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MEMORANDUM

TO: Code-Making Panel 7

FROM: Sarah Caldwell, *Technical Committee Administrator*

DATE: October 24, 2019

SUBJECT: NEC® Proposed TIA No. 1474 **PRELIMINARY TC BALLOT RESULTS**

According to 5.6(a) in the NFPA *Regs*, the preliminary results show this TIA **HAS** achieved the ¾ majority vote needed on both Ballot Item No. 1 (**Technical Merit**) and Ballot Item No. 2 (**Emergency Nature**).

16 Eligible to Vote
0 Not Returned

Technical Merit:

0 Abstentions
 15 Agree (w/comment: *Elliott, Loftis*)
 1 Disagree (*Rood*)

Emergency Nature:

0 Abstentions
 15 Agree (w/comment: *Loftis*)
 1 Disagree (*Rood*)

There are two criteria necessary to pass ballot [(1) simple majority (2) affirmative ¾ vote]. Both questions must pass ballot in order to recommend that the Standards Council issue this TIA.

(1) In all cases, an affirmative vote of at least a simple majority of the total membership eligible to vote is required.

$$[16 \text{ eligible} \div 2 = 8 + 1 = \mathbf{(9)}]$$

(2) The number of affirmative votes needed to satisfy the ¾ requirement is **12**.
 (16 eligible to vote - 0 not returned - 0 abstentions = 16 × 0.75 = 12)

Ballot comments are attached for your review.

This proposed TIA has been published for public comment in the October 2019 issue of *NFPA News* with a Public Comment Closing Date of November 7, 2019. Any public comments received will be circulated to the committee. The Standards Council will consider the issuance of this TIA.

NFPA 70®-2020 Edition

National Electrical Code®

TIA Log No.: 1474

Reference: 551.71(F)

Comment Closing Date: November 7, 2019

Submitter: Wade Elliott, Utility Services Group, Inc.

www.nfpa.org/70

1. Revise 551.71(F) to read as follows:

551.71(F) GFCI Protection.

~~All 125-volt, single-phase, 15- and 20-ampere receptacles shall have listed ground-fault circuit-interrupter protection for personnel. The GFCI devices used in RV site electrical equipment shall not be required to be weather or tamper resistant in accordance with 406.9 and 406.12.~~

~~Informational Note: The percentage of 50-ampere sites required by 551.71 could be inadequate for seasonal recreational vehicle sites serving a higher percentage of recreational vehicles with 50-ampere electrical systems. In that type of recreational vehicle park, the percentage of 50-ampere sites could approach 100 percent.~~

Ground-fault circuit-interrupter protection shall be provided as required in 210.8(B). GFCI protection shall not be required for other than 125-volt, 15- and 20-ampere receptacles used in recreational vehicle site equipment.

Informational Note No. 1: Appliances used within the recreational vehicle can create leakage current levels at the supply receptacle(s) that could exceed the limits of a Class A GFCI device.

Informational Note No. 2: The definition of *Power-Supply Assembly* in 551.2 and the definition of *Feeder* in Article 100 clarifies that the power supply cord to a recreational vehicle is considered a feeder.

Substantiation:

The 2017 NEC included changes in Section 210.8 and CMP 7 did not have the opportunity to review and Correlate with Article 551 concerning the requirement of GFCI protection on 30- and 50- ampere receptacles in RV site equipment. This has introduced ambiguity about the application of 2017 NEC Section 210.8 new GFCI requirements with respect to 30- and 50- ampere receptacles supplying RV's. In numerous cases where the 2017 Code is in use debate has surfaced as to the applicability of the 210.8 requirements and has caused projects to be cancelled or shut down as a result.

During the 2020 Code cycle CMP 7 addressed the issue during both the First and Second Draft sessions. The panel, by votes of over 80% in both cases, determined that Section 210 requirements do not apply to the 30- and 50- ampere receptacles as these are considered feeders per the definition of a feeder in Article 100 and the definition of a Power Supply Assembly at Section 551.2. Furthermore, if GFCI protection were to be placed on the 30- and 50- ampere feeders the accumulative allowed GFCI leakage may exceed the limits of a Class A GFCI device.

This TIA seeks to return to Section 551.71 language contained in SCR 30 created by the NEC Correlating Committee with an additional sentence reinforcing the Feeder – Power Supply Assembly relationship of the 30- and 50- ampere power in RV Site Equipment.

By accepting the TIA the Code will be relieved of the ambiguous Code language and unnecessary GFCI protection of feeders. Of further concern is of the actions that users would perform to keep power on a circuit if a 30- or 50- amp device were to trip on GFCI. A common action is to clip off the ground pin on the feeder cord to the RV.

Further, waiting for the 2023 cycle keeps the ambiguity and potentially unenforceable nature of the 2017 Code in place for another three years.

Additionally, lost in the reverting back to the 2017 NEC language for the 2020 Code making process was an editorial move to 551.71(A) during the First Draft of the requirement for the 20 ampere receptacles to be weather resistant.

Emergency Nature: The NFPA Standard contains a conflict within the NFPA Standards or within another NFPA Standard. The proposed TIA intends to correct a circumstance in which the revised NFPA Standard has resulted in an adverse impact on a product or method that was inadvertently overlooked in the total revision process or was without adequate technical (safety) justification of the action.

The emergency nature of this TIA is to fix serious correlation issues that would exist for the *Code* user whether you are an installer or enforcer. Due to the results of the rejection of CAM70-36 by CMP-7; and the reversion of 551.71(F) to 2017 Code Language; an inconsistency now exists with other Special Occupancies in Chapter 5. CMP-7 is still under the impression that the result of the rejection of CAM 70-36 should have resulted in reverting back to First Draft language (*last point of consensus*) rather than reverting back to 2017 *NEC* text.

This TIA is to adopt the language that was approved by CMP-7 and the Coordinating Committee during their meetings for the 2020 *NEC*.

In all of the other Articles that are under the purview of CMP-7 where a power supply cord is used, the supply cord is considered a feeder and there are no requirements for Class A GFCI protection. Feeder conductors being extended to a marina-receptacles need to be protected at the 100 mA level, but this is ground-fault protection (GFP) of equipment, not Class A GFCI protection.

From the outset of the 2020 *NEC* revision cycle, the goal of CMP-7 was to remove the wide interpretation of 551.71(F) that existed in the 2017 *NEC* as a result of the then new requirements of 210.8(B). Without this TIA, we are right back to square one with inconsistent interpretation at 551.71(F).

Consider other Articles under CMP-7 purview: All of the reference *NEC* sections below would allow a cord and plug assembly without Class A GFCI protection.

545.22 Power Supply (A) Feeder. *The feeder shall include four insulated color-coded conductors, one of which shall be an equipment grounding conductor. The equipment grounding conductor shall be permitted to be uninsulated if part of a cable assembly.*

Informational Note: For temporary installation of feeder conductors see Article 590.

550.2 Feeder Assembly. *The overhead or under-chassis feeder conductors, including the grounding conductor, together with the necessary fittings and equipment or a power-supply cord*

listed for mobile home use, identified for the delivery of energy from the source of electrical supply to the panelboard within the mobile home.

550.10 Power Supply. (A) Feeder. *The power supply to the mobile home shall be a feeder assembly consisting of not more than one listed 50-ampere mobile home power-supply cord or a permanently installed feeder.*

552.43 Power Supply. (A) Feeder. *The power supply to the park trailer shall be a feeder assembly consisting of not more than one listed 30-ampere or 50-ampere park trailer power-supply cord, with an integrally molded or securely attached cap, or a permanently installed feeder.*

In all of these examples, the *Code* language clearly states that these power-supply cords are feeders and were never intended to have Class A GFCI protection. CMP-7 was very diligent and intentional with treating the installation in an RV Park the same. As determined by our predecessors on CMP-19, and now CMP-7, the installation of these conductors would be installed as a feeder as defined in Article 100, and not treated differently between the articles.

Finally, a change in the 2017 Code Language was not coordinated with (then) CMP-19 (now CMP-7) to allow this technical committee to insert language modifying or amending 210.8(B) for RV Site Equipment. CMP-19 should have had the option to either assert our ability to Modify or Amend 551.71 or to clarify that the 30- and 50- amp circuits are in fact feeders according to Article 100 and supported by 551.2 (Power Supply Assemblies) during the 2017 cycle.

- A. The standard contains an error or an omission that was overlooked during the regular revision process.**
- B. The NFPA Standard contains a conflict within the NFPA Standard or with another NFPA Standard.**
- C. The proposed TIA intends to correct a previously unknown existing hazard.**
- D. The proposed TIA intends to offer to the public a benefit that would lessen a recognized (known) hazard or ameliorate a continuing dangerous condition or situation.**
- E. The proposed TIA intends to accomplish a recognition of an advance in the art of safeguarding property or life where an alternative method is not in current use or is unavailable to the public.**
- F. The proposed TIA intends to correct a circumstance in which the revised NFPA Standard has resulted in an adverse impact on a product or method that was inadvertently overlooked in the total revision process or was without adequate technical (safety) justification for the action.**

QUESTION NO. 1: I AGREE with the TECHNICAL MERITS of the Proposed TIA Log No. 1474 to Revise 551.71(F).

Eligible to Vote: 16

Not Returned : 0

Vote Selection

Agree

Michael L. Zieman

Doug Mulvaney

Bruce A. Hopkins

L. Keith Lofland

Jorge L. Arocha

Wesley L. Wheeler

Wade Elliott

Dave Watson

Ryan Hyer

Robert J. Fick

Richard A. Paredes

Clifford Norton

Thomas R. Lichtenstein

Joseph R. Chandler

Gary Dale Loftis

Disagree

Votes Comments

15

Agree

Agree

Agree

Agree

Agree with all the comments made

Agree

Agree, I also note a comment by another panel member stating that: “Many RV Pedestals are sold each year with GFCI protection of 30A and 50A receptacles...”. My Comment to that statement: No one makes an RV pedestal with 30 &/or 50 amp GFCI protection in or for the USA market. So no one is selling or buying them.

Agree

Agree

agree

Agree

Agree

Agree

Agree

I agree that 4 to 6 mA Class A protection is too sensitive for a RV. Also, 551 requires GFCI protection where needed on 15A & 20A 120V receptacles that will protect people when using these receptacles in wet locations.

1

Stephen G. Rood

Negative vote and maintaining the NEMA comment from CAM 70-36: The proposed NEC change does not address the “hot skin” effect on mobile homes. People may be exposed to electrical shock with this code change. Many RV Pedestals are sold each year with GFCI protection of 30A and 50A receptacles and have no issues.

Abstain

0

QUESTION NO. 2: I AGREE that the subject is of an EMERGENCY NATURE for one or more of the reasons noted in the Instructions box.

Eligible to Vote: 16

Not Returned : 0

Vote Selection

Agree

Votes Comments

15

Michael L. Zieman

B

Doug Mulvaney

My letter selections are B and F.

Bruce A. Hopkins

B

L. Keith Lofland

D

Jorge L. Arocha

B

Wesley L. Wheeler

B

Wade Elliott

B,F

Dave Watson

B

Ryan Hyer

B

Robert J. Fick

F

Richard A. Paredes

Agree

Clifford Norton

D. The proposed TIA intends to offer to the public a benefit that would lessen a recognized (known) hazard or ameliorate a continuing dangerous condition or situation.

Thomas R. Lichtenstein

Agree

Joseph R. Chandler

Agree

Gary Dale Loftis

The proposed TIA intends to correct a circumstance in which the revised NFPA Standard has resulted in an adverse impact on a product or method that was inadvertently overlooked in the total revision process or was without adequate technical (safety) justification for the action. I agree that letting this issue wait until another code cycle will unnecessarily have a negative affect on the RV industry. In addition, if a RV receptacle is required to be GFCI protected and there is constant tripping of the GFCI device, then there is a potential that unqualified people will be tempted to work on and/or remove the GFCI device.

Disagree

1

Stephen G. Rood

This TIA is not an emergency in nature.

Abstain

0