have the resources, commonly partner with businesses and the media in their area to increase awareness of the potential for carbon monoxide poisoning, this time of year.

There are departments, currently entering into campaigns across the nation, where carbon monoxide detectors are being purchased and donated by faith-based groups and businesses, and delivered to fire departments, who actually receive calls from citizens for requests for carbon monoxide detectors. And the firefighters themselves install the carbon monoxide detectors in the homes of citizens. That is a historical trend that's been occurring for approximately 10 to 15 years, and it's gaining momentum in communities all across the country.

Senator KLOBUCHAR. Thank you.

I guess my last question, Ms. Burt, is—I would assume you would suggest people put a carbon monoxide alarm in their stockings this holiday season, and that this would be a good gift for people to give their family members.

Ms. BURT. You are absolutely correct.

Senator KLOBUCHAR. All right. Thank you very much. And thank you for your courage in being here.

And thank you, all of you. It was very informative.

Senator PRYOR. Yes, thank you all for being here.

I have some written questions that we may submit. I think that Senator Klobuchar and I, we get it, and we're going to try to do something about this as quickly as we can.

I didn't mention this before, Ms. Burt, but I had a circumstance in my house a few years ago, it didn't end in tragedy, like yours did, but it could have, because—I was just out of law school, and I had two roommates, and we lived in an older house—as Mr. Korn said, can be a problem—and one of my roommates, he—his bedroom was right—just a few feet down the hall from a bathroom, and it had a hot water heater in the bathroom. And the carbon monoxide was just leaking out of the hot water heater. We had no idea. You know, it had come with the house, and we didn't really think to check it or anything. But, sure enough, he's getting these flu-like symptoms, headaches, you know, the whole thing. And he figured it out. I'm not quite sure how he figured it out, but he knew

something was wrong, and he figured it out. And, you know, we replaced the water heater, and installed it properly, with the right venting and everything.

So, this can sneak up on you without anybody knowing. And it was a near miss in our case. And we need to do more, in terms of law, but also to bring awareness to this.

So, I really thank you all for being here. We'll work with all of you, trying to get something passed next year. And we're out of time this year, as Amy knows, to try to——

Senator KLOBUCHAR. Oh——

Senator PRYOR.—get anything——

Senator KLOBUCHAR.—there's still another week left.

[Laughter.]

Senator PRYOR. So, realistically, we're not going to be able to get it done in the next week.

But, anyway, thank you all for being here. And I really appreciate all of you and your contributions that you're making into this. And we'll do our best. And we look forward to working with all of you.

Thank you.

And with that——

Senator KLOBUCHAR. Thank you.

Senator PRYOR.—the hearing is concluded.

[Whereupon, at 3:28 p.m., the hearing was adjourned.]

A P P E N D I X

PREPARED STATEMENT OF THE HOME SAFETY COUNCIL

Chairman Pryor, Ranking Member Wicker, and other members of the Committee, thank you for the opportunity to submit testimony on the dangers of carbon monoxide poisoning.

I am Patricia Adkins, Chief Operating Officer and Director of Public Policy for the Home Safety Council which is located in Washington, D.C.

About the Home Safety Council

The mission of the Home Safety Council (HSC) is to help prevent and reduce nearly 20,000 deaths and 21 million medical visits each year from such hazards as falls, poisonings, fires and burns, suffocation, and drowning. Through national programs, partnerships and support of volunteers, HSC educates people of all ages to help keep them safer in and around their homes. Our vision for our Nation is safer homes that provide the opportunity for all individuals to lead healthy, active, and fulfilling lives.

Carbon Monoxide Poisoning Is A Home Safety Issue

Carbon monoxide poisoning is extremely serious. Carbon monoxide (CO) is known as “the silent killer.” You cannot see it, smell it or taste it. CO is a deadly gas that is produced by fuel-burning heating equipment, such as furnaces, wood stoves, fireplaces, and kerosene heaters.

According to the U.S. Centers for Disease Control and Prevention, each year CO claims the lives of nearly 500 people in America and an additional 15,000 seek medical attention for accidental CO exposure. Seniors and young children are more at risk for CO poisonings because they spend most of their time at home. In addition, children metabolize the gas more quickly than adults and older adults do not excrete the gas as rapidly as young and middle-aged adults.

*The Home Safety Council's State of Home Safety in America*TM revealed 67 percent of American households use fuel-burning appliances and equipment, such as gas, wood or kerosene that can emit dangerous levels of carbon monoxide if not functioning properly. Earlier this year, HSC and Kelton Research conducted a “Home Safety for the Entire Family Survey.” The survey polled 800 parents to better determine their level of awareness for the leading causes of home injury and also to gauge actions they had taken to reduce the risk of home injuries. Our survey showed that nearly half (49 percent) of all caregivers polled have *not* installed a carbon monoxide alarm in their homes.

Preventing Carbon Monoxide Poisoning In Your Home

CO poisonings are largely preventable and each year, HSC and other dedicated organizations conduct education campaigns to reach Americans to teach them ways to prevent CO poisonings in their homes. HSC believes that there are some simple steps each family can take to help reduce the risk of CO poisoning in their homes. They are:

- Install at least one CO alarm near sleeping areas;
- Have a trained professional inspect, clean and tune-up your home's central heating system and repair leaks or other problems. Fireplaces and woodstoves should also be inspected each year and cleaned or repaired as needed;
- Keep gas appliances properly adjusted and serviced;
- Never use an oven or range to heat your home;
- Never use a gas or charcoal grill inside your home or in a closed garage; and
- Portable electric generators must be used outside only. Never use them indoors, in a garage or in any confined area that can allow CO to collect. Follow usage directions closely.

HSC believes that legislation like S. 1216: the Residential Carbon Monoxide Poisoning Prevention Act provides important mandatory standards for residential homes and other dwellings. It is important that Americans can trust in an alarm's ability to detect carbon monoxide in their homes. Also, this legislation authorizes the Consumer Product Safety Commission to establish a grant program for eligible states to carry out a carbon monoxide safety program. We are delighted that national non-profit organizations such as the Home Safety Council and others would be eligible to participate in multi-state programs that work with first responders to educate and provide families with carbon monoxide materials and alarms.

Carbon Monoxide Prevention

Each year, at the beginning of home heating season, the HSC works with businesses, first responders and other organizations in an effort to remind all families of the dangers of CO poisoning. HSC's online virtual home safety tour, *MySafeHome.org* provides graphic illustrations of CO sources and how to minimize the poisoning risk.

On behalf of the Home Safety Council, thank you for the opportunity to share our findings and support for meaningful standards and programs that resonate with all Americans to reduce the number of unintentional carbon monoxide poisonings and deaths in the United States.

December 17, 2009

Hon. MARK PRYOR,
Chairman,
Subcommittee on Consumer Protection, Product Safety, and Insurance,
Senate Committee on Commerce, Science, and Transportation,
Washington, DC.

Hon. ROGER WICKER,
Ranking Member,
Subcommittee on Consumer Protection, Product Safety, and Insurance,
Senate Committee on Commerce, Science, and Transportation,
Washington, DC.

Dear Chairman Pryor and Ranking Member Wicker:

As representatives of manufacturers, service providers, and installers of carbon monoxide alarm and detection devices, we want to commend you for holding today's hearing on "Carbon Monoxide Poisoning: Sounding the Alarm on a Silent Killer."

Carbon monoxide (CO) poisoning is the leading cause of accidental poisoning death in the United States. High concentrations of carbon monoxide—a colorless, odorless gas that is produced when fossil fuel is incompletely burned—can cause cognitive impairment, loss of consciousness, coma and often death. In fact, the U.S. Centers for Disease Control and Prevention reports that every year, more than 400 people die in the U.S. from accidental CO poisoning and estimates that approximately 20,000 Americans seek medical attention every year due to carbon monoxide.

There are many things American families can do to protect themselves from carbon monoxide poisoning, including properly maintaining fuel-burning appliances, furnaces and chimneys and correctly using portable generators. These actions can help prevent the buildup of toxic carbon monoxide gas in people's homes. However, once CO is present, timely detection is paramount to ensuring residents have the time to evacuate from the home and contact emergency personnel. Carbon monoxide detection and notification devices installed in residential and other places where people sleep provide an effective way to reduce the incidence of CO poisoning.

We support the goals of S. 1216, the Residential Carbon Monoxide Poisoning Prevention Act, introduced by Senators Amy Klobuchar and Bill Nelson. S. 1216 acknowledges the value of carbon monoxide alarm and detection devices by promoting their purchase and installation in residential homes and dwellings nationwide. By requiring the U.S. Consumer Product Safety Commission (CPSC) to adopt the American National Standards Institute/Underwriters Laboratories (ANSI/UL) Standard 2034, *Standard for Single and Multiple Station Carbon Monoxide Alarms*, as a mandatory consumer product safety rule, the bill places importance on continued quality, effective devices that meet rigorous safety standards.

We are also pleased that S. 1216 encourages states to require residential CO detection devices and establishes a Federal grants program to provide assistance to eligible states to carry out a CO alarm program. Currently, over two dozen states and many local jurisdictions have laws on the books requiring CO devices in homes,

commercial lodging, and other dwellings, and those laws are proving successful in reducing the incidence of CO poisoning.

S. 1216 is a good bill that calls attention to an important life safety issue and promotes the use of quality, effective CO detection and notification devices. While we support the goals of S. 1216, there are some technical corrections needed to ensure technological consistency. We look forward to working with Senators Klobuchar and Nelson and members of the Subcommittee to address these issues and concerns as the bill advances.

Thankfully, there are ways to protect against the deadly assassin known as carbon monoxide. We appreciate your Subcommittee's attention to this life-and-death issue and to "sounding the alarm on a silent killer." We stand ready to work with you.

Sincerely yours,

EVAN R. GADDIS, *President and CEO*,
National Electrical Manufacturers Association.

RICHARD W. CHACE, *Chief Executive Officer*,
Security Industry Association.

MICHAEL A. MILLER, *President*,
Electronic Security Association.

cc: Hon. Amy Klobuchar, U.S. Senate
Hon. Bill Nelson, U.S. Senate

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARK PRYOR TO
ALAN KORN

Question 1. If a consumer sustains a carbon monoxide poisoning, does permanent injury result?

Answer. The treatment for a CO poisoning is oxygen therapy to treat symptoms and to lower carbon monoxide levels in the blood or the use of a full-body hyperbaric chamber that applies air pressure to remove the carbon monoxide faster. For those who survive a carbon monoxide poisoning, the long-term effects can be severe in some cases. Victims have reported memory loss, impaired motor skills and heart and lung problems. Often times, they deal with the CO injury for the rest of their lives.

Question 2. Is the carbon monoxide poisoning data we have comprehensive in your view? If not, why?

Answer. Safe Kids USA believes that the carbon monoxide poisoning data is not truly comprehensive due to the nature of CO itself. CO, a colorless and odorless gas, is responsible for more than 500 unintentional deaths, approximately 20,000 emergency department visits and more than 4,000 hospitalizations each year in the United States. However, because symptoms of CO poisoning are similar to the flu, food poisonings and other common ailments, it is possible that many deaths have not been classified as CO poisoning and as a result, the number of fatalities, injuries and hospitalizations could be much higher than reported.

Although the situation is getting better, front line medical professionals (emergency room doctors and nurses) and pediatricians still misdiagnose CO poisonings. The Burt family is a perfect example. Instead of properly spotting the signs of CO poisoning, medical professionals often discharge the patient right back into the toxic environment that sickened them in the first place. Not only is this dangerous but we lose these incidents as data points forever. Better medical recognition will greatly assist to make data more comprehensive.

Question 3. Could you explain to the Committee why children are more vulnerable to the effects of carbon monoxide poisoning than adults are?

Answer. Young children are especially vulnerable to the effects of CO. Due to their smaller bodies, children process CO differently than adults and may be more severely affected by carbon monoxide in their blood. They are more susceptible to carbon monoxide and may experience symptoms sooner than a healthy adult.

Additionally, younger children do not have the cognitive ability to recognize the characteristics of CO poisoning, nor do they have the advanced physical development to react properly to it. Accordingly, their exposure to the poison can be prolonged and therefore the injury can be more severe. Their enhanced vulnerability makes detection, through a CO alarm, all the more important.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TOM UDALL TO
ALAN KORN

Question 1. The New Mexico Department of Health reports that minority populations are more likely to suffer carbon monoxide poisonings than the general U.S. population. A Washington State study found that Hispanic populations have a three times greater risk for carbon monoxide poisoning. The study noted that indoor burning of charcoal briquettes causes 67 percent of Hispanic carbon monoxide poisonings. Why are minority and especially Hispanic populations at greater risk?

Answer. Minority populations can be at greater risk for CO poisoning due to economic factors. The use of CO alarms, which are single-handedly the best safeguard against a poisoning, can be a financial obstacle for certain groups. Safe Kids has seen this economic barrier for other safety devices, such as child safety seats and bike helmets. In addition, malfunctioning gas appliances are a major source of a CO leak and maintenance of these products may also be a contributing factor to a carbon monoxide poisoning. Minorities and at-risk families may not simply have the economic resources to properly maintain their gas appliances.

Question 1a. How can we reverse this alarming trend?

Answer. With minority populations being at a particular risk for carbon monoxide poisoning, it is important for public education efforts to be targeted to those in need. Safe Kids, as well other public health organizations, can focus outreach initiatives—including distribution of CO alarms—to minority and other at-risk groups to mitigate the risk of CO poisoning in these communities. The Federal Government, and in particular, the U.S. Consumer Product Safety Commission and the Centers for Disease Control and Prevention, could also conduct annual public education campaigns to address this disparity in CO poisoning rates.

Question 2. In New Mexico, most carbon monoxide poisonings seem to occur in the winter months. Tragic cases from Washington State, Minnesota, and Florida also suggest that carbon monoxide poisonings spike after hurricanes or severe storms when people are without power or heating. In these cases, using portable generators or burning charcoal briquette fires indoors creates a real danger. Given the often seasonal nature of carbon monoxide poisoning, is there a more effective way to conduct public awareness campaigns for times when people are most vulnerable?

Answer. The seasonal nature of carbon monoxide poisoning may necessitate that multiple public awareness campaigns are warranted—before hurricane season as a preventive measure as well as when severe storms strike. At the time when a storm hits, it is not too late to remind the public about the dangers of CO poisoning and using portable generators or burning charcoal briquettes. The Federal Government and public education organizations may want to consider partnering with the American Red Cross on including CO poisoning prevention messages, as part of their disaster response protocol, when there are severe weather incidents.

Question 2a. How could the “National Carbon Monoxide Awareness Week” in October include more effective safety campaigns to get more people to install carbon monoxide alarms in their homes?

Answer. The use of carbon monoxide alarms is the best way to detect a CO poisoning in the home. Unfortunately we know that people still do not have this important safety device. National Carbon Monoxide Awareness Week as well as other public education initiatives throughout the year could include increased CO alarm distribution as part of their efforts. With today’s economy, families have had to prioritize their household budgets, and safety devices may not be seen as “must purchase” items. Increased availability of no-cost CO alarms will help families install these devices in their residences.

As we have seen with other safety efforts, the passage of state laws can be helpful to ensuring that more people install CO alarms in their homes. Currently, 23 states and some local jurisdictions have passed legislation requiring the use of CO alarms in some types of residences (Alaska, Colorado, Connecticut, Florida, Georgia, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Oregon, Rhode Island, Utah, Vermont, Washington, West Virginia and Wisconsin). An advocacy effort to encourage more states to pass laws as well as public education activities to promote awareness of existing laws could promote CO alarm use.

We note that significantly, New Mexico, to date, does not have a CO alarm law. Passing a law in New Mexico would not only increase use rates and lower deaths and injuries, but also could qualify the state for an incentive grant under the Residential Carbon Monoxide Poisoning Prevention Act, if enacted.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARK PRYOR TO
CHERYL BURT

Question 1. What is your recommendation to the Congress to better protect Americans from the risk of carbon monoxide exposure or poisoning?

Answer. My recommendation is that Congress pass S. 1216, and work to educate families on the risks of CO and the need for alarms in our homes. Carbon Monoxide is all around us every day. We need to educate the public regarding the dangers of CO and help them realize the need for CO alarms much like this needed to be done when smoke alarms first came out. They are as important, if not more so, because CO is a colorless, odorless, and tasteless gas and can usually only be detected by a CO Alarm. Knowledge is power. We warn about all sorts of health and safety issues: the flu, H1N1, proper seatbelt usage, what to do if you have a fire in your home, and other dangers. But there is no national awareness about CO poisoning and yet it is the leading cause of accidental poisoning in our homes.

Question 2. You mentioned in your written testimony that when you were being exposed to carbon monoxide, you thought you simply had a case of the flu. How do you suggest we make Americans more aware of the possibility of carbon monoxide poisoning in the event that they experienced flu-like symptoms in their homes?

Answer. I would like to see the grants incentive portion of this bill include an education outreach program that addresses overall CO awareness, and seasonal issues, such as heating risks. States that pass laws requiring CO alarms also need to educate families on the symptoms, the possible sources, etc. I wish with all my heart that my state would have had a law in 1996 like the one we have now, requiring all homes to have a CO alarm. I know without a doubt that I would have had one in my home. Had there been more public education at that time, I would have bought the alarm instead of that toy truck, and my sons would be alive today.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARK PRYOR TO
JOHN ANDRES

Question 1. Do you think it will be important to update the UL 2034 standard over time?

Answer. Yes. UL 2034 is currently reviewed by a standards technical panel in order to keep pace with technological advances and past lessons learned. The process of revising and updating occurs with input from users of the device, industry generals which often includes CPSC, Underwriters laboratories and the industries technical community. The process considering changes and new requirements is governed by the protocol used for all American National Standards Institute (ANSI) standards.

Question 2. Do you recommend a national standard for carbon monoxide detection?

Answer. Yes. Consumers must have confidence that their CO alarm will work reliably and accurately. A national standard of product performance such as the ANSI UL2034 ensures all critical performance attributes are independently evaluated by a third party. Furthermore, a national standard ensures that all legislation and code for CO alarms is easily administered by referencing this requirement. Conversely, the lack of such a standard will result in fragmented performance requirements that open the door to products that may not contain the necessary features and safety requisites determined to be necessary by the medical and technical community. The results of a fragmented performance requirement increases the risk of diminished performance which would no doubt have further ramifications such as the public losing confidence in CO alarms. Designing to a national standard substantially minimizes this risk.

Question 3. What are the benefits to consumers and businesses of the CPSC endorsing or requiring a particular standard for carbon monoxide alarms?

Answer. By endorsing or requiring a Federal standard for CO alarms, the CPSC provides consumers with the benefit of knowing that the product purchased is accurate and reliable, and that it has been tested by an independent, third party. In addition, businesses and state legislators involved with maintenance and ordinances, would benefit by having a very clear definition of what constitutes an approved CO alarm. This is consistent with the CPSC view of smoke alarms which is closely related to CO alarms.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. MARK PRYOR TO
HON. KELVIN J. COCHRAN

Question. How effective have fire alarms been in protecting Americans from death or injury associated with residential fires? Do you support the deployment of carbon monoxide detectors and alarms across the United States?

Answer. Home smoke alarms have been one of the most effective safety innovations in recent history. While we have no hard data to substantiate the number of lives saved or injuries prevented by home smoke alarms, we know with certainty that the home fire death rate has declined substantially as the number of homes with working smoke alarms increases. For instance, in 1977, when 22 percent of homes had smoke alarms, there were 5,865 home fire deaths. By the year 2003, 95+ percent of homes had smoke alarms, and the trend in the death toll declined by 51 percent to 3,145.

The United States Fire Administration (USFA) supports and recommends the use of carbon monoxide alarms in any building where a fuel is burned to provide heat for cooking or heating, lighting or any other purpose, as well as in all buildings that have an attached garage or shed.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TOM UDALL TO
HON. KELVIN J. COCHRAN

Question 1. The New Mexico Department of Health reports that minority populations are more likely to suffer carbon monoxide poisonings than the general U.S. population. A Washington State study found that Hispanic populations have a three times greater risk for carbon monoxide poisoning. The study noted that indoor burning of charcoal briquettes causes 67 percent of Hispanic carbon monoxide poisonings. Why are minority and especially Hispanic populations at greater risk? How can we reverse this alarming trend?

Answer. The USFA, in conjunction with the CDC, is looking into why certain ethnic groups are more prone to accidental carbon monoxide poisoning. Unfortunately not all cases of carbon monoxide poisoning are reported to local fire departments. These cases are usually handled via the victims taking themselves to hospitals, or being delivered to by friends and family for reasons other than carbon monoxide poisoning (*i.e.*, flu-like symptoms).

Public information and education that goes directly to the “at risk” population is always helpful in reducing specific safety problems. The USFA partners with national organizations to reach identified high risk audiences by making use of the partner organization’s established networks and thereby reaching out to community groups that can deliver the message directly to the local population.

Question 2. In New Mexico, most carbon monoxide poisonings seem to occur in the winter months. Tragic cases from Washington State, Minnesota, and Florida also suggest that carbon monoxide poisonings spike after hurricanes or severe storms when people are without power or heating. In these cases, using portable generators or burning charcoal briquette fires indoors creates a real danger. Given the often seasonal nature of carbon monoxide poisoning, is there a more effective way to conduct public awareness campaigns for times when people are most vulnerable? How could the “National Carbon Monoxide Awareness Week” in October include more effective safety campaigns to get more people to install carbon monoxide alarms in their homes?

Answer. FEMA/USFA has developed and made available a series of fact sheets that are employed during seasons when hurricanes, flooding, tornadoes, and winter storms, etc., usually peak. This includes two fact sheets that provide safety information about carbon monoxide in general and specifically about generators and carbon monoxide dangers. The fact sheets can be accessed online at www.usfa.dhs.gov/citizens. These fact sheets discuss fire safety and prevention under adverse conditions and are used to remind the public that fire safety and prevention are especially important during times of severe conditions.

The January 2010 USFA “Focus of the Month” spotlights alternative heating safety. The dangers of carbon monoxide poisoning are key to this message and it provides basic safety information on how to avoid it.

For the first time, in January 2009, the National Fire Protection Association (NFPA), Underwriters Laboratory and Kidde Fire Systems sponsored a Carbon Monoxide Awareness week. There may be other events sponsored by other agencies or organizations that focus on this problem. Certainly the more educated the public becomes the greater the chances are that some of the deaths and injuries can be prevented. Ongoing messaging about the dangers of carbon monoxide poisoning and

how to prevent it would begin to bring the issue to the forefront of the public's mind. Since indoor cooking on grills, generators, and heating appliances that use natural fuel and auto emissions are some of the main causes of residential carbon monoxide poisoning, making use of public service announcements (radio, TV, and print) as well as editorials and articles in newspapers and magazines should gradually alert the general public to safety precautions they need to employ to prevent this problem.

