

## Madani, Mo

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**From:** Amanda Hickman <amanda@thehickmangroup.com>  
**Sent:** Tuesday, December 6, 2022 12:12 PM  
**To:** Amanda Hickman  
**Subject:** Modification 10149 - GFCI  
**Attachments:** PastedGraphic-5.png; GFCI Mod 10149.docx; GFCI NFPA TIA mod 10149.pdf

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Dear Commissioner,

On behalf of Leading Builders of America (LBA), I respectfully ask for your consideration in this matter. In order to protect Florida against GFCI nuisance tripping on HVAC equipment, I have requested that modification 10149 be pulled from the consent agenda for the December meeting. This modification and the simplified version provided in the attached Word document is a critical update if Florida is to avoid the very serious issue of GFCI nuisance tripping which is embedded in the 2020 NEC- that Florida is set to adopt.

The original modification 10149 (not the alternative language), and the simplified language in the attached Word document amends the 2020 NEC where it is referenced in Florida code language for residential construction. By providing an exception for listed HVAC equipment, GFCIs will not be required on outdoor outlets for this equipment. This is consistent with the TIA issued by NFPA's Standard Council as well as Mo Madani's guidance on how to appropriately reference this TIA language in the code.

In addition to the language that I am requesting that you consider, I have also attached the letter and TIA issued by the NFPA Standards Council regarding this issue.

Thank you for your consideration.

Sincerely,

Amanda Hickman

President/Consultant

\*\*\*Please Note New Address Below\*\*\*

1140 NW 95th Avenue  
Plantation, FL 33322  
P: 954-610-4636

**Modification 10149 Updated language:**

***Part IX—Referenced Standards***

**NFPA**

70—17 20 National Electrical Code with TIA 20-19 (SC 22-8-16 / TIA Log #1653)  
R324.3, R328.2, R328.5, R905.16, R907.1, G2411.2.4, E3401.1, E3401.2, E3401.4

**SECTION E3408**  
**GFCI PROTECTION**

TIA 23-3  
(SC 22-8-17 / TIA Log #1654)

1. Revise paragraph 210.8(F) to read as follows:

**210.8(F) Outdoor Outlets.**

For dwellings, all outdoor outlets, other than those covered in 210.8(A), Exception No. 1, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection:

- (1) Garages that have floors located at or below grade level
- (2) Accessory buildings
- (3) Boathouses

If equipment supplied by an outlet covered under the requirements of this section is replaced, the outlet shall be supplied with GFCI protection.

**Exception No. 1:** GFCI protection shall not be required on lighting outlets other than those covered in 210.8(C).

**Exception No. 2:** GFCI protection shall not be required for listed HVAC equipment. This exception shall expire September 1, 2026.



Dawn Michele Bellis  
Secretary, Standards Council

26 August 2022\*

To: Interested Parties

Subject:

Standards Council Decision (Final):	<b>D#22-12</b>
Standards Council Agenda Item:	<b>SC#22-8-16-d, e, and f</b>
Date of Decision:	12 August 2022
TIA Nos. 1653, 1654, 1656 and 1657 to NFPA 70®, <i>National Electrical Code</i> ®, 2020 and 2023 Editions	

Dear Interested Parties:

At its meeting of August 10-12, 2022, the Standards Council considered an appeal on the above referenced matter. The Council's Final decision is now available and is attached herewith.

This decision has been revised on page 2 in the paragraph beginning with "Appellant raised the concerns..."

Sincerely,

A handwritten signature in black ink that reads "Dawn Michele Bellis".

Dawn Michele Bellis  
Secretary, NFPA Standards Council

cc: S. Everett, S. Gallagher, C. Duffy, J. Sargent  
Members, NEC Code-Making Panel 2 (NEC-P02)  
Members, NEC Correlating Committee (NEC-AAC)  
Members, NFPA Standards Council (AAD-AAA)  
Individuals Providing Appeal Commentary

\*NOTE: Participants in NFPA's standards development process should know that limited review of this decision may be sought from the NFPA Board of Directors. For the rules describing the available review and the method for petitioning the Board for review, please consult section 1-7 of the Regulations Governing the Development of NFPA Standards and the NFPA Regulations Governing Petitions to the Board of Directors from Decisions of the Standards Council. Notice of the intent to file such a petition must be submitted to the Clerk of the Board of Directors within 15 calendar days of the publication date of this Decision.



Standards Council Decision (Final):	<b>D#22-12</b>
Standards Council Agenda Item:	<b>SC#22-8-16-d, e, and f</b>
Date of Decision:	12 August 2022

TIA Nos. 1653, 1654, 1656 and 1657 to NFPA 70®, <i>National Electrical Code</i> ®, 2020 and 2023 Editions
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**SUMMARY OF ACTION (for convenience only; not part of official decision):** The Standards Council voted to uphold the appeals requesting Council to overturn the ballot results for TIA Nos. 1653 and 1654, on NFPA 70®, *National Electrical Code*®, 2020 and 2023 Editions as processed, and not issue TIA Nos. 1656 and 1657 which processed simultaneously on the same affected section (§210.8(F)).

**DECISION:**

At its meeting of August 10-12, 2022, the Standards Council considered appeals from three appellants: William Koffel representing the Leading Builders of America (LBA), Mary Koban, Air-Conditioning, Heating, and Refrigeration Institute (AHRI), and David Bixby, Air Conditioning Contractors of America (ACCA). These appellants request that the Standards Council overturn the ballot results and recommendations of Code-Making Panel 2 (“CMP 2”) and the NEC Correlating Committee (“CC”). If upheld, the result of the Council’s action would be to issue TIA Nos. 1653 and 1654 and not issue TIA Nos. 1656 and 1657 on the 2020 and 2023 editions of NFPA 70. Specifically, the appeals request that the Standards Council issue TIA Nos. 1653 and 1654 which revise section 210.8(F) and Exception No. 2(new).

As background, the text of §210.8(F), and the subject of ground fault circuit interruptor protection for outdoor HVAC equipment, has been at the heart of multiple processed TIAs<sup>1</sup>, as well as extensive Task Group work since issuance of the 2020 Edition of NFPA 70. During that period, Council reviewed 5 TIAs seeking to amend §210.8(F) within the 2020 Edition of the NEC: only one of which, TIA No. 1593, passed ballot. When TIA No. 1593 came before Council for issuance at its August 2021 meeting, it was the subject of appeal by multiple parties. While the Council did issue TIA No. 1593, in part of its decision on that appeal, the Council directed the formation of a Task Group of affected stakeholders “to evaluate and reach an informed, technically substantiated resolution to the issues raised [in the appeal].” The Council also encouraged the Task Group to submit a TIA, if appropriate.

In accordance with that direction, a Task Group was formed and included members from the HVAC industry, home builders industry, U.S. Consumer Product Safety Commission, GFCI manufacturers, as well as some members of CMP 2 and the NEC correlating committee. This Task Group developed TIA Nos. 1653 and 1654, which were supported by a simple majority of the Task Group members and submitted with Task Group approval by appellant William Koffel for processing. A minority of the Task Group members, however, favored different language and submitted TIA Nos. 1656 and 1657 for processing simultaneously: providing optional language for the responsible CMP’s consideration.

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<sup>1</sup> TIA No. 1593, issued by Council at its August 2021 meeting, was one of four TIAs presented to the Council on section 210.8(F) for action at that meeting (three of which failed to achieve the necessary support of both CMP 2 and the CC). Additionally, a fifth TIA was processed and presented to Council at its December 2020 meeting, (TIA No. 1529 which failed to achieve the necessary support of the CC by one vote on emergency nature).

The four TIAs subject to this appeal were balloted by CMP 2 and the CC in accordance with the *Regulations Governing the Development of NFPA Standards (Regs)* to determine whether the necessary three-fourths majority support was achieved on technical merit, emergency nature, and correlation for recommendation of issuance. Two of the TIAs—TIA Nos. 1653 and 1656—were processed on the 2020 Edition, while the two remaining TIAs at issue—TIA Nos. 1654 and 1657—were processed concurrently on the 2023 Edition. TIA Nos. 1653 and 1654 each failed to achieve the necessary support of CMP 2 on technical merit, but achieved the necessary support on emergency nature, while achieving support of the CC on correlation<sup>2</sup>. TIA Nos. 1656 and 1657 each achieved the necessary support of CMP 2 on both technical merit and emergency nature, as well as achieving support of the CC on correlation.

The text of TIA Nos. 1653 and 1654 subject to this appeal did not gain sufficient  $\frac{3}{4}$  CMP support within the standards development process for inclusion in the 2020 and 2023 Editions of NFPA 70, respectively. On appeal, the Council accords great respect and deference to the NFPA standards development process. In conducting its review, the Council will overturn the results of that process only where a clear and substantial basis for doing so is demonstrated.

In reviewing the full record, the Appellants renewed some of the concerns Council has heard in the prior appeal, including the practical impact of yet unresolved interoperability issues between GFCI and HVAC equipment. Additionally, the ballots on TIA Nos. 1653 and 1654 reflect that CMP 2 agreed that “emergency nature” is met, however, each ballot failed on technical merit by a single vote. The Council found that the Task Group accomplished its charge, which was to bring diverse and materially affected interests together to seek resolution of the technical concerns presented in the appeal on a narrow issue within CMP 2’s scope. In the present case of dueling TIAs, and in light of the Task Group’s work, the Council found the Task Group’s TIAs to reflect the closest point of agreement to address this controversial matter.

Appellants raised the concern that as of the date of the hearing, there was no HVAC industry representation on CMP 2, but simultaneously acknowledged the difficulty to find interested parties to participate given the broad scope of CMP 2<sup>3</sup>. That said, the Council recognized that by expanding GFCI protection requirements, Article 210 now impacts parties, such as the HVAC industry, in new ways. The Council agreed with the Appellant that it is therefore important to expand CMP 2 membership to add additional parties who may now be directly impacted by Article 210. Council encourages the participants and other members of the HVAC industry to apply for membership on CMP 2. Also, Council directs NFPA staff to call for additional members to CMP 2 in other interest classifications as well. (See D#22-10 for a similar direction regarding a call for members on CMP 2).

The Council has reviewed the entire record concerning this matter and has considered all the arguments put forth in this appeal. In the view of the Council, this appeal does present a clear and substantial basis upon which to overturn the results yielded by the NFPA standards development process. Accordingly, the Council has voted to uphold the appeal. The effect of this action is that the NFPA 70, *National Electrical Code* (2020 and 2023 editions) will include the text of TIA Nos. 1653 and 1654, rather than the text of TIA Nos. 1656 and 1657.

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<sup>2</sup> During the hearing, it was noted by Appellants and acknowledged by Council that although TIA Nos. 1653 and 1654 did not achieve support of  $\frac{3}{4}$  of the voting CMP members as required for recommendation of issuance for a TIA, both TIAs did receive support of more than  $\frac{2}{3}$  of the voting CMP members which would have been sufficient to pass the text had it been completed in time for consideration as a Public Comment at Second Draft.

<sup>3</sup> Although CMP 2 did not have representation of the HVAC industry at the time of processing the TIAs at issue nor at the time of the hearing, an application was pending for Council action at the August meeting. As part of the membership actions of Council during the August meeting, the individual applicant representing a single HVAC manufacturer was appointed to CMP 2.

Council Members John Kovacik and Rodger Reiswig recused themselves from the deliberations and vote on the appeal.

Council Members Michael Johnston and Jack Poole were not in attendance during the August 2022 meeting and therefore did not participate in the deliberations and vote on the appeal.



Tentative Interim Amendment

## NFPA® 70®

### *National Electrical Code®*

#### 2020 Edition

**Reference:** 210.8(F) and Exception No. 2(new)

**TIA 20-19**

(SC 22-8-16 / TIA Log #1653)

Pursuant to Section 5 of the NFPA Regulations Governing the Development of NFPA Standards, the National Fire Protection Association has issued the following Tentative Interim Amendment to NFPA 70®, *National Electrical Code®*, 2020 edition. The TIA was processed by the NEC Code-Making Panel 2, and the NEC Correlating Committee, and was issued by the Standards Council on August 12, 2022, with an effective date of September 1, 2022.

1. *Revise paragraph 210.8(F) to read as follows:*

**210.8(F) Outdoor Outlets.**

All outdoor outlets for dwellings, other than those covered in 210.8(A)(3), Exception to (3), that are supplied by single-phase branch circuits rated 150 volts to ground or less, 50 amperes or less, shall have ground-fault circuit-interrupter protection for personnel. ~~This requirement shall become effective on January 1, 2023, for mini-split type heating/ventilating/air-conditioning (HVAC) equipment and other HVAC units employing power conversion equipment as a means to control compressor speed.~~

~~Informational Note: Power conversion equipment is the term used to describe the components used in HVAC equipment that is commonly referred to as a variable speed drive. The use of power conversion equipment to control compressor speed differs from multistage compressor speed control.~~

~~Exception No. 1: Ground-fault circuit-interrupter protection shall not be required on lighting outlets other than those covered in 210.8(C).~~

~~Exception No. 2: Ground-fault circuit-interrupter protection shall not be required for listed HVAC equipment. This exception shall expire September 1, 2026.~~

**Issue Date:** August 12, 2022

**Effective Date:** September 1, 2022

(Note: For further information on NFPA Codes and Standards, please see [www.nfpa.org/docinfo](http://www.nfpa.org/docinfo))

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NATIONAL FIRE PROTECTION ASSOCIATION



Tentative Interim Amendment

## NFPA<sup>®</sup> 70<sup>®</sup>

### *National Electrical Code<sup>®</sup>*

#### 2023 Edition

**Reference:** 210.8(F) and Exception No. 2(new)

**TIA 23-3**

(SC 22-8-17 / TIA Log #1654)

**Note:** Text of the TIA was issued and approved for incorporation into the document prior to printing.

1. *Revise paragraph 210.8(F) to read as follows:*

**210.8(F) Outdoor Outlets.**

For dwellings, all outdoor outlets, other than those covered in 210.8(A), Exception No. 1, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection:

- (1) Garages that have floors located at or below grade level
- (2) Accessory buildings
- (3) Boathouses

If equipment supplied by an outlet covered under the requirements of this section is replaced, the outlet shall be supplied with GFCI protection.

*Exception No. 1: GFCI protection shall not be required on lighting outlets other than those covered in 210.8(C).*

*Exception No. 2: GFCI protection shall not be required for listed HVAC equipment. This exception shall expire September 1, 2026.*

**Issue Date:** August 12, 2022

**Effective Date:** September 1, 2022

(Note: For further information on NFPA Codes and Standards, please see [www.nfpa.org/docinfo](http://www.nfpa.org/docinfo))

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**Proposed Code Modifications**  
USER: Amanda Hickman

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Modification #	E10149
Name	Amanda Hickman
Address	1140 NW 95th Avenue
City	Plantation
State	FL
Zip Code	33322
Email	amanda@thehickmangroup.com
Primary Phone	(954) 610-4636
Alternate Phone	(954) 581-1427
Fax	

Modification Status Pending DBPR Review

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TAC	Electrical
TAC Recommendation	Pending Review
Commission Action	Pending Review
Archived	No

Code Version	2023
Code Change Cycle	2023 Triennial Original Modification 01/04/2022 - 02/15/2022

Sub Code	Residential
Chapter & Topic	Chapter 34 - General Requirements
Section	3408
Related Modifications	10137

Affects High Velocity Hurricane Zone (HVHZ) No

**Summary of Modification**

GFCI nuisance tripping

**Text of Modification**

**SECTION E3408**  
**GFCI PROTECTION**

**E3408.1 NFPA 70-20: National Electric Code, Article 210 (Branch Circuits), Section 210.8, Ground-Fault Circuit-Interrupter Protection for Personnel, is amended to read as follows:**

**210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.** Ground-fault circuit-interrupter protection for personnel shall be provided as required in 210.8(A) through (F). The ground-fault circuit-interrupter shall be installed in a readily accessible location.

... remaining text unchanged

**(F) Outdoor Outlets.** All outdoor outlets for dwellings, other than those covered in 210.8(A)(3), Exception to (3) that are supplied by single-phase branch circuits rated 150 volts to ground or less, 50 amperes or less, shall have ground-fault circuit-interrupter protection for personnel.

*Exception No. 1: Ground-fault circuit-interrupter protection shall not be required on lighting outlets other than those covered in 210.8(C).*

*Exception No. 2: GFCI protection shall not be required for listed and labeled HVAC equipment.*

*Informational Note: See UL 60335-2-40, Household And Similar Electrical Appliances – Safety – Part 2-40:Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers or UL 1995, Heating and Cooling Equipment for product safety standards.(1)*

**Rationale**

This modification adds an exception to the current 2020 NEC language regarding the outdoor GFCI requirement [210.8(F)] for listed and labeled HVAC equipment. This proposed exception is urgently needed to prevent nuisance tripping that has and will continue to pose a serious health and safety risk. The sudden and unexpected loss of HVAC cooling in excessive heat due to a tripped GFCI breaker poses a danger to "at risk" populations. This ever-present risk presents a far greater threat to Floridians than does the isolated, non-code compliant incident that was used to

**Fiscal Impact Statement**

Impact to local entity relative to enforcement of code (553.73(9)(b),F.S.)

Will improve enforcement of code by resolving the unintended safety issue caused by the current GFCI requirement.

Impact to building and property owners relative to cost of compliance with code (553.73(9)(b),F.S.)

Will reduce cost because GFCI are not required for listed HVAC equipment.

Impact to industry relative to the cost of compliance with code (553.73(9)(b),F.S.)

Will reduce cost because GFCI are not required for listed HVAC equipment.

Impact to small business relative to the cost of compliance with code (553.73(9)(b),F.S.)

Will reduce cost because GFCI are not required for listed HVAC equipment.

**Requirements**

Has a reasonable and substantial connection with the health, safety, and welfare of the general public (553.73(9)(a)2,F.S.)

The proposed exception is urgently needed to prevent nuisance tripping that has and will continue to pose a serious health and safety risk.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction (553.73(9)(a)3,F.S.)

Improves the code because the two technologies are not harmonized.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities (553.73(9)(a)4,F.S.)

No, this modification will prevent nuisance tripping and not discriminate against systems of construction.

Does not degrade the effectiveness of the code (553.73(9)(a)5,F.S.)

Will improve the effectiveness of the code by resolving the unintended safety issue caused by the current GFCI requirement.

**History**

Date Submitted 02/15/2022

Date TAC Recommendation Set 02/15/2022

Date Commission Action Set 02/15/2022

DBPR Staff Notes

**Record of Modification**

**There are no records that match the search criteria.**

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