



Code Amendment Proposal Application

Department of Consumer & Business Services

Building Codes Division

1535 Edgewater NW, Salem, Oregon

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Read the entire code amendment proposal application before completing this form. Please complete all parts before submitting your proposal and refer to the provided checklist.

APPLICANT INFORMATION

Name: Mike Stone

Date: November 4, 2022

Representing (if applicable): NEMA (Nat'l Electrical Manufacturers Association)

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PROPOSAL INFORMATION

Specialty code: Oregon Electrical Specialty Code

Code section(s): 210.12(A) Exception 2

Briefly explain the subject of your proposal: Delete the exception regarding AFCI protection for branch circuits supplying receptacles located in hallways, kitchens or laundry areas and GFCI protected receptacles installed in dining rooms.

INSTRUCTIONS AND CHECKLIST

Fill in all the information above and submit this page, signed and dated, with the required supplementary information for Parts I, II, III, and IV described on page 2 of this application. This application may be submitted by mail to the mailing address above, or by email to BCD.PTSPtech@oregon.gov.

Summary checklist for the applicant:

- Part I** Code amendment language is attached in the proper format.
- Part II** Amendment proposal requirements for amending the code have been reviewed.
- Part III** Amendment proposal criteria questions have been answered and are attached.
- Part IV** If applicable, additional ORSC energy efficiency amendment proposal information is attached.

Note: One application is required for each code section you are proposing to amend. If this proposal requires changes in other sections of the code for alignment, include those changes as part of this application.

APPLICANT SIGNATURE

Signature: *Mike Stone NEMA* Date: November 4, 2022

Copyright notice: By signing this Code Amendment Proposal Application, I understand and acknowledge that the work contained in this application is original, or if not original, I have the right to copy the work. By signing this work, I understand that any rights I may have in this work, including any form of derivative works and compilations, are assigned to the Department of Consumer and Business Services Building Codes Division. I also understand that I do not retain or acquire any rights once this work is used in a Department of Consumer and Business Services Building Codes Division publication.

Proposal – OESC Section 210.12(A) Exc. 2

1. Describe the concept and purpose of this proposal.

Current and proposed language is as follows (underline indicates proposed language, strikethrough indicates deletion of current language):

~~“Exception No. 2: AFCI protection shall not be required on branch circuits supplying receptacles located in hallways, kitchens or laundry areas and GFCI protected receptacles installed in dining rooms.”~~

This code proposal aligns the Oregon Electrical Specialty Code with the 2023 NEC model code and provides a higher level of life safety for the general public.

2. What problem in the existing Oregon code or national model code is this proposal solving? How does this amendment address the issue? If you have evidence demonstrating the problem, submit that information.

Branch circuits in hallways, kitchens and laundry areas are just as likely to experience an arc fault as circuits in the rest of a dwelling unit and there is no reason to exclude them from AFCI protection. NEMA collaborates with the Association of Home Appliance Manufacturers (AHAM) to ensure that home appliances such as refrigerators and freezers are compatible with AFCI technology. AFCI and GFCI technologies serve different functions. They are entirely compatible with each other. Circuit breaker and wiring device manufacturers both make “dual function” devices that have both AFCI and GFCI protection and can be used in areas such as kitchens and laundries that often require both types of protection. Relying solely on GFCI protection to guard against arc faults is pointless since GFCIs do not provide protection from arc faults or electrical fires, only personnel protection against shock hazard.

Helpful information

- a) If this proposal corrects any unforeseen or probable outcomes resulting from the application of a code section, explain how.

N/A

- b) If this proposal corrects inadequate application by a code section to a method, material or design, explain how.

N/A

- c) If this proposal eliminates conflicting, obsolete, or duplicative code provisions or standards between Oregon-adopted codes, statutes or regulations, explain why.

N/A

- d) If this proposal is for a fire or life safety matter, or is it otherwise needed to protect the health, safety, welfare, comfort and security of occupants and the public, explain why.

It is a fire and life safety matter. AFCI devices are used throughout most of the United States per the NEC and are recognized as a reliable and cost-effective means to prevent devastating electrical fires in residential structures.

- e) If this proposal is necessary to address unique geographic or climatic conditions within Oregon, explain why.

N/A

- f) If there are alternatives to this proposal that solve the problem, explain why this proposal is the best or a necessary solution.

N/A

- g) If this proposal provides for the use of unique or emerging technologies, or promotes advances in construction methods, devices, materials and techniques, explain how.

AFCI protection requirements have been in the NEC since the 1999 edition.

- h) If this proposal meets any energy conservation or indoor air quality requirements, explain how.

N/A

- i) If this proposal involves the adoption of an electrical or plumbing building product, note if the appropriate advisory board approved the product.

N/A

3. Has this been proposed at the national model code level. If so, explain when it was proposed, what happened, and why it was not adopted. Provide all associated national model code hearing information and background.

Yes. This proposal aligns precisely with the model NEC language.

Implementation and fiscal impact

- 1. Explain how the proposed provisions would be enforced? Are additional inspections or permits required? Describe any necessary equipment, training, tests or special certifications.**

AFCI installations are typically inspected during rough and final wiring inspections.

- 2. What is the fiscal impact of this proposal? Provide a cost benefit analysis and include the resources or methods you used to determine the fiscal impact.**

See item (c) under “Helpful information” below.

Helpful information

- a) **If this proposal adds to the cost of construction, explain how the added cost contributes to the health and safety of occupants, or is necessary to conserve scarce resources.**

The added cost of AFCI protection contributes to the health and safety of occupancies by protecting against injuries and fatalities from electrical fires caused by arc faults. AFCI protection has been required by the NEC since the 1999 edition.

- b) **If there are any other adverse fiscal impacts or cost savings passed on to the general public, the construction industry, local and state governments, and small businesses, an interested person must describe the added or reduced cost of a proposed code amendment, and describe the adverse fiscal impact or cost savings in relation to the current Oregon specialty code.**

See item (c) below.

- c) **If this proposal will affect the cost of development of a detached single-family dwelling, please indicate the cost. For the purposes of illustrating the change on the cost, please use a 6,000-square-foot parcel and the construction of a 1,200-square-foot detached single-family dwelling on that parcel. The information on the cost must be sufficient to assist the division in preparing a housing cost impact statement.**

Adoption of this proposal would affect the cost of development of a newly constructed single-family dwelling by adding requirements for AFCI protection in kitchens and the laundry area. For a 1,200 square-foot dwelling, two 20-ampere small-appliance circuits, one 15-ampere kitchen lighting circuit and one 20-ampere laundry circuit, for a total of four additional circuits are required to have AFCI protection. If an estimated cost of \$45.00 is assumed for an AFCI device, the total added cost is $\$45.00 \times 4 = \170.00 . Labor costs for the installation of the AFCI devices is the same as standard devices. Receptacle outlets in kitchens and laundry areas also require GFCI protection per NEC 210.8. Dual function devices that provide both AFCI and GFCI protection are available for \$60.00 – 70.00. There is no additional cost for AFCI protection for hallway receptacles since they are typically fed from branch circuits supplying adjacent bedrooms or a living room which are already required by the OESC to have AFCI protection.

Impacted stakeholders and other specialty codes

1. **It is important that proposals be shared with stakeholders that will be impacted by them. Was this proposal developed with people or organizations likely to be affected by it? Has it been**

reviewed or shared with people or organizations likely to be affected by it? If so, who, and if not, why not?

This proposal was developed by NEMA members and staff. It aligns with the model NEC and has been reviewed by the respective Code Making Panel members and stakeholders during NEC development processes since the 1999 edition.

2. Does this proposal impact other specialty codes or statewide programs?

No.