



NAHB
NATIONAL ASSOCIATION
OF HOME BUILDERS



Lawrence Brown, CBO
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Advocacy Group

May 5, 2008

Karen Linner
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Builders Association of Minnesota
525 Park St., Suite 150
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Re: NAHB's position on GFCI protected sump pumps

Dear Ms. Linner:

Thank you for contacting me regarding the National Association of Home Builder's (NAHB) formal position on Ground Fault Circuit Interrupter (GFCI) protection for sump pumps. You indicated that at a meeting of the Minnesota State Board of Electricity on April 25, 2008 one of the board members stated that NAHB supported requiring GFCI protection on sump pumps during the code development process of the 2008 National Electrical Code. He referenced the National Fire Protection Association's A2007 Report on Proposals (see Proposal 2-59 (Log #579 NEC-P02) shown on the following pages). I would like to qualify NAHB's vote on that Proposal and other Proposals related to GFCIs during the ROP stage of development of the 2008 National Electric Code (NEC – NFPA 70).

You need to be aware that the proposal related to an Exception for GFCI protection for to sump pumps was one among over forty (40) proposal related to GFCI protection, many of them to reestablish Exceptions once removed, or to add new Exceptions.

NAHB's original position on these Proposals was to support the proposed Exception for GFCI protection for sump pumps, and those for single/duplex receptacle outlets for permanently installed appliances. This was based on homebuilder's experience with nuisance tripping of refrigerators/freezers and the subsequent loss of expensive food. In the case of a sump pump the concern was possible basement flooding and resulting property loss.

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When the Panel discusses these Proposals, the representatives from the manufacturers of GFCI breakers and receptacles presented testimony that the problem with nuisance tripping is no longer a concern as the appliances manufactured today do not "leak" voltage as they once did. They claimed the previous cause of the nuisance tripping was a slight voltage leak of over 6 mA by the appliance compressor that would cause the GFCI device to automatically trip. Please refer to the Panel Action on Proposal 2-74 shown on the last page of this letter.

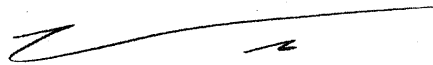
As is evidenced on the following pages of this letter, NAHB expressed its concerns that if the manufacturer's were incorrect as to the assertion that problem no longer exists, the proposed Exceptions should be accepted, or a Task Group be established to research this problem.

No other problems related to false tripping due to other causes was considered. Nor did the manufacturer's representatives raise any other cause as a potential problem. Only testimony related to nuisance tripping and the manufacturing of the appliance was provided.

If my understanding of the problems experienced in Midwest related the false tripping of GFCI devices due to lightening strikes or other phenomenon is correct, then an Exception to require GFCI protection would be appropriate for those appliances where false tripping would pose a potential loss.

Ms. Linner, I hope this information provides the background on NAHB's concerns related to the deletion of the Exceptions for GFCI protection in the 2008 NEC. If you have any questions or required additional information, please do not hesitate to contact me at any of the numbers shown on the bottom of the first page of this letter.

Respectively Submitted,



Lawrence Brown, CBO
Director, Codes and Standards

(The following is from the NFPA A2007 Report on Proposals (ROP) for the 2008 NEC)

Proposal: 2-59 (Log #579 NEC-P02)

Final Action: Reject

Section: (210.8(A)(5) Exception No. 4 (New))

Submitter: Larry T. Smith, National Electrical Seminars

Recommendation: Add new Exception No. 4 to 210.8(A)(5):

Exception No. 4 to (5): A single receptacle supplying a permanently installed sump pump.

Substantiation: Permanently installed sump pumps were excluded from ground-fault circuit-interrupting protection in the 1990 and 1993 versions of the NEC as Exception No. 3. The proposal to delete the sump pump exception was submitted by Robert H. Heis (Log #3398, Proposal 2-139, 1995 ROP). His intent was to include sump pumps under, what was then, new Exception No. 1: A single receptacle or a duplex receptacle for two appliances located within dedicated space for each appliance that, in normal use, is not easily moved from one place to another and that is cord-and-plug connected in accordance with 400.7(A)(6), (A)(7), or (A)(8).

Sump pumps do fit within the loose definition of appliances in Article 422, but are not specifically mentioned by name. I've had numerous reports from wireman and electrical contractors that many AHJs are requiring GFCI protection for sump pumps; the end result is occasional nuisance tripping and flooding. It was apparently not the intent of this Code-Making Panel, in accepting Robert H. Heis's proposal, to require GFCI protection for sump pumps. Restoration of this exception will eliminate, what appears to be, fairly common misinterpretation of this section.

Panel Meeting Action: Reject

Panel Statement: Sump pumps are not incompatible with GFCI protection. There is no technical basis to exempt them from GFCI protection.

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

Comment on Affirmative:

BROWN, L.: Though the discussion during the meeting set out that the old problems with GFIA [sic] nuisance tripping has been solved, I hope the new technology has solved all reasons for the nuisance tripping. The committee may want to reconsider this Proposal and all a sump pump to be non-GFCI protected. As with fire pumps during an emergency fire situation (where the intent of not having overload protection or GFCI protection is to ensure the pump motor can run until it burns up), there are situations where the assurance of the availability of the sump pump needs to be maintained during flooding situations. The fire pump overload and GFCI provisions are located in Section 430.31 FPN, and Section 695.6 (D) and (H).

Proposal: 2-40 (Log #3601 NEC-P02)

Final Action: Accept in Principle

Section: (210.8(A))

TCC Action: The Technical Correlating Committee understands that the Panel Action on this Proposal adds the additional new sentence after the existing sentence in 210.8(A)(5). The Technical Correlating Committee understands that the Panel Action on Proposal 2-41 modifies the Panel Action on this Proposal and reidentifies the existing Exception No. 3 as Exception.

Submitter: Douglas Hansen, Code Check

Recommendation: Eliminate exception number 2 to (2) and eliminate exception number 2 to (5).

Substantiation: The change in 210.8(A)(7) in the 2005 edition has created a contradiction. If a laundry or utility sink is present in a garage or basement, and a clothes washer receptacle is within 6 feet of that sink, it now requires GFCI protection. The existing exceptions are no longer necessary. The present generation of GFCI devices do not have the problems of "nuisance tripping" that plagued the earlier devices.

Panel Meeting Action: Accept in Principle

In addition to deleting the exceptions the following text is to be deleted from 210.8(A)(2) and.

~~"Receptacles installed under the exceptions to 210.8(A)(2) shall not be considered as meeting the requirements of 210.52(G).~~

Revise the current code text in the last paragraph of 210.8(A)(5) to read: "Receptacles installed under the exception s to 210.8(A)(5) shall not be considered as meeting the requirements of 210.52(G)."

Panel Statement: The meeting action taken by the panel correlates with the accepted recommendation to delete the exceptions.

Number Eligible to Vote: 12

Ballot Results: Affirmative: 10 Negative: 2

Explanation of Negative:

BROWN, L.: I sincerely hope, from the discussion by the "experts" on the Panel, that the "problem" of "nuisance tripping" no longer exists. These two Exceptions were developed to address certain and clear needs. The Submitter's Substantiation related the need to delete these Exceptions to the installation of a utility sink and clothes washer. Using Exception #2, it is a refrigerator or freezer located on a GFCI protected circuit in a garage or basement loosing power and spoiling its consumable contents that is still of concern.

PURVIS, R.: The Submitter has not provided sufficient substantiation ("The existing exceptions are no longer necessary") to expand the requirements for GFCIs in dwellings.

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Proposal: 2-74 (Log #457 NEC-P02)
Final Action: Reject
Section: (210.8(B)(2) Exception (New))

Submitter: Amos D. Lowrance, Jr., City of Chattanooga, TN

Recommendation: Add a new exception to read as follows:

Exception: A single receptacle or a duplex receptacle for two appliances located within dedicated space for each appliance that, in normal use, is not easily moved from one place to another and that is cord-and-plug connected in accordance with 400.7(A)(6), (A)(7), or (A)(8).

Substantiation: This change would eliminate the nuisance tripping caused by commercial mixers, refrigerators and freezers that plug in a commercial kitchen. We have had several instances of these appliances causing the GFCI to trip due to motor loading at startup.

Panel Meeting Action: Reject

Panel Statement: The addition of the exception would lessen the requirements and would be counter to the substantiation submitted to the panel that added the requirement. The panel notes that the product standards for such equipment has leakage current limits that are compatible with GFCI protection. If the equipment was tripping the GFCI in question, it likely has leakage current that exceeds the permissible levels in the product standard.

Number Eligible to Vote: 12

Ballot Results: Affirmative: 11 Negative: 1

Explanation of Negative:

BROWN, L.: As I noted in my Ballot Comment Proposal 2-40: I sincerely hope, from the discussion by the "experts" on the Panel, that the "problem" of "nuisance tripping" no longer exists. It appears from the Proposals submitted this cycle the problem still exists. If the Panel needs to have additional information on which to base a rational change, I suggest a Task Group be formed to research this problem prior to the next edition of the NEC.

