

“Safe-T-element® Eliminates Stovetop Cooking Fires, Saves Lives, Delivers Energy Savings, and Saves Providence Housing Authority Money”

Cooking Fires in North America

Stovetop cooking is the “Number One cause of household fire” throughout North America. During 2011 U.S. fire departments responded to an estimated 156,300 home fires involving cooking equipment. These fires caused 470 civilian deaths, 5,390 civilian injuries, and \$1.0 billion in direct property damage. According to Facts and Figures from NFPA’s Cooking Fires 2010, cooking caused 44% of reported home fires in the U.S., 16% of home-fire deaths, 40% of home-fire injuries, and 15% of the direct property damage in 2010. **In fact, 68% of all home cooking fires involve an electric cooking range.** Cooking left unattended is the number one reason for these fires.

Shockingly, statistics reveal that 43.4% of all stovetop fires occur in multi-unit residences and that 63.2% of stovetop fires are in subsidized units. Not surprisingly, Fire Marshalls recommend public education and use of stovetop-fire-mitigation technologies in high-risk populations such as multi-family buildings, particularly affordable housing units.

The Problem for Providence

The Providence Housing Authority (PHA) serves 989 units or 1,087 elderly and/or disabled residents in six high-rise buildings. Disabled residents (who have a physical and/or mental disability) comprise 46% of the high-rise population. PHA fire incidents rose from 42 in 2011 to 51 in 2012, an increase of 21%. In 2012 alone 35 of PHA fires (68.5%) occurred in the elderly/disabled high-rises. Of the elderly/disabled fires 86% were caused by food left unattended on stoves. FEMA reports that individuals with both physical and mental disabilities are involved in 2,400 residential fires and 245 fire fatalities each year. Statistics show that about 14% of fire fatalities are attributed to physical disability. Rhode Island’s Department of Health statistics confirms a correlation between poverty, age, fire injury or death in residential fires and report nine fire fatalities, 47 hospitalizations, and 206 ER visits resulting from residential fires involving persons 55 and older.

Since 2010, PHA reported 121 fires of which 83% (101) were cooking-related, and 80% occurred in elderly/disabled high-rise buildings; cooking was the number one cause of PHA fires, which correlates with national data. Of the 101 cooking fires recorded since 2010 89 (88%) occurred in the elderly/disabled high-rises while only 12 occurred in family developments. Since 2004 PHA has had two resident fire deaths. From 2009 to 2012 the cost of fire-related property damage exceeded \$300,000 (and 80% of that cost was spent in the high-rises due to higher fire-incident rates in those developments).

The Solution: The Safe-T-element® cooking system

Providence Housing Authority installed Safe-T-element® in 388 units in 2008 and 2012.

To address the problem of cooking-related fires in its elderly and disabled high-rises PHA developed and adopted the “Safe-T First Project,” which aimed to reduce fires and related deaths, injuries and property loss among PHA’s vulnerable elderly and disabled population. The project installs Safe-T-elements in electric stoves in its elderly and disabled high-rises, and enhances the PHA’s annual Fire Safety and Prevention Training.



The Providence Housing Authority (Rhode Island) is committed to high standards of public accountability and continuous improvement through management excellence, professional development, and customer satisfaction. Focused on providing safe, modest and affordable housing for low-income households, PHA directly owns, manages, or provides assistance for nearly 2,600 rental units and served a total of 2605 individual residents in FY2013.

The Safe-T-element Cooking System (sole-source provided to PHA by Pioneering Technology) helps prevent cooking fires before they start by controlling stovetop temperatures. The Safe-T-element limits element temperature to below the auto-ignition point of cooking oil and other common household materials while allowing enough heat to cook effectively. Even better, the Safe-T-element reduces the amount of electricity required to cook.



In FY2007 and FY2011 PHA applied for and received FEMA Fire Prevention & Safety (FP&S) grants to install 388 Safe-T-elements in two elderly/disabled high-rise buildings, Carroll Tower and Parenti Villa, affecting 424 residents. 194 Safe-T-elements were installed in Parenti Villa in 2008; in September 2012 Safe-T-elements were installed in 194 units at Carroll Tower. In conjunction with Safe-T-element installations, PHA also trained residents and staff on Safe-T-element use and function, and implemented a related cooking-safety awareness campaign, which includes a fire-safety result-tracking protocol for recording pre- and post-implementation data in a Fire Incident Reporting Log, surveying residents, and data analysis.

Results: Providence reports ZERO kitchen fires since the Safe-T-elements® were installed. Based on Safe-T-element's® proven effectiveness, PHA is expanding the Safe-T First program and will install 721 additional units.

Safe-T-elements have proven to be highly effective cooking-fire-reduction tools in PHA facilities. PHA data indicates that since Safe-T-element installation in 2008 cooking-fire incidents in Parenti Villa have remained low, and are among the lowest number of stovetop fires reported in any PHA facility since 2010. According to PHA's tracking-fire log, before Safe-T-element installation Carroll Tower had five fires in 2010, a total of six fires in 2011, and only three fires in 2012, showing a 50% reduction in fires over a one-year period. Notably, Carroll Tower has not had any cooking fires since installation of Safe-T-elements in 2012.

The low stove-fire occurrence in Parenti and Carroll demonstrated Safe-T-element's effectiveness; PHA's board readily recognized the immediate need to expand the program to additional high-rises. Safe-T-element results encouraged PHA to extend fire-hazard prevention/awareness education and Safe-T-element devices to all of its high-risk residents.

Based on its successful track record with Safe-T-element installations PHA recently sought a third round of FEMA grant funding to install Safe-T-elements into its remaining four elderly/disabled high-rises, affecting 721 units and 796 at-risk residents, and train residents and staff on Safe-T-element use and function, within one year from funding.

In justifying additional Safe-T-element installations, PHA observed, "By installing this permanent preventative safety product in four additional elderly/disabled high-rises, we expect kitchen fires to reduce drastically as they have in Parenti Villa and Carroll Tower. While prevention is hard to measure in cost, expanding Safe-T-elements into Dexter Manor, Dominica Manor, Kilmartin Plaza, and Hartford Park can save PHA future operating costs, unanticipated property loss, and loss of life."

PHA's Executive Director, Paul J. Tavares, identified the following results:

- Significantly reduced the cooking fire problem.
- Saved over \$100,000 in 2012 (repairing units damaged by fire).
- Enjoyed electricity savings of 166,350 kWh in 2012 or \$14,223 annually.
- Providence will recoup its entire program cost in 21 months ... and then be putting cash in the bank!



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