

City of Lawrence, KS

Electrical Board of Appeals

June 28, 2018 Minutes

BOARD MEMBERS PRESENT:	Verlon Myers, John Delfelder, Chris King, Chairperson Eric Hethcoat, Robert Heacock, Vice-Chair Alben Stilley
MEMBERS ABSENT:	Mike Wessell, Chris King
STAFF PRESENT:	Ex-Officio Adrian Jones – Senior Plans Examiner
PUBLIC PRESENT:	Bobbie Flory Executive Director Lawrence Home Builders Association
ATTACHMENTS:	Letter from Home Builders Association

1. Call to Order

Meeting called to order 11:13 am

Review Minutes

Review Minutes from June 07, 2018.

Myers moved to approve the minutes from June 07, 2018. Second by Delfelder. Motion passed 5-0.

Public Comment

Bobbie Flory addressed the use of Arc Fault circuit interrupters or AFCIs. She said that based on the research done by the National Association of Home Builders they have come to the conclusion that most of the electrical fires are occurring in homes that are 20 years or older. Homes today are built to higher code standards and use better products and as a result are having less electrical fires. AFCIs are less helpful and at the same time there is an extraordinary cost associated with installation. According to research there was \$430,000,000 spent on AFCIs, which is 24 times the cost of fire damage per year caused by electrical devices. The Home Builders Association would like the Board to keep the current amendment to the code to limit the use and installation to bedrooms only in single family and townhome projects. According to research done by the State of Michigan, their conclusion was that there were fewer electrical fires than the research done by the Home Builders Association. She also briefly discussed the nuisance tripping caused by conflicts with electronic devices. Flory said she takes fire safety very seriously.

Delfelder said he would agree with the statements made by Bobbie Flory. He further stated the power supplies in computers have been creating a lot of problems with AFCIs. His company has spent a lot of time troubleshooting it back to the PC.

The Board discussed nuisance tripping by AFCIs

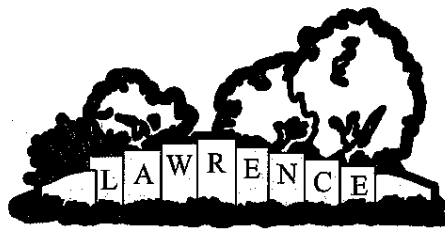
Stilley moved to carry the AFCI amendments forward in the IRC and NEC. Seconded by Myers. Motion passed 5-0.

The Board determined to carry the amendment to Article 210.23 and corresponding provision in the IRC forward. The amendment requires a dedicated circuit for sump pumps.

The Board had a brief discussion on the definition of fixed cabinets as it related to wall space under Article 210.52 as currently amended in the code. The Board determined the current amendment was not needed and would cause more confusion without providing for more safety.

Stilley moved to strike the amendment and keep the article as written in the code. Seconded by Delfelder. Motion passed 5-0

Myers moved to adjourn. Seconded by Hethcoat. Motion passed 5-0.



Home Builders Association
Building Our Community *STRONGER*

June 28, 2018

To: Electrical Board of Appeals

From: Lawrence Home Builders Association

Re: Arc Fault Circuit Interrupters

LHBA's encourages you to keep the existing amendment related to Arc Fault Circuit Interrupters and not expand AFCIs in single family homes and townhomes. Our position is based on research by the National Association of Home Builders:

- AFCI's were first introduced in the 1999 edition of NEC. The adoption was based on several Consumer Product Safety Commission (CPSC) reports. *However, the number of incidents cited at the time were several times higher than in later reports, and where the data showed that AFCIs would have minimal benefit, the results were ignored.*
 - 1980 – 98 Report: there were approximately 41,000 fires per year that could be attributed to electrical distribution equipment. This equals 10% of all residential fires.
 - 2010 – 12 Report: there were approximately 9,600 fires per year that could be attributed to electrical distribution equipment. This equals 2.7% of all residential fires.
 - Reason for Discrepancy: the 1998 report only referred to “residential” fires, but did not define which specific types of residences were included. The 2012 report clarified that the data included not only single-family and multifamily dwellings, but also mobile and motor homes. Mobile/Motor homes are outside the scope of the NEC.
- Several electrical manufacturers even spoke against the adoption of AFCIs because the electrical problems AFCIs are designed to prevent occur overwhelmingly in **older dwellings**.
 - CPSC study showed that 85% of fires of electrical origin occur in homes that are more than 20 years old. Those homes were built in accordance with the 1965 or earlier editions of the NEC. Since then, changes have been made to both the NEC and product safety standards which mitigate against similar fires in newer homes – ***even as they age.***
 - NEC requires electrical wires not to run less than 1 ¼” from the front edge of the framing members or be protected with a steel plate or other means.

This almost eliminates the chance of wires getting hit by nails or screws because it offers a margin of safety against such damage.

- Wires must be supported at a maximum spacing of 4 ½', a maximum of 12" from an electrical box to reduce vibrations causing the wire to rub where it enters the box.
- Older homes were wired with a very limited number of receptacle outlets, resulting in extensive use of extension cords or improper alterations and additions to the original electrical system. New homes have fire blocking, hardwired smoke alarms and egress windows installed to today's codes, all of which increase the chances of surviving a fire.

Cost: rejecting AFCI's should not be based solely on cost however, it's reasonable to ask if there is a demonstrated need for the requirement or if an acceptable level of safety can be achieved through other, less expensive means.

- The added cost of \$300 - \$400 for AFCIs may not sound like much when compared to the overall cost of a home, but this is only one of many regulations which adds cost for new homebuyers. Every \$838 increase in construction costs adds an additional \$1,000 to the final price of a home. (the average sales price of a Lawrence, KS new home in May was \$355,250.
- Based on the National permit activity for single-family and townhome construction, the total cost to home buyers to install AFCIs is over \$430 million per year. **This is 24 times the cost of damage per year.**

Nuisance tripping: Nuisance tripping continues to be an issue – it is typically due to wiring and incompatible electronic devices. Frequently, the wiring can be solved but the incompatible electric devices are more difficult to address. When this occurs, home owners and/or electricians will remove the AFCI circuit breakers and install standards breakers as a solution.

Conclusion: AFCI requirements in the NEC apply predominantly to new construction, whereas it is in older homes, built to outdated electrical code requirements and using outdated technology, where they would be most effective. Over the decades, numerous changes have been made to both the NEC and product safety standards to help avoid electrical fires in newer homes.