



## AFCI Article Sparks Reader Debate

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Your magazine is very informative. I would like to comment on the article by Gerald Winstanley from NEMA, starting on page C34 of the November 2007 issue. The article on arc fault detectors talks about the increased cost of using these breakers. The only increased cost the author cites is arc fault breakers vs. regular breakers.

It seems he forgot that when you install these AFCI breakers you can no longer use a circuit with a common neutral to feed two circuits with one wire (14-3/12-3). So now you have to run a separate 14-2 or 12-2 for each circuit. With the cost of copper being so high, this significantly raises the cost of the job. Of course, increased labor costs are also incurred, because you now have to pull two wires instead of one.

The author also seemed to blow off nuisance tripping. Perhaps he should have consulted people who actually work in the field. We're the guinea pigs for these new devices and have to pay the price with increased callbacks, such as when a customer is upset because the vacuum cleaner keeps tripping the AFCI.

— *Randy Gartner, owner, Randy Gartner Sound, Lighting and Electric, Robesonia, Pa.*

**Author's response:** We appreciate the response from Mr. Gartner. The issue of using a multi-wire branch circuit is a specific wiring practice that is neither required nor prohibited by the National Electrical Code. It's important to point out that this method of wiring branch circuits may be common in limited areas of the country, but is not the most prevalent method of wiring. Where this wiring practice is used, at least one manufacturer has delivered a product to help alleviate the concern about "additional labor" and associated costs through introduction of a 4-wire NM cable that accommodates two separate branch circuits with separate neutrals.

In doing comprehensive reviews of "nuisance trip" claims, it has been found that the most prevalent cause of unwanted tripping is problematic wiring practices that have turned out to be somewhat commonplace. AFCIs detect wiring errors such as crossed neutrals as well as neutrals that have unintentionally made contact with an equipment-grounding conductor — not an uncommon occurrence if the installer is not careful in pushing the switch or receptacle back into a box.

These were generally not detected on circuits without AFCIs, so they are now seen as a "nuisance" because the AFCI has uncovered the wiring error. Manufacturers have been thorough in their follow-up investigations of "nuisance claims." What is often found is that when pursued for details, the claim is suddenly no longer a concern or the issue is resolved. Without solid details, many of these arguments have no substantiation other than pass-along rumors.

To address this concern and to gather useful realistic data, NEMA is offering a new "Unwanted Tripping Report" feature on its Web site ([www.afcisafety.org](http://www.afcisafety.org)) to log these issues and ask questions to help the manufacturers investigate issues — whether product or installation based. The NEMA AFCI manufacturers do want to identify legitimate issues and provide solutions — to the contractors and homeowners. Logged reports on the system will be forwarded to the specific product manufacturer, and a follow-up call will result to further investigate inquiries to derive a satisfactory solution. A secondary benefit will be the ability to uncover potential electronic product or installation patterns that cause repeated issues by tracking the results in aggregate.

The AFCI manufacturers intend to further document and substantiate actual claims to reduce the "opinion" vs. "fact" issues that seem to be rampant about this new life and property-saving technology. I encourage contractors to use this resource to mutually drive residential electrical safety.

— *Gerard Winstanley, technical program manager with the National Electrical Manufacturers Association's Low-Voltage Distribution Equipment section, Rosslyn, Va.*