

# Act Now to Protect Indiana!



## CONTENTS

**1**  
**INDIANA'S STORY**  
Lifesaving provisions are being removed from the code.

**2**  
**FIRE PREVENTION**  
Arc fault circuit interrupters (AFCI) are advanced circuit breakers that prevent fires.

**3**  
**CHILD SAFETY**  
Tamper resistant receptacles (TRR) prevent toddlers from shock and burn injuries.

**4**  
**Q & A**  
Basic facts about these life-saving devices and the national support they have received.

Stakeholders in Indiana must act now to preserve

## Lifesaving Provisions Being Removed from the Residential Electrical Code

Each year, home electrical problems account for more than 53,600 residential fires in the United States. These fires cost roughly \$1.4 billion annually in direct property damage; yet, this is not nearly as staggering as the number of lives claimed. Each year, more than 500 people are killed and another 1,400 are seriously injured in home electrical fires.

Unfortunately, fire is not the only electrical danger that homeowners face; in fact, hundreds of people are accidentally electrocuted in their own homes every year. Sadly, these figures still do not include the more than 2,400 toddlers who have been treated in hospital emergency rooms during the last decade for injuries sustained from sticking common household objects into electrical sockets. The emotional trauma caused by these electrical accidents can scar families and communities for years.

The good news is that these numbers would be dramatically higher if not for the National Electrical Code (NEC), a nationally recognized set of safety standards one hundred years in the making. Thoroughly revised and updated on a regular basis, the decision of whether or not to adopt newer editions of the NEC is left up to the discretion of each respective state. The 2008 edition of the NEC now requires the installation of two important electrical safety devices in all newly constructed homes: arc-fault circuit interrupters (AFCIs) and tamper-resistant outlets (TRRs).

AFCIs are advanced circuit breakers which can detect and prevent arcing faults, a

common electrical fire hazard. First introduced in the 1940s, traditional circuit breakers simply do not have these advanced capabilities. Forecasts suggested by fire and electrical safety advocates today predict that as states increasingly adopt AFCI provisions into their codes, these devices will have a significant impact on reducing the number of electrical fires in the U.S. each year.

Tamper resistant receptacles look like normal outlets, but they feature receptacle cover plates that prevent children from sticking foreign objects inside while still allowing plugs to be inserted and removed as usual. These devices are so effective that they have been required in pediatric hospital facilities for decades.

### Safety provisions to be removed Indiana's homes and families stand to lose

The State of Indiana's Electrical Code originally included AFCI provisions; however, in 2005 Indiana became the first state in the nation to **remove** AFCI provisions from the Code. The new proposed version of the electrical code and revised residential code, which also seek to remove the AFCI and TRR requirements, is currently under consideration by the State of Indiana's State Fire Prevention and Building Safety Commission against the findings delivered by an independent committee established by the Commission last year strongly urging the Commission to keep those lifesaving provisions intact.



## ARC FAULT CIRCUIT INTERRUPTERS PREVENT FIRES

The Consumer Product Safety Commission estimates that if arc fault circuit interrupters (AFCIs) were installed in homes they would prevent more than **50 percent** of electrical fires that occur annually in the United States

### Safety by Design

#### AFCIs Prevent Fires

Arc Fault Circuit Interrupters (AFCIs) are new electrical safety devices that replace standard circuit breakers in a home's electrical panel. These advanced breakers offer enhanced fire protection capabilities by recognizing when a hazardous arcing situation occurs in a home's wiring and immediately cutting power to the circuit before a fire can develop. According to the NFPA, electrical arcing is the source of ignition in more than 30,000 home fires each year in the United States. These fires cause hundreds of deaths and injuries, and more than \$750 million in direct property damage every year. Traditional circuit breakers, which were first introduced during the 1940s, lack the ability to detect these arcs.

AFCIs save lives and property

by preventing fires rather than just mitigating their damage. The U.S. Department of Housing and Urban Development *Healthy Homes* report cited the absence of AFCIs among the primary causes of residential electrical fire hazards.

Requiring the inclusion of AFCI provisions in state electrical codes will help to ensure that newly constructed homes will enjoy critical fire protection for the duration of occupancy.

Many fire, electrical industry, and public safety organizations actively support code adoption of AFCIs, including: the U.S. Fire Administration; National Association of State Fire Marshals, International Association of Electrical Inspectors and its state and local chapters, U.S. Consumer Product Safety Commission, National Fire Protection Association, and the Independent Electrical Contractors

Association, among others.

First introduced to the NEC in 1999, AFCIs are hardly considered new technology. Yet, the 2008 NEC has sought to further expand the use of AFCIs by encouraging them to be installed in every room of the house. During the past year alone, 27 other states have voted to expand or maintain existing requirements for AFCI installation at the state level.

AFCIs can commonly be obtained from any local electrical distributor, hardware store, and home improvement center across the country for approximately \$35 each. Depending on the size of a given home, the cost impact associated with installing additional AFCIs in a home is \$140 - \$350 – a truly minimal price to pay to ensure the safety of your family and your property.

## TAMPER RESISTANT RECEPTACLES PREVENT SHOCKS AND BURNS

An analysis of U.S. Consumer Product Safety Commission data found that more than **2,400 children** had been treated in hospital emergency rooms over the last ten years for injuries sustained from inserting common household objects into electrical outlets and receptacles.



### Automatic Protection

## Tamper Resistant Receptacles Protect Children

Every year, more than 2,400 children – seven children a day – are treated at hospital emergency rooms for injuries caused by inserting objects such as keys or hairpins into electrical outlets. The vast majority of these incidents involve children under the age of six, with children between the ages of two and three associated with the highest risk.

Fortunately, these injuries can be easily prevented with tamper resistant receptacles (TRRs). These devices look like traditional electrical outlets, but instead they feature receptacle coverplates that are designed to prevent children from sticking foreign objects into outlet slots while still allowing plugs to be inserted and removed as usual. TRRs have proven so effective that they have been required in hospitals and pediatric care facilities for years.

In an effort to reduce the tragic number of child-related injuries from electrical outlets, the 2008 *National Electrical Code* (NEC) now requires that all electrical outlets and receptacles installed in newly constructed homes be tamper resistant. Though some special interest groups have voiced objections to the code revision because of concerns about the expenses incurred by tamper resistant receptacles, these child-safety outlets actually cost only slightly more than the

cost of a comparable traditional receptacle. Official estimates suggest that the increased cost per average new home is less than 50 dollars.

### Internal shutter system

## How Do These Outlets Work?

TRRs are a long overdue addition to the State of Indiana's Residential Code, providing automatic and continuous protection for children throughout the lifecycle of an outlet. These advanced electrical safety devices feature an internal shutter mechanism that only opens when pressure is simultaneously applied to both sides of the shutter, such as when a plug is inserted. Otherwise, the shutter remains closed and cannot be penetrated with objects such as keys, paperclips, or hairpins. TRRs offer permanent, reliable, and automatic protection for children, making them an essential addition to the code for their ability to prevent toddlers from coming into contact with energized components of a home's electrical system.

Statistics confirm that devices such as plastic outlet caps are ineffective deterrents for young children, and can even pose a choking hazard. One study conducted by Temple University's Biokinetics Laboratory reported that 100 percent of children ages 2 to 4 years old were able to remove plastic outlet covers from the sockets in less than ten seconds.

# Q & A

## Should Indiana require AFCIs? Here are a few facts to consider:

*What is going on in Indiana? Why aren't these devices included in the proposed electrical code?*

The State of Indiana's Electrical Code originally included AFCI provisions; however, in 2005 Indiana became the first state in the nation to **remove** AFCI provisions from the Code. The new proposed version of the electrical code and revised residential code which also removes provisions requiring AFCIs and TRRs is currently under consideration by the State of Indiana's State Fire Prevention and Building Safety Commission against the findings delivered by an independent committee established by the Commission last year strongly urging the Commission to keep those life-saving provisions intact.

*Do other organizations and states support the use of AFCIs and TRRs?*

Fire safety officials endorse AFCIs as one of the most important advancements in electrical fire protection today. This technology is also supported by organizations including the U.S. Fire Administration, National Association of State Fire Marshals, International Association of Electrical Inspectors and its state and local chapters, U.S. Consumer Product Safety Commission, National Fire Protection Association, and the Independent Electrical Contractors. During the past year, 28 states have voted in favor of expanding or maintaining existing AFCI provisions in their respective codes.

*Is it more costly to install AFCIs and TRRs in new homes than in existing homes?*

While critics often claim that the installation of AFCI and TRR technology will cost homeowners thousands of additional dollars, a comprehensive cost analysis conducted by ESFI proves otherwise. This analysis was performed by examining the average unit cost of AFCI and TRR devices, and then calculating the number of these devices would be required in a home constructed in compliance with the 2008 edition of the NEC. This cost analysis confirmed that AFCIs and TRRs would add approximately \$340 to the total cost of a building a new 2,100-square-foot home.

*How can I support fire and electrical safety in Indiana?*

To show support for the adoption of AFCI and TRR provisions in the State of Indiana's Electrical Code, contact the Fire Prevention and Building Safety Commission via phone to express your concern. Alternatively, you are encouraged to consider writing a letter to the Commission. Call the Electrical Safety Foundation International at (703) 841-3296 for more details!

*Who is the Electrical Safety Foundation International?*

The Electrical Safety Foundation International (ESFI) is a 501(c)(3) organization dedicated exclusively to promoting electrical safety in the home and the workplace. ESFI proudly sponsors National Electrical Safety Month each May and engages in public education campaigns throughout the year to prevent electrical fires, accidents, and fatalities. To learn more about ESFI and electrical safety, visit [www.electrical-safety.org](http://www.electrical-safety.org).

# Supporting Safety in Indiana

April 2009

Mr. David Hannum  
Commission Chair  
Fire Prevention and Building Safety Commission  
402 West Washington Street, Room W246  
Indianapolis, IN 46204

Dear Mr. Hannum:

As an Indiana resident, I am writing in support of important safety provisions which the 2008 edition of the *National Electrical Code* (NEC) offers, and I strongly encourage the Commission to adopt these provisions which will benefit homeowners in Indiana for decades to come.

One of the most important lifesaving provisions in the new Code relates to arc fault circuit interrupters (AFCI). Arcing faults are the primary source of ignition in an estimated 30,000 home fires each year in the United States. These fires annually kill and injure hundreds of people and cause more than \$750 million in direct property damage. This technology is endorsed by the United States Fire Administration, the National Fire Protection Association, the Consumer Product Safety Commission, and the National Association of State Fire Marshals, as well as other safety and fire fighting organizations across the country. The U.S. Department of Housing and Urban Development's *Healthy Homes* report lists the lack of AFCIs among the primary residential hazards associated with burns and fire-related injuries. With such overwhelming evidence to support the efficacy of AFCIs, a delay in adopting the *2008 National Electrical Code* will result in fires and fatalities that could have otherwise been prevented in Indiana.

The 2008 NEC also contains important provisions relating to tamper resistant receptacles (TRR). Data collected by the Consumer Product Safety Commission (CPSC) shows that in a ten year period more than 24,000 children in the United States had been treated in hospitals for burns and other injuries sustained from contact with electrical outlets. The vast majority of these incidences involved children under the age of six who should have been protected from this type of electrical danger. Tamper resistant receptacles now offer a solution that is simple, affordable, automatic, and permanent.

I strongly encourage you to support the adoption of the latest edition of the *2008 National Electric Code* with its lifesaving AFCI and TRR provisions intact so that communities in Indiana can begin benefitting immediately from the protection they offer.

Best regards,

Name: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

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