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Beyond Baking Soda

New technology may make kitchen fires a thing of the past



By Jim Crawford

When it comes to fire prevention, the fire service tends to focus almost entirely on fire sprinklers and fire alarm systems. As two of the most effective strategies for controlling fire damage, these technologies deserve enormous attention. Further, firefighters tend to interact with them most often. However, we shouldn't overlook other technological solutions to common fire problems.

KITCHEN DANGERS

In most areas of North America, kitchen fires—usually caused by unattended cooking situations—account for a very high percentage of all fires. The heating source is too hot; the food that's cooking burns; the oil burns and spatters, then ignites; and the fire grows.

For years, we've told people not to leave their cooking food unattended. We've given them educational materials explaining how to cover a cooking fire and how to use baking soda or salt to extinguish it. We've explained that sugar, flour and baking powder can create a dust "explosion." And we've explained that adding water could cause a kitchen fire to boil over out of a pot and spread. Finally, we've advocated fire extinguishers in the kitchen—although we've heard of cases where the pressure of the extinguisher spread the fire as well.

Although these strategies were well intentioned, many of us in the prevention field ended up settling on one message: Covering the pan and reducing the heat is the best method of extinguishing cooking fires. The simplest message is often best, and this one seemed to have the fewest problems. Extinguishing a fire in this way carries a risk of getting burned in the process, but that seemed to be the lesser of evils.

A BREAKTHROUGH?

But we may soon have another option. I was recently introduced to a new technology that shows promise in *preventing* kitchen fires, rather

In most areas of North America, kitchen fires—usually caused by unattended cooking situations—account for a very high percentage of all fires.

SafeTelement is a stovetop covering system designed to virtually eliminate cooking fires.

SafeTelement uses cast-iron covers on electrical cooking elements to dissipate heat away from the elements, while a temperature-regulation system controls how hot the elements get.



"This product has the potential for saving untold numbers of injuries and deaths. I would like to see this technology on every new stove manufactured."

—Earl Diment
Portland, Oregon

than controlling them after the fact. Pioneering Technology, a Canadian company that looks for technological solutions to fire problems, has developed an electric stovetop covering system that dissipates heat and controls it, basically eliminating cooking fires.

The system, dubbed SafeTelement, consists of a cast-iron cover for electrical cooking elements that helps dissipate heat from the elements, combined with a heating regulation system that controls how hot the elements can get. Another benefit: SafeTelement drastically reduces energy costs, while still allowing the heating elements to reach temperatures needed for the kinds of stovetop cooking we're used to. At a recent demonstration, the element would not ignite a piece of paper, but it would boil water—prompting more than one fire code official to ask if it would really cook anything!

Better minds than mine can speak to the physics of the situation, but I seldom need to cook anything on a stovetop at temperatures exceeding that required to boil water, even if it takes longer to get there. Those experienced with using the technology say it cooks just fine. The developers claim the product meets both Canadian and U.S. safety standards, and they are currently in the process of obtaining Underwriters Laboratories approval. For more information, visit the company Web site at www.pioneeringtech.com.

TECHNOLOGY & PREVENTION

I have to admit I'm fascinated with technological (engineered) solutions to our fire problems, especially when they help prevent fires before they actually occur. Such proactive solutions provide strong incentive for consumers, given the expense of sprinkler systems, the passive aspect of smoke alarms and the high number of kitchen fires we experience in the United States.

I am a strong believer in public education, and I believe we in the fire service have put far too little money into public education about fire prevention. But that is another topic for discussion. For now, I think it serves the fire service well to continue to search for new technologies, and to stay on top of how they might help solve fire problems before they begin. The SafeTelement is one example of what may work, and provides us with the stimulus to look for more.

If you have other ideas about technological or engineering solutions to fire problems, please e-mail me at crawfordjim@comcast.net. ☺

Jim Crawford is a fire marshal with the Vancouver (Wash.) Fire Department and is chair of the NFPA technical committee on professional qualifications for fire marshals. He has written *Fire Prevention: A Comprehensive Approach*, published by Brady, and has also written a chapter on fire prevention in *Managing Fire and Rescue Services*, published by the International City/County Managers Association. Crawford is a past president of the International Fire Marshals Association and has served on the NFPA's Standards Council.

Cooking #1 cause of household fires

A Kitchen fire occurs every 8 minutes

Unattended cooking is the leading cause

Cooking accounts for 42% of apartment fires

Seniors are most vulnerable

Cooking leading cause of college campus fires

12 million house fires unreported each year

What People are Saying About the Safe-T-element™ Cooking System

Pioneering Technology's Safe-T-element™ cooking system is a CSA approved component that was engineered to help prevent stove top cooking fires before they start. Unlike other technologies that merely alert residents that there is already a fire or serve to suppress an existing fire, Safe-T-element™ actually helps prevent the fire from occurring in the first place. And because the stovetop is turned off at certain times during the cooking process there is an added benefit of up to 75% savings in the electricity depending on usage habits, meaning that the Safe-T-element™ cooking system will pay for itself over time.

The Safe-T-element™ cooking system is being sold to senior's facilities, Universities and Colleges, Housing Authorities and other multi-residential facilities throughout North America where the dangers of cooking fires are most prominent. Here is what others are saying about the Safe-T-element™ cooking system:

"Safe-T-element has the potential to prevent these fires from happening."

— President of Fire Prevention Canada

"Truly an amazing innovation providing essential safety for many of our clients."

— Exec. Dir., Unlimited Choices, Vancouver, WA

"These Safe-T-elements have allowed our residents to remain independent in their cooking abilities by providing a safer way for them to cook."

— Director of Operations, Copernicus Seniors Lodge

"An exciting product that I know will benefit your supportive housing organization, as it targets the particular needs of the residents you house."

— Director, Ontario Non-Profit Housing

"If 1 major manufacturer were to take the lead, others would quickly follow."

— Exec. Dir., California Independent Living Council

"This product has the potential for saving untold numbers of injuries and deaths. I would like to see this technology on every new stove manufactured."

— Public Education Officer, Oregon Fire Service



Pioneering Technology Inc. is a recipient of the Home Safety Council's Commendation Award for Product Innovation for Consumer Safety for Safe-T-element.

Use of the Commendation Seal next to the product indicates that the Council has evaluated the Safe-T-element based upon information furnished by the manufacturer and believes the product demonstrates an innovative use of safety features.

The Council does not test or endorse any products.



SAFE-T-ELEMENT™ HELPS PREVENT COOKING FIRES BEFORE THEY START.

WHY SAFE-T-ELEMENT™?

Safe-T-element™ was created to address one of the most serious problems in the household – stovetop-cooking fires. Stovetop cooking is the number one cause of household fires in North America.

Most fire safety products alert you to the fact that there is already a problem or help you suppress the problem. **Safe-T-element™** was engineered to prevent fires before they start.

WHAT IS SAFE-T-ELEMENT™?

Safe-T-Element™ is a patented, new product upgrade for electric coiled stovetops, engineered to prevent cooking fires before they start while reducing the amount of electricity required to cook.

An element on high, red hot and unattended for even a short period of time is one that has reached a dangerously high temperature and is out of control. That amount of heat is never necessary. No one needs 700°C/1291°F when oil ignites at as low as 370°C/698°F.

Each **Safe-T-element™** is an electronically controlled solid cover plate that is installed on top of your existing stovetop burner. A patented control unit inside the stove controls the temperature of the plate cover allowing it to only reach a maximum of 350°C/662°F.

When the plate reaches a temperature of 350°C/662°F, it automatically shuts the stove off and conversely as it cooks to just below 350°C/662°F the stovetop is turned on again. In this way the burner plate maintains a temperature of 350°C/662°F, more than enough for efficient and effective cooking, while not allowing household materials to ignite.

In addition to fire prevention, **Safe-T-element™**, because it controls the cooking process will reduce the amount of electricity required to cook. So not only does **Safe-T-element™** protect tenants and properties but it will actually pay for itself over time.

Safe-T-element™ is a CSA approved component and has been awarded the Home Safety Council's Commendation Award for Product Innovation for Consumer Safety.*



***Pioneering Technology's Safe-T-element™** cooking system recently received the prestigious Home Safety Council's Commendation Award for Product Innovation for Consumer Safety.

The award is given to manufacturers' in recognition of their outstanding contributions for product innovations that enhance consumer safety.

Please refer to disclaimer on previous page.



With Safe-T-element™, enjoy the peace of mind that you will get knowing that your tenants and buildings are safer from the dangers associated with stovetop cooking and enjoy the benefits of lower monthly electricity costs.



Pioneering Technology Inc.

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