WHITE PAPER:

# UPGRADING THE HOME: LUXURY vs. SAFETY

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
Low Voltage Distribution Equipment Section

## Introduction

Getting a positive return on an investment is often the first thing on people's minds when they think about improving a home or selecting upgrades during the home building process.

However, while granite countertops, heated floors, custom-built kitchen cabinets and other luxury upgrades may generate a good return when it comes time to sell, home owners should take a safety-first approach and consider smart upgrades that actually protect their investment and potentially the lives of their loved ones as well as their own.

For example, a highly effective safety upgrade – an arc fault circuit interrupter (AFCI) – has significant potential to save lives and property from the threat of electrical fires, which each year claim approximately 485 lives and cause $868 million in property damage.[1] This staggering loss stresses the importance of making electrical safety a high priority when upgrading a home.

Experts believe AFCIs will have a significant, positive impact on residential electrical safety, and its cost is relatively inexpensive when compared to the hundreds of millions of dollars spent each year on "non-safety related" upgrades.

## Splurging on Upgrades

Upgrades and options are an integral part of the home building and planning process. In addition to getting a good return on investment, homeowners seek to customize their living space with upgrades that reflect their personality and unique lifestyle needs.

Often times, builders provide new home buyers with a blank canvas from which to create their dream home, offering the opportunity for them to upgrade virtually every element of the house from its standard features.

The results of a 2006 survey of real estate transactions found that the amount spent on options and upgrades during new home construction accounts for a significant percentage of a home's total price. On average, new homes built in the U.S. feature an additional 10 percent in luxury upgrades. The survey found, that in 2005, buyers of new homes with a base price under $180,000 added an average of 7.3 percent in optional upgrades. Homes with a base price of $180,000 to $300,000 spent 9.7 percent and homes with a base price of $300,000 and higher added 11.4 percent in optional upgrades.[2]

For example, in Chicago, an average new home sale in 2005 was $295,246, which included approximately $32,105 in upgrades, or 10.9 percent of the total cost. The following table highlights these percentages in other areas of the country surveyed by iNest.[2]

| Market | Base Price | Total Cost | Upgrade Cost | % of Total Cost |
|---|---|---|---|---|
| Baltimore, MD | $321,426 | $366,314 | $44,888 | 12.3 |
| Charlotte, NC | $197,180 | $219,963 | $22,784 | 10.4 |
| Milwaukee, WI | $279,075 | $301,113 | $22,038 | 7.3 |
| Washington DC | $431,991 | $466,942 | $34,951 | 7.5 |
| Fort Meyers, FL | #212,583 | $250,222 | $37,639 | 15.0 |

(iNest; *2006 Survey of New Home Upgrades)*

Today, many people are upgrading their kitchens and/or bathrooms – popular options include skylights, his/her sinks, granite countertops, wet bars, hardwood and/or ceramic floors, stone fireplaces, arched openings and columns, recessed lighting and a vast array of cabinet selections such as wood finishes, unique door styles, crown molding, roll-out drawers, glass doors and decorator knobs.

Homeowners making these popular upgrades can expect to increase costs by thousands of dollars**.** For example, upgrading from the standard laminate countertop to granite may cost in upwards of $50 more per square foot, and upgrading a 12'x12' room with hardwood or ceramic flooring is approximately $1,500-$2,000 extra. Also, an upgrade in kitchen cabinets may reach as high as $16,000 for a custom-made design.

The upgrade trend isn't just reserved for the home building process. Each year, billions of dollars are spent on home remodeling. In fact, the National Association of Home Builders's (NAHB's) industry forecast projects that Americans will spend nearly $233 billion on home remodeling in 2007.[3] The NAHB also reports that in the first 12 months after purchasing a newly-built home, owners spend an average of $8,900 to furnish, decorate and improve it.[4]

In relation to those figures, the Home Improvement Research Institute (HIRI) reports nearly 52 percent of all home buyers complete at least one home improvement project within the first year of purchasing a house.[5]

According to HGTV.com, the online version of Home & Garden Television, the "Top 15 Home Updates" are, in order starting with #1: minor bathroom remodel ($10,000); landscaping ($3,500); kitchen remodel ($15,000); exterior updates - vinyl siding, fresh paint ($7,200); attic bedroom conversion ($40,000); major bathroom remodel ($26,000); major kitchen remodel ($43,000); deck or patio addition ($11,000); basement remodel ($51,000); replacement windows ($9,700); family room ($55,000); office conversion ($13,000); living room décor ($1,500); bedroom updates and living room updates ($1,000).[6]

**Immediate Protection**

When deciding on what upgrades to incorporate into the building or remodeling process, safety should be at the top of the list. Many safety upgrades can be made to the house to counter the threat of fire hazards and one important area not to be overlooked is the home's electrical system.

A national survey of more than 75 million Americans found that one out of four home owners never checks for electrical hazards such as overheated cords, overloaded outlets / circuits or other potentially dangerous conditions.[7] These findings stress the importance of making electrical safety a priority in the building and remodeling process.

Functioning smoke alarms and fire extinguishers are a common and effective safety device found in the home, but are there mainly to alert families of a fire and help them escape without injury. Homeowners should educate themselves about other potential life-saving technologies, such as arc fault circuit interrupters (AFCIs), that actually help to prevent fires from occurring in the first place.

Other experts agree. The U.S. Consumer Products Safety Commission (CPSC) estimates that AFCIs could prevent more than 50 percent of electrical fires[8], and the U.S. Department of Housing and Urban Development[9] lists the technology as a key device in preventing burns and fire-related injuries. AFCIs also have the support of the National Association of State Fire Marshals, the National Electrical Contractors Association, the Electrical Safety Foundation International and other prominent organizations.

The technology may soon gain widespread use. In June, the National Fire Protection Association approved the next edition of the National Electrical Code® (NEC®) which makes AFCIs a requirement in many additional circuits throughout new homes. This new 2008 edition of the NEC® will be published in September 2007. Since the 1999 edition AFCIs were previously only required in bedroom circuits, but now the NEC® is taking homeowner electrical safety one step further.

Opponents of AFCIs, including the National Association of Home Builders (NAHB), have argued that the cost of the AFCI is higher than a standard circuit breaker and, as such, it costs too much for the increased protection provided. Others have argued that since it is a relatively new type of safety device, it does not yet have a field proven history on which to base a decision whether to have it installed or not, or in the builders case, whether or not to recommend it to their buyers.

The truth is, when it comes to cost, AFCIs cost much less than many "non-safety related" upgrades that are typical in a new home. In fact, the cost to homeowners to have builders add this additional protection to the home – in the form of AFCIs – is relatively insignificant when compared to the risk of death and injury caused by electrical fires.

A quick survey of hardware stores and "do-it-yourself" home centers (i.e. Home Depot, Lowes) found AFCIs priced in the $30-$35 range and standard circuit breakers priced between $2 - $4. Using the high-end price of $35.00, the cost differential between AFCIs and the standard circuit breaker is approximately $31-$33. According to a September 2006 article in *Electrical Wholesaling* magazine, the average cost of a 2,500 sq. ft house is $192,846.[10] With the average number of circuits requiring AFCIs being 12, this equates to an approximate cost increase of $372 - $396 to the homeowner, or one-fifth of one percent of the national average cost of that 2,500 sq. ft. home.

When comparing these figures to the hundreds of millions of dollars lost in electrical fires each year, saving a human life or preventing injury or property loss is well worth the cost of additional protection in the home, and certainly well worth the investment.

AFCIs can also be retrofitted to existing homes at a reasonable cost, and this step should be strongly considered as homeowners remodel their current electrical system.

**Bottom Line**

Improving your home with a safety-first approach, including an update of the electrical system, not only protects your investment from potential fire, but it may also save the lives of loved ones. Choosing safety over luxury is one area that should not be overlooked. Unfortunately, in many cases, home buyers are not presented with safety choices that have the potential to actually prevent fires from occurring. A key step in the upgrade process is for builders, electrical contractors, and anyone involved in residential construction to educate the home buyer on potential life-saving devices, such as AFCIs.

**References**

[1] United States Fire Administration, *On the Safety Circuit: A Fact sheet on Home Electrical Fire Prevention*. 2006

[2] iNest Realty, *2006 Survey of New Home Upgrades*

[3] National Association of Home Builders, *2007 Industry Forecast*

[4] Wisconsin Builders Association, *Fast Facts on Housing, General Economic Information from the National Association of Home Builders*
http://www.wisbuild.org/wisbuild/resource+center/fast+facts+on+housing/default.asp

[5] Home Improvement Research Institute (HIRI), 2004

[6] Home & Garden Television, *Top 15 Home Updates*
*http://www.hgtv.com/hgtv/pac_ctnt_988/text/0,,HGTV_22056_52571,00.html*

[7] Insurance Agents & Brokers of America (IIABA), News Release: *National survey finds one out of four homeowners never checks for electrical hazards*. 2004

[8] United States Consumer Products Safety Commission, Memorandum: *Economic Considerations – AFCI Replacements*. March 2003.

[9] United States Department of Housing and Urban Development, Office of Healthy Homes and Lead Hazard Control, *Healthy Homes Issues: Injury Hazards*, Version 3. March 2006.

[10] Home builders report most recent quarterly sales down from a year ago, *Electrical Wholesaling Magazine*, September 2006