

**NFPA 70®-2017 Edition**

**National Electrical Code®**

**TIA Log No.: 1453**

**Reference:** 210.8 and Informational Note No. 3(new)

**Comment Closing Date: June 27, 2019**

**Submitter:** Megan Hayes, NEMA

[www.nfpa.org/70](http://www.nfpa.org/70)

*1. Revise 210.8 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.

Informational Note No. 1: See 215.9 for ground-fault circuit-interrupter protection for personnel on feeders.

Informational Note No. 2: See 422.5(A) for GFCI requirements for appliances.

For the purposes of this section, when determining the distance from receptacles the distance shall be measured as the shortest path that the supply cord of an appliance connected to the receptacle would follow without piercing a floor, wall, ceiling, or fixed barrier, or without passing through a ~~door, doorway, or~~ window.

Informational Note No. 3: See 400.12 for the requirements covering uses not permitted for flexible cords and cables.

**Substantiation:** In 2017 *NEC*® 210.8, the MEASUREMENT METHOD from sinks [for 210.8(A)(7) and 210.8(B)(5)] and for bathtubs + shower stalls [for 210.8(A)(9)] was intended to be clarified by adding a NEW final paragraph (below) to the existing text. Part of that MEASUREMENT METHOD requirement entailed the use of a flexible cord length (< 6 feet) that would not pass through windows. During First Draft stage, because there may have been concerns by some CMP-2 Members that this wording might be misconstrued as implicit permission to run ACTUAL power supply and extension cords themselves through doorways, where cords could be pinched and damaged by closing doors, the requirement wording was consequently revised to "... without ... passing through a door, doorway, or window" to placate those concerns. A better approach might have been a clarifying Informative Note, such as proposed above, to improve Code readability. 2017 *NEC*® 210.8 presently reads as follows:

For the purposes of this section, when determining distance from receptacles the distance shall be measured as the shortest path the cord of an appliance connected to the receptacle would follow without piercing a floor, wall, ceiling, or fixed barrier, or passing through a **door, doorway, or** window.

Almost immediately upon 2017 *NEC*® publication, electrical contractors' questions sought interpretation as to whether a CABINET DOOR and a CABINET DOORWAY were ALSO encompassed by "... door, doorway, or ...". Because of this ambiguity, NEMA's own advisory position, going back some 2½ years, has been for inquiring electrical contractors to ask their respective local AHJs for their local interpretations as to whether 2017 *NEC*® 210.8 is to be enforced for pedestrian-only doors and doorways versus for both pedestrian+CABINET doors

and doorways. There is much confusion on this issue and interpretational inconsistency in installation and in enforcement due to this 2017 *NEC*® 210.8 ambiguity.

For 2020 *NEC*® 210.8, "door, doorway, or" will be DELETED, in accordance with successful Balloting on First Revision FR-7863 and Second Revision SR-7685. This 2020 wording of the final paragraph of the 210.8 charging text is expected to be revised from 2017 wording as follows:

For the purposes of this section, when determining the distance from receptacles the distance shall be measured as the shortest path the supply cord of an appliance connected to the receptacle would follow without piercing a floor, wall, ceiling, or fixed barrier, or the shortest path without passing through a ~~door, doorway, or~~ window

While the 2020 *NEC*® 210.8 charging text is a significant improvement over the 2017 ambiguous requirement, this revised wording of the measurement method nonetheless is editorially deficient:

- The absence of parallel phrase structure on each side of the second conjunction “or” introduces new ambiguity as to whether a supply cord as the measurement method is used or omitted if the measurement method would otherwise pass through a window. Deletion of that confusing second occurrence of “the shortest path”, added for 2020 *NEC*® 210.8, would restore proper parallel phrase structure; it’s then unambiguous that a supply cord is always used for the referee measurement, where the measurement encounters an intervening fixed barrier, etc., and where the measurement encounters an intervening window.

Accordingly, the proposed charging text for this TIA to the 2017 Edition omits that second occurrence of “the shortest path” added ungrammatically to the 2020 *NEC*® 210.8 charging text.

**Emergency Nature:** 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. 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.

An increased shock hazard may exist due to 2017 *NEC*® 210.8 disallowing receptacle outlets behind cabinet doors and cabinet doorways, thereby omitting GFCI protection at inside-cabinet receptacle outlets. If someone working on a garbage disposer, hot-water tap, or trash compactor inside the cabinet then reaches to a water-filled (or bonded) sink, there’s a shock risk. More importantly, however, during this “gray interpretation” interim since issuance of the 2017 *NEC*® 210.8 revision, there have been a few reported fatalities of people, while soaking in the bathtub, USING their cellphones during recharge via extension cords connected to non-GFCI-protected receptacle outlets (typically in bedrooms and hallways adjacent to the bathroom doorways); the connector ends of extension cords fell into those bathtubs. These fatalities were in homes built prior to 2017 *NEC*® 210.8, but should nonetheless put to rest any countering rationale that an untrained person would not run extension cords through doorways solely because that ACTUAL misapplication is or isn’t implicit in *NEC*® 210.8’s MEASUREMENT METHOD; untrained people don’t read the *NEC*®! The reality for public safety is that if a receptacle outlet, either inside the same room within a cabinet or adjacent through a doorway, is within the 6-foot reach of an extension cord to a bathtub, sink or shower stall, it IS a real-world shock hazard, particularly as cellphone usage and consequent recharging becomes more frequent. GFCI

application should not be questioned on existing construction and renovations, but it is essential to public safety that this measurement method become uniform and unambiguous hereon out, particularly as some jurisdictions move newly to adopt and apply the 2017 Edition of NFPA 70®. While it is acknowledged that many jurisdiction that have previously adopted those older Editions do not automatically adopt issued TIAs, those jurisdictions yet to adopt this Edition would be prudent to adopt this TIA. This proposed TIA is focused upon the 2017 NEC® Edition; there is a “companion” TIA proposal to the 2008 through 2014 Editions based upon NFPA’s website NEC® Edition adoption map; a CONSISTENT and UNAMBIGUOUS measurement method remedy should be applied EXPLICITLY to 210.8 in those NEC® Editions for public safety’s sake.