



National Fire Protection Association

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WORKING DRAFT OF CODE-MAKING **PANEL MEETING OUTPUT**

**CONTENT NOT FINAL –SUBJECT TO REVISION
PRIOR TO LETTER BALLOT AND PUBLICATION OF
FIRST DRAFT REPORT**

Document: National Electrical Code®

Revision Cycle: A2019

Meeting Date: January 8 – 20, 2018

Committee Activity: Input Stage

This is a working draft, prepared by NFPA staff, to record the output generated at the Code-Making Panel's First Draft Meetings. It includes draft copies of the First Revisions and any Global Revisions.

It is being made available to Committee members for the purpose of facilitating early review, particularly for those Committee members who may be seeking input from their respective organizations in preparation for the Letter Ballot of the Committee.

**First Revision No. 7662-NFPA 70-2018 [Definition: Bathroom.]****[100] Bathroom.**

An area including a basin (sink) with one or more of the following: a toilet, a urinal, a tub, a shower, a bidet, or similar plumbing fixtures. (CMP-2)

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Tue Jan 09 13:26:12 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: This change adds clarity to the definition of a bathroom as the term "sink" is used in the definition of a kitchen as well as in other areas of the Code. A sink and a basin may be used interchangeably.

Response Message:

Public Input No. 1136-NFPA 70-2017 [Definition: Bathroom.]

**First Revision No. 8069-NFPA 70-2018 [Definition: Feeder Neutral Conductor]****Annex D, Feeder Neutral Conductor**

(see 220.61)

Because 210.11(B) does not apply to these buildings, the load cannot be assumed to be evenly distributed across phases. Therefore the maximum imbalance must be assumed to be the full lighting load in this case, or 11,600 VA. ($11,600 \text{ VA} / 277\text{V} = 42 \text{ amperes}$.) The ability of the neutral to return fault current [see 250.32(B) *Exception(2)*] is not a factor in this calculation.

Because the neutral runs between the main switchboard and the building panelboard, likely terminating on a busbar at both locations, and not on overcurrent devices, the effects of continuous loading can be disregarded in evaluating its terminations [see 215.2(A)(1) *Exception No. 2*]. That calculation is ($11,600 \text{ VA} \div 277\text{V}$) = 42 amperes, to be evaluated under the 75°C column of Table 310.15(B)(16). The minimum size of the neutral might seem to be 8 AWG, but that size would not be sufficient to be depended upon in the event of a line-to-neutral short circuit fault [see 215.2(A)(1), *second paragraph*]. Therefore, since the minimum size equipment grounding conductor for a 150 ampere circuit, as covered in Table 250.122, is 6 AWG, that is the minimum neutral size required for this feeder.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jan 12 10:07:32 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The term "short circuit" is replaced with the term "fault" to improve consistency.

Response Message:

Public Input No. 1297-NFPA 70-2017 [Definition: Feeder Neutral Conductor]

**First Revision No. 8119-NFPA 70-2018 [Detail]****Section 210.8(A)**

All 125-volt, single-phase, 15- and 20-ampere receptacles installed in the locations specified in 210.8(A)(1) through (10 11) by single-phase branch circuits rated 150 volts to ground or less shall have ground-fault circuit-interrupter protection for personnel.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 16:18:59 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The added wording "supplied by single-phase branch circuits rated 150 volts to ground or less" mirrors what was done in 210.8(B) for clarity and consistency.

Response Message:

Committee Notes:

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	The added phrase "supplied by single-phase branch circuits rated 150 volts to ground or less" is independent of the action on the rest of 210.8.

**First Revision No. 8120-NFPA 70-2018 [Detail]**

210.8(A) Item (5)

Finished and Unfinished portions or areas of the basements not intended as habitable rooms**Submitter Information Verification****Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 16:29:51 EST 2018Make Editorial Changes
Based on Committee
Text**Committee Statement and Meeting Notes**

Committee Statement: Conductive floor surfaces may exist in finished and unfinished basements. Furthermore, basements whether finished or unfinished are prone to moisture including flooding. GFCI protection is now required in all basements of a dwelling unit.

Response Message:

Committee Notes:

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	Item (5) is independent of the action on the rest of 210.8.

Public Input No. 46-NFPA 70-2017 [New Section after 210.8(A)]Public Input No. 599-NFPA 70-2017 [Section No. 210.8(A)]

**First Revision No. 8121-NFPA 70-2018 [Detail]**

210.8(A) Item (11)

(11) Indoor damp and wet locations**Submitter Information Verification****Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 16:32:01 EST 2018Make Editorial Changes
Based on Committee
Text**Committee Statement and Meeting Notes**

Committee Statement: Indoor damp and wet locations was were added as there are indoor locations such as mud rooms that would benefit from having GFCI protection, and there may be such areas in a dwelling where the other locations listed such as within 6 feet of a sink do not apply.

Response Message:

Committee Notes:

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	Item (11) is independent of the action on the rest of 210.8.

Public Input No. 1889-NFPA 70-2017 [Section No. 210.8(A)]

**First Revision No. 8122-NFPA 70-2018 [Detail]**

210.8(A)

Exception to (1) through (3), (5) through (8), and (10): Listed locking support and mounting receptacles utilized in combination with compatible attachment fittings installed for the purpose of serving a ceiling luminaire or ceiling fan shall not be required to be ground-fault circuit-interrupter protected. If a receptacle is integral to the ceiling luminaire or ceiling fan, GFCI protection shall be provided.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 16:36:35 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The locking support and mounting receptacle exception was added where luminaires and ceiling fans would not currently require GFCI protection elsewhere in the NEC. The restriction to supply only luminaires and ceiling fans was added for clarity to not allow a standard receptacle to be fed by a locking support receptacle and thus providing a non GFCI protected receptacle in a location where such protection would be required.

**Response
Message:**

Committee Notes:

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	The exception is independent of the action on the rest of 210.8.

Public Input No. 3886-NFPA 70-2017 [New Section after 210.8(A)]

Public Input No. 1980-NFPA 70-2017 [Section No. 210.8(A)]

**First Revision No. 8123-NFPA 70-2018 [Detail]**

210.8(B)

Exception No. 2 to (5): For receptacles located in patient bed locations of ~~general care~~ (Category 2) (general care) or ~~critical care~~ (Category 1) (critical care) spaces of health care facilities other than those covered under 210.8(B)(1), GFCI protection shall not be required.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 17:14:52 EST 2018**Make Editorial Changes
Based on Committee
Text****Committee Statement and Meeting Notes****Committee Statement:** The category terms were revised to correlate with Article 517 and NFPA 99, Health Care Facilities Code.**Response
Message:****Committee Notes:**

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	The revision to Exception No. 2 to (5) is independent of the action on the rest of 210.8.

**First Revision No. 8124-NFPA 70-2018 [Detail]**

210.8(B)

(8) Garages, accessory buildings, service bays, and similar areas other than vehicle exhibition halls and showrooms**Submitter Information Verification****Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 17:17:09 EST 2018Make Editorial Changes
Based on Committee
Text**Committee Statement and Meeting Notes****Committee Statement:** Accessory buildings pose similar hazards as garages and were added to Item (8) to require GFCI protection of the receptacles.**Response Message:****Committee Notes:**

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	The revision to add accessory buildings in Item (8) is independent of the action on the rest of 210.8.

Public Input No. 1429-NFPA 70-2017 [Section No. 210.8(B)]

**First Revision No. 8125-NFPA 70-2018 [Detail]**

210.8(B)

(10) Unfinished portions or areas of the basements not intended as habitable rooms

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 17:19:54 EST 2018Make Editorial Changes
Based on Committee
Text**Committee Statement and Meeting Notes****Committee Statement:** All unfinished basements require these receptacles to be GFCI protected. The additional verbiage in Item (10) was removed to provide clarity and reduce confusion.**Response Message:****Committee Notes:**

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	Item (10) is independent of the action on the rest of 210.8.

Public Input No. 623-NFPA 70-2017 [Section No. 210.8(B)]

**First Revision No. 8126-NFPA 70-2018 [Detail]**

210.8(B)

(11) Laundry areas**Submitter Information Verification****Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 17:21:14 EST 2018Make Editorial Changes
Based on Committee
Text**Committee Statement and Meeting Notes****Committee Statement:** Laundry areas have been added because the hazards in laundry areas in 210.8(B) are similar to 210.8(A) dwelling units.**Response Message:****Committee Notes:**

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	Item (11) is independent of the action on the rest of 210.8.

Public Input No. 700-NFPA 70-2017 [Section No. 210.8(B)]Public Input No. 4072-NFPA 70-2017 [New Section after 210.8(B)]

**First Revision No. 8127-NFPA 70-2018 [Detail]**

210.8(B)

(12) Bathtubs and shower stalls - where receptacles are installed within 1.8 m (6 ft) of the outside edge of the bathtub or shower stall

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 17:22:28 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: Shower stalls and bathtubs can exist in commercial and industrial locations outside of a locker room or bathroom for a variety of purposes such as decontamination, and safety applications. Devices within six feet of the outside edge of a shower stall or bathtub have similar hazards and now require GFCI protection.

**Response
Message:**

Committee Notes:

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	Item (12) is independent of the action on the rest of 210.8.

Public Input No. 324-NFPA 70-2017 [Section No. 210.8(B)]

**First Revision No. 8128-NFPA 70-2018 [Detail]**

210.8(B)

Exception to (1) through (5), (8), and (10): Listed locking support and mounting receptacles utilized in combination with compatible attachment fittings installed for the purpose of serving a ceiling luminaire or ceiling fan shall not be required to be ground-fault circuit-interrupter protected. If a receptacle is integral to the ceiling luminaire or ceiling fan, GFCI protection shall be provided.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 17:23:31 EST 2018[Make Editorial Changes
Based on Committee
Text](#)**Committee Statement and Meeting Notes**

Committee Statement: The locking support and mounting receptacle exception was added where luminaires and ceiling fans would not currently require GFCI protection elsewhere in the NEC. The restriction to supply only luminaires and ceiling fans was added for clarity to not allow a standard receptacle to be fed by a locking support receptacle and thus providing a non GFCI protected receptacle in a location where such protection would be required.

**Response
Message:****Committee Notes:**

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	The new exception is independent of the action on the rest of 210.8.

[Public Input No. 1984-NFPA 70-2017 \[Section No. 210.8\(B\)\]](#)[Public Input No. 3891-NFPA 70-2017 \[New Section after 210.8\(B\)\]](#)

**First Revision No. 8130-NFPA 70-2018 [Detail]**

210.12(A)

Exception: ~~Where~~ AFCI protection shall not be required for an individual branch circuit to supplying a fire alarm system installed in accordance with 760.41(B) or 760.121(B) is . The branch circuit shall be installed in RMC, IMC, EMT, or steel-sheathed cable, Type AC or Type MC a metal raceway , metal auxiliary gutter, steel-armored cable, Type MC or Type AC, meeting the applicable requirements of 250.118, with metal outlet and junction boxes, AFCI protection shall be permitted to be omitted conduit bodies, and enclosures .

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Panel_2_Detail_FR-8130_210.12_A_leg_changes.docx	For staff use	✓

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 21:02:16 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The only types of raceways not allowed by the current language are LFMC and FMC. Both are made with steel and have similar characteristics as the currently permitted armored cable. The revision adds a reference for a metallic raceway and shortens the list of allowed cables. The requirement for "metal outlet and junction boxes" is too narrow, so a more general statement covering most installations was added to include "metal boxes, conduit fittings and enclosures." The revision also provides further clarity to the exception.

**Response
Message:****Committee Notes:**

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	The revision to Exception No. 1 is independent of the action on the rest of 210.12.

[Public Input No. 3386-NFPA 70-2017 \[Section No. 210.12\(A\)\]](#)[Public Input No. 3228-NFPA 70-2017 \[Section No. 210.12\(A\)\]](#)

**First Revision No. 8131-NFPA 70-2018 [Detail]**

210.12

Informational Note No. 1: For information on combination-type and branch/feeder-type arc-fault circuit interrupters, see UL 1699-2011, *Standard for Arc-Fault Circuit Interrupters*. For information on outlet branch-circuit type arc-fault circuit interrupters, see UL Subject 1699A, *Outline of Investigation for Outlet Branch Circuit Arc-Fault Circuit-Interrupters*. For information on system combination AFCIs, see UL Subject 1699C, *Outline of Investigation for System Combination Arc-Fault Circuit Interrupters*.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 22:05:27 EST 2018[Make Editorial Changes
Based on Committee
Text](#)**Committee Statement and Meeting Notes**

Committee Statement: Informational Note No. 1: The referenced UL 1699C standard was never finalized or adopted and therefore has been removed from the informational note. Informational notes are present for the benefit of the user and having an informational note in this location is appropriate.

**Response
Message:****Committee Notes:**

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	The revision to Informational Note No. 1 is independent of the action on the rest of 210.12.

[Public Input No. 1815-NFPA 70-2017 \[Section No. 210.12\(A\)\]](#)

**First Revision No. 8132-NFPA 70-2018 [Detail]****210.12(D)**

Exception: AFCI protection shall not be required where the extension of the existing branch circuit conductors is not more than 1.8 m (6 ft) and does not include any additional outlets or devices, other than splicing devices . This measurement shall not include the conductors inside an enclosure, cabinet or junction box.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 22:25:25 EST 2018[Make Editorial Changes
Based on Committee
Text](#)**Committee Statement and Meeting Notes**

Committee Statement: CMP-2 reaffirms six feet is adequate and limits the distance but clarifies the distance does not include the conductors in the enclosures. Splicing devices may be used including those that do not require an enclosure without affecting the six foot measurement.

Response Message:

Committee Notes:

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	The revision to exception to 210.12(D) is independent of the action on the rest of 210.12.

[Public Input No. 2982-NFPA 70-2017 \[Section No. 210.12\(D\)\]](#)[Public Input No. 2995-NFPA 70-2017 \[New Section after 210.12\(D\)\]](#)[Public Input No. 507-NFPA 70-2017 \[Section No. 210.12\(D\)\]](#)[Public Input No. 2996-NFPA 70-2017 \[Section No. 210.12\(D\)\]](#)

**First Revision No. 8129-NFPA 70-2018 [Global Input]**

210.8(B)

(2) Kitchens or areas with a sink and permanent provisions for either food preparation or cooking**Submitter Information Verification****Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Sun Jan 14 20:43:36 EST 2018Make Editorial Changes
Based on Committee
Text**Committee Statement and Meeting Notes**

Committee Statement: Additional language clarifies that areas (other than a kitchen) with a sink and either permanent provisions for cooking or food preparation have the same potential for shock hazards as a kitchen.

Response Message:

Committee Notes:

<u>Date</u>	<u>Submitted By</u>	
Jan 14, 2018	NEC-CMP Panel 02	Item (2) is independent of the action on the rest of 210.8.

Public Input No. 3048-NFPA 70-2017 [Definition: Kitchen.]



First Revision No. 7666-NFPA 70-2018 [New Definition after Definition: Guest Suite.]

100, Habitable Room.

A room in a building for living, sleeping, eating, or cooking, but excluding bathrooms, toilet rooms, closets, hallways, storage or utility spaces, and similar areas.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 09 13:38:06 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: This definition aligns with the same term that is used in NFPA 5000, Building Construction and Safety Code and promotes consistency of its use.

Response Message:

Public Input No. 648-NFPA 70-2017 [New Definition after Definition: Guest Suite.]

**First Revision No. 7682-NFPA 70-2018 [New Definition after Definition: Labeled.]****[100] Laundry Area.**

An area containing or designed to contain laundry tray, clothes washer, or clothes dryer.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 09 15:05:44 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The definition of laundry area already exists in 550.2. CMP-2 included the definition in Article 100 to be applicable to the use of the term in articles under the purview of CMP-2.

**Response
Message:**

Public Input No. 36-NFPA 70-2017 [New Definition after Definition: Labeled.]

Public Input No. 37-NFPA 70-2017 [New Definition after Definition: Labeled.]

Public Input No. 4231-NFPA 70-2017 [New Part after I.]

**First Revision No. 7688-NFPA 70-2018 [New Section after 210.1]****210.2 Definitions**

[210.2] Dormitory Unit: A building or a space in a building in which group sleeping accommodations are provided for more than 16 persons who are not members of the same family in one room, or a series of closely associated rooms, under joint occupancy and single management, with or without meals, but without individual cooking facilities.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Tue Jan 09 15:33:29 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: This definition gives clarity to what type of areas are considered dormitory units. The term "unit" is included rather than only using the term "dormitory" as that is how the term is used in the NEC. Use of the definition from NFPA 1 minimizes confusion to the application of the definition and encompasses some text from the other proposed definitions submitted.

Response Message:

Public Input No. 3225-NFPA 70-2017 [New Definition after Definition: Disconnecting Means.]

Public Input No. 3691-NFPA 70-2017 [New Article after 210]

Public Input No. 2806-NFPA 70-2017 [New Definition after Definition: Disconnecting Means.]

Public Input No. 2324-NFPA 70-2017 [New Definition after Definition: Disconnecting Means.]

Public Input No. 3603-NFPA 70-2017 [New Definition after Definition: Disconnecting Means.]

**First Revision No. 7689-NFPA 70-2018 [New Section after 210.8(E)]**

(F) Specific Appliances. Unless GFCI protection is provided in accordance with 422.5(B)(3) through (B)(5), the outlets supplying the appliances specified in 422.5(A) shall have GFCI protection in accordance with 422.5(B)(1) or (B)(2).

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Tue Jan 09 15:40:28 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: This correlates the requirements found in 422.5(B) and refers to the list of appliances in 422.5(A) for continued consistency as the list is modified in future editions.

Response Message:

Public Input No. 2730-NFPA 70-2017 [Section No. 210.8]

**First Revision No. 8104-NFPA 70-2018 [New Section after 220.10]****220.11 Floor Area.**

The floor area for each floor shall be calculated from the outside dimensions of the building, dwelling unit, or other area involved. For dwelling units, the calculated floor area shall not include open porches, garages, or unused or unfinished spaces not adaptable for future use.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Fri Jan 12 16:10:36 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: This is a companion revision to FR-8075 which made changes to Section 220.12 and deleted a certain part of text regarding the floor area calculations used to determine the minimum lighting load. This specific revision relocates the floor area information to new Section 220.11.

Unit loads for dwelling units were relocated from 220.12 to 220.11. As a result, the floor area determination needs to address both 220.12 for non-dwelling occupancies and 220.14(J) for dwelling units. This new section will now allow 220.12 and 220.14(J) to reference a separate independent section for clarity.

Response Message:

Public Input No. 3288-NFPA 70-2017 [New Section after 220.10]

**First Revision No. 8071-NFPA 70-2018 [New Section after 220.14(L)]****(M) Hotel and Motel Occupancies.**

In guest rooms or guest suites of hotels and motels. The lighting and receptacle outlets specified in 220.14(M)(1), (M)(2), and (M)(3) are included in the minimum unit load in Table 220.12. No additional load calculations shall be required for such outlets. The minimum lighting load shall be determined using the minimum unit load and the floor area as determined in 220.11 for hotel and motel occupancies.

- (1) All general-use receptacle outlets of 20-ampere rating or less, including receptacles connected to the circuits in 210.11(C)(3) and 210.11(C)(4)
- (2) The receptacle outlets specified in 210.52(E)(3)
- (3) The lighting outlets specified in 210.70(A) and (B)

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Fri Jan 12 10:17:59 EST 2018**Make Editorial Changes
Based on Committee
Text****Committee Statement and Meeting Notes**

Committee Statement: New Section 220.14(M) clarifies the calculation for lighting and receptacle outlets for hotel and motel occupancies and keeps the calculation process identical to that in the previous NEC edition.

Response Message:

**First Revision No. 7547-NFPA 70-2018 [Section No. 210.11(C)(3)]****(3) Bathroom Branch Circuits.**

In addition to the number of branch circuits required by other parts of this section, ~~at least one or more~~ 120-volt, 20-ampere branch circuit shall be provided to supply the bathroom(s) receptacle outlet(s) required by 210.52(D) and any countertop and similar work surface receptacle outlets. Such circuits shall have no other outlets.

Exception: Where the 20-ampere circuit supplies a single bathroom, outlets for other equipment within the same bathroom shall be permitted to be supplied in accordance with 210.23(A)(1) and (A)(2).

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Mon Jan 08 13:22:43 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The additional text clarifies that the specified receptacles within a bathroom must be supplied by one or more 20 A branch circuits to accommodate the loads typically seen in these areas such as hair dryer, curling irons and other similar equipment.

Response Message:

[Public Input No. 1941-NFPA 70-2017 \[Section No. 210.11\(C\)\(3\)\]](#)

[Public Input No. 2881-NFPA 70-2017 \[Section No. 210.11\(C\)\(3\)\]](#)

[Public Input No. 1494-NFPA 70-2017 \[Section No. 210.11\(C\)\(3\)\]](#)

[Public Input No. 27-NFPA 70-2017 \[Section No. 210.11\(C\)\(3\)\]](#)

**First Revision No. 7549-NFPA 70-2018 [Section No. 210.11(C)(4)]****(4) Garage Branch Circuits.**

In addition to the number of branch circuits required by other parts of this section, at least one 120-volt, 20-ampere branch circuit shall be installed to supply receptacle outlets ~~in~~ required by 210.52(G)(1) for attached garages and in detached garages with electric power. This circuit shall have no other outlets.

Exception: This circuit shall be permitted to supply readily accessible outdoor receptacle outlets.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 08 13:34:36 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The additional text clarifies that the required receptacle of 210.52(G)(1) must be supplied by a 20A branch circuit. The addition of the reference is also consistent with 210.11(C)(1) and (C)(2).

Response Message:

[Public Input No. 3375-NFPA 70-2017 \[Section No. 210.11\(C\)\(4\)\]](#)

[Public Input No. 1492-NFPA 70-2017 \[Section No. 210.11\(C\)\(4\)\]](#)

[Public Input No. 3737-NFPA 70-2017 \[Section No. 210.11\(C\)\(4\)\]](#)

[Public Input No. 643-NFPA 70-2017 \[Section No. 210.11\(C\)\(4\)\]](#)

[Public Input No. 3371-NFPA 70-2017 \[Section No. 210.11\(C\)\(4\)\]](#)

[Public Input No. 368-NFPA 70-2017 \[Section No. 210.11\(C\)\(4\)\]](#)

[Public Input No. 3591-NFPA 70-2017 \[Section No. 210.11\(C\)\(4\)\]](#)

[Public Input No. 912-NFPA 70-2017 \[Section No. 210.11\(C\)\(4\)\]](#)

[Public Input No. 4006-NFPA 70-2017 \[Section No. 210.11\(C\)\(4\)\]](#)



First Revision No. 7916-NFPA 70-2018 [Section No. 210.12(A)]

FOR CODE-MAKING PANEL USE ONLY
SUBJECT TO REVISION - NOT FOR PUBLICATION

(A) Dwelling Units.

FOR CODE-MAKING PANEL USE ONLY
SUBJECT TO REVISION - NOT FOR PUBLICATION

All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas units shall be protected by any of the means described in 210.12(A)(1) through (6) following means :

- (1) A listed combination-type arc-fault circuit interrupter, installed to provide protection of the entire branch circuit
- (2) A listed branch/feeder-type AFCI installed at the origin of the branch-circuit in combination with a listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet box on the branch circuit. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.
- (3) A listed supplemental arc protection circuit breaker installed at the origin of the branch circuit in combination with a listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet box on the branch circuit where all of the following conditions are met:
 - (4) The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.
 - (5) The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor.
 - (6) The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.
- (7) A listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet on the branch circuit in combination with a listed branch-circuit overcurrent protective device where all of the following conditions are met:
 - (8) The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.
 - (9) The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor.
 - (10) The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.
 - (11) The combination of the branch-circuit overcurrent device and outlet branch-circuit AFCI shall be identified as meeting the requirements for a system combination-type AFCI and shall be listed as such.
- (12) If RMC, IMC, EMT, Type MC, or steel-armored Type AC cables meeting the requirements of 250.118, metal wireways, metal auxiliary gutters, and metal outlet and junction boxes are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.
- (13) Where a listed metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 50 mm (2 in.) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.

Exception:-- Where an individual branch circuit to a fire alarm system installed in accordance with 760.41(B) or 760.121(B) is installed in RMC, IMC, EMT, or steel-sheathed cable, Type AC or Type MC, meeting the requirements of 250.118, with metal outlet and junction boxes, AFCI protection shall be permitted to be omitted.

Informational Note No. 1: For information on combination-type and branch/feeder-type arc-fault circuit interrupters, see UL 1699-2011, *Standard for Arc-Fault Circuit Interrupters*. For information on outlet branch-circuit type arc-fault circuit interrupters, see UL Subject 1699A, *Outline of Investigation for Outlet Branch Circuit Arc-Fault Circuit-Interrupters*. For information on system combination AFCIs, see UL Subject 1699C, *Outline of Investigation for System Combination Arc-Fault Circuit Interrupters*.

Informational Note No. 2: See 29.6.3(5) of *NFPA 72-2013, National Fire Alarm and Signaling Code*, for information related to secondary power-supply requirements for smoke alarms installed in dwelling units.

Informational Note No. 3: See 760.41(B) and 760.121(B) for power-supply requirements for fire alarm systems.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Panel_2_FR-7916_210.12_A_leg_changes.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 11 10:04:46 EST 2018

Make Editorial Changes
Based on Committee Text

Committee Statement and Meeting Notes

Committee Statement: 210.12(A): CMP-2 continues the incremental steps to protect the entire dwelling. These remaining circuits now have the protection from arc faults as the rest of the dwelling.

Response

Message:

Committee Notes:

<u>Date</u>	<u>Submitted By</u>
Jan 11, 2018	NEC-CMP Panel 02 210.12(A) main paragraph is stand alone ballot detail and is independent of the action on the rest of 210.12
Jan 14, 2018	NEC-CMP Panel 02 No changes made to Item 3 or 4.
Jan 15, 2018	NEC-CMP Panel 02 several ballotable details on this section

[Public Input No. 4189-NFPA 70-2017 \[Section No. 210.12\(A\)\]](#)

[Public Input No. 1121-NFPA 70-2017 \[Section No. 210.12\(A\)\]](#)

[Public Input No. 3899-NFPA 70-2017 \[Section No. 210.12\(A\)\]](#)

[Public Input No. 1497-NFPA 70-2017 \[Section No. 210.12\(A\)\]](#)

[Public Input No. 4328-NFPA 70-2017 \[Section No. 210.12\(A\)\]](#)

**First Revision No. 7977-NFPA 70-2018 [Section No. 210.12(C)]**

(C) Guest Rooms and , Guest Suites and Patient Sleeping Rooms in Nursing Homes and Limited Care Facilities .

All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets and devices installed in guest rooms and guest suites of hotels and motels and patient sleeping rooms in nursing homes and limited care facilities shall be protected by any of the means described in 210.12(A)(1) through (6).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

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Submittal Date: Thu Jan 11 14:24:51 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: Areas of limited care facilities used exclusively as patient sleeping rooms may be wired in accordance with Chapters 1 through 4 of the NEC per 517.10(B)(2). AFCIs will provide to the occupants of these rooms protection from the danger of arcing faults.

Response Message:

**First Revision No. 7963-NFPA 70-2018 [Section No. 210.12(D)]**

(D) Branch Circuit Extensions or Modifications — Dwelling Units and Dormitory Units, and Guest Rooms and Guest Suites .

~~In Where branch circuit wiring for~~ any of the areas specified in 210.12(A) or (B), ~~where branch-circuit wiring or (C)~~ is modified, replaced, or extended, the branch circuit shall be protected by one of the following:

- (1) ~~A listed combination-type AFCI located at the origin of the branch circuit~~ By any of the means described in 210.12(A)(1) through (A)(6)
- (2) A listed outlet branch-circuit-type AFCI located at the first receptacle outlet of the existing branch circuit

Exception:-- AFCI protection shall not be required where the extension of the existing conductors is not more than 1.8 m (6 ft) and does not include any additional outlets or devices.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

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Submittal Date: Thu Jan 11 13:17:25 EST 2018

Make Editorial Changes
Based on Committee Text

Committee Statement and Meeting Notes

Committee Statement: Guest rooms and suites have been added for consistency. Since any of the methods in 210.12(A)(1) through (6) are viable for AFCI protection they should be allowed for extensions or modifications.

Response Message:

Committee Notes:

<u>Date</u>	<u>Submitted By</u>
Jan 11, 2018	NEC-CMP Panel 02
	210.12(D) main paragraph is stand alone ballot detail and is independent of the action on the rest of 210.12
Jan 15, 2018	NEC-CMP Panel 02
	several ballotable details on this section

[Public Input No. 1498-NFPA 70-2017 \[Section No. 210.12\(D\)\]](#)

[Public Input No. 236-NFPA 70-2017 \[Section No. 210.12\(D\)\]](#)

[Public Input No. 2643-NFPA 70-2017 \[Section No. 210.12\(D\)\]](#)

[Public Input No. 2251-NFPA 70-2017 \[Section No. 210.12\(D\)\]](#)

[Public Input No. 169-NFPA 70-2017 \[Section No. 210.12\(D\)\]](#)

**First Revision No. 8106-NFPA 70-2018 [Section No. 210.13]****210.13** Ground-Fault Protection of Equipment.

Each branch-circuit disconnect rated 1000 A or more and installed on solidly grounded wye electrical systems of more than 150 volts to ground, but not exceeding 600 volts phase-to-phase, shall be provided with ground-fault protection of equipment in accordance with the provisions of 230.95.

Informational Note: For buildings that contain health care occupancies, see the requirements of 517.17.

Exception No. 1: ~~The provisions of this~~ This section shall not apply to a disconnecting means for a continuous industrial process where a nonorderly shutdown will introduce additional or increased hazards.

Exception No. 2: ~~The provisions of this~~ This section shall not apply if ground-fault protection of equipment is provided on the supply side of the branch circuit and on the load side of any transformer supplying the branch circuit.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jan 12 17:31:04 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The phrase "the provisions of" is unnecessary, is redundant and is being deleted to increase usability.

Response Message:

**First Revision No. 9004-NFPA 70-2018 [Detail]****210.19(A)**

Informational Note No. 1: See 310.15 for ampacity and temperature limitations ratings of conductors.

Informational Note No. 2: See Part II of Article 430 for minimum rating of motor branch-circuit conductors.

Informational Note No. 3: See 310.15(A)(3) for temperature limitation of conductors.

Informational Note No. 4 3 : Conductors for branch circuits as defined in Article 100, sized to prevent a voltage drop exceeding 3 percent at the farthest outlet of power, heating, and lighting loads, or combinations of such loads, and where the maximum total voltage drop on both feeders and branch circuits to the farthest outlet does not exceed 5 percent, provide reasonable efficiency of operation. See Informational Note No. 2 of 215.2(A)(1) for voltage drop on feeder conductors

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

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Submittal Date: Tue Jan 30 11:48:05 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The revision to Informational Note No. 1 simplifies and enhances usability of the Code. The word "rating" was removed as it is not appropriate when describing ampacity. Informational Note No. 3 has been incorporated into Informational Note No. 1.

Response Message:

Public Input No. 2140-NFPA 70-2017 [Section No. 210.19(A) [Excluding any Sub-Sections]]

Public Input No. 589-NFPA 70-2017 [Section No. 210.19(A) [Excluding any Sub-Sections]]



First Revision No. 7981-NFPA 70-2018 [Section No. 210.19(A)(1)]

(1) General.

Branch-circuit conductors shall have an ampacity not less than the maximum load to be served. Conductors shall be sized to carry not less than the larger of 210.19(A)(1)(a)

or (b).

or (A)(1)(b) and shall meet the equipment termination provisions of 110.14(C).

(a) Where a branch circuit supplies continuous loads or any combination of continuous and noncontinuous loads, the minimum branch-circuit conductor size shall have an allowable ampacity not less than the noncontinuous load plus 125 percent of the continuous load in accordance with 310.15(B).

(b) The minimum branch-circuit conductor size shall have an allowable ampacity not less than the maximum load to be served after the application of any adjustment or correction factors in accordance with 310.15(B).

Exception No. 1: If the assembly, including the overcurrent devices protecting the branch circuit(s), is listed for operation at 100 percent of its rating, the allowable ampacity of the branch-circuit conductors shall be permitted to be not less than the sum of the continuous load plus the noncontinuous load in accordance with 110.14(C).

Exception No. 2: Where a portion of a branch circuit is connected at both its supply and load ends to separately installed pressure connections as covered in 110.14(C)(2), it shall be permitted to have an allowable ampacity, in accordance with 310.15(B) not less than the sum of the continuous load plus the noncontinuous load. No portion of a branch circuit installed under this exception shall extend into an enclosure containing either the branch circuit supply or the branch circuit load terminations.

Supplemental Information

File Name	Description	Approved
Panel_2_FR-7981_210.19_A_1_leg_changes.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

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Submittal Date: Thu Jan 11 14:49:53 EST 2018

Make Editorial Changes
Based on Committee Text

Committee Statement and Meeting Notes

Committee Statement: A new reference was added reminding the user of the NEC that equipment termination provisions must also be considered when establishing the minimum required conductor.

The parent text is modified to reflect the determinations of ampacity as part of (a) and (b) of this section. The ampacity of the conductor must not be less than the greater ampacity determined as part of (a) and (b) of this section.

Ampacity is the maximum current, in amperes, that a conductor can carry continuously under the

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JANUARY 8 - 20, 2018 - SUBJECT TO REVISION - NOT FOR PUBLICATION

conditions of use without exceeding its temperature rating. The term used in this section should be "ampacity" and not "allowable ampacity" as it is the intent for this section to determine the ampacity of the conductor based upon its conditions of use. The use of the word allowable does not add clarity. "In accordance with 310.15" was added to improve usability and direct the user to the section that governs ampacity of conductors.

Exception 2 has been added to align with 215.2(A)(1)(a).

Response

Message:

[Public Input No. 883-NFPA 70-2017 \[Section No. 210.19\(A\)\(1\)\]](#)

[Public Input No. 1491-NFPA 70-2017 \[Section No. 210.19\(A\)\(1\)\]](#)

[Public Input No. 1666-NFPA 70-2017 \[Section No. 210.19\(A\)\(1\)\]](#)

FOR CODE-MAKING PANEL USE ONLY
SUBJECT TO REVISION - NOT FOR PUBLICATION

**First Revision No. 7984-NFPA 70-2018 [Section No. 210.19(A)(3)]****(3) Household Ranges and Cooking Appliances.**

Branch-circuit conductors supplying household ranges, wall-mounted ovens, counter-mounted cooking units, and other household cooking appliances shall have an ampacity not less than the rating of the branch circuit and not less than the maximum load to be served. For ranges of 8¾ kW or more rating, the minimum branch-circuit rating shall be 40 amperes.

Exception No. 1: Conductors tapped from a branch circuit not exceeding 50-ampere branch circuit ~~amperes~~ supplying electric ranges, wall-mounted electric ovens, and counter-mounted electric cooking units shall have an ampacity of not less than 20 amperes and shall be sufficient for the load to be served. These tap conductors include any conductors that are a part of the leads supplied with the appliance that are smaller than the branch-circuit conductors. The taps shall not be longer than necessary for servicing the appliance.

Exception No. 2: The neutral conductor of a 3-wire branch circuit supplying a household electric range, a wall-mounted oven, or a counter-mounted cooking unit shall be permitted to be smaller than the ungrounded conductors where the maximum demand of a range of 8¾-kW or more rating has been calculated according to Column C of Table 220.55, but such conductor shall have an ampacity of not less than 70 percent of the branch-circuit rating and shall not be smaller than 10 AWG.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Thu Jan 11 15:09:40 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: A lower ampacity branch circuit will reduce the rating of the overcurrent protective device for that circuit, which provides better protection of the tap conductors.

Response Message:

Public Input No. 1495-NFPA 70-2017 [Section No. 210.19(A)(3)]

**First Revision No. 7517-NFPA 70-2018 [Section No. 210.25(B)]****(B) Common Area Branch Circuits.**

Branch circuits installed for the purpose of lighting, central alarm, signal, communications, or other purposes for public or common areas of a two-family dwelling, a multifamily dwelling, or a multi-occupancy building shall not be supplied from equipment that supplies an individual dwelling unit or tenant space.

Informational note: Examples of public or common areas include, but are not limited to, lobbies, corridors, stairways, laundry rooms, roofs, elevators, washrooms, store rooms, driveways (parking), and mechanical rooms.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

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Submittal Date: Mon Jan 08 10:10:37 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: An informational note was added as this is the only location in the NEC where these terms are used. The note adds clarity by providing examples of public or common areas.

Response Message:

Public Input No. 2151-NFPA 70-2017 [New Definition after Definition: Combustible Gas Detection ...]

**First Revision No. 7619-NFPA 70-2018 [Section No. 210.50]****210.50– General 50 _ Receptacle Outlets .**

Receptacle outlets shall be installed as specified in 210.52 through 210.64 65 .

Informational Note: See Informative Annex J for information regarding ADA accessibility design.

(A) Cord Pendants.

A cord connector that is supplied by a permanently connected cord pendant shall be considered a receptacle outlet.

(B) Cord Connections.

A receptacle outlet shall be installed wherever flexible cords with attachment plugs are used. Where flexible cords are permitted to be permanently connected, receptacles shall be permitted to be omitted for such cords.

(C) Appliance Receptacle Outlets.

Appliance receptacle outlets installed in a dwelling unit for specific appliances, such as laundry equipment, shall be installed within 1.8 m (6 ft) of the intended location of the appliance.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

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Zip:

Submittal Date: Tue Jan 09 09:26:28 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: Because 210.71 was relocated to 210.65, 210.50 must be revised to include this new section.

The revision recognizes that some of the sections of Part III pertain to required lighting outlets. With the editorial relocation of 210.71 to group together all requirements for required receptacle outlets, this allows to requirements of 210.50 to apply to all required receptacle outlets specified throughout Part III without any “stranded” receptacle outlet requirements.

Response Message:

[Public Input No. 597-NFPA 70-2017 \[Section No. 210.50 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 2731-NFPA 70-2017 \[Section No. 210.50 \[Excluding any Sub-Sections\]\]](#)

**First Revision No. 7520-NFPA 70-2018 [Section No. 210.52(B)(1)]****(1) Receptacle Outlets Served.**

In the kitchen, pantry, breakfast room, dining room, or similar area of a dwelling unit, the two or more 20-ampere small-appliance branch circuits required by 210.11(C)(1) shall serve all wall and floor receptacle outlets covered by 210.52(A), all countertop outlets covered by 210.52(C), and receptacle outlets for refrigeration equipment.

Exception No. 1: In addition to the required receptacles specified by 210.52, switched receptacles supplied from a general-purpose 15- or 20- ampere branch circuit as ~~defined~~ required in 210.70(A)(1), Exception No. 1, shall be permitted.

Exception No. 2: In addition to the required receptacles specified by 210.52, a receptacle outlet to serve a specific appliance shall be permitted to be supplied from an individual branch circuit rated 15 amperes or greater.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Mon Jan 08 10:27:27 EST 2018[Make Editorial Changes
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Text](#)**Committee Statement and Meeting Notes**

Committee Statement: This revision clarifies that 15-amp or 20-ampere circuits are permitted per this exception.

Response Message:[Public Input No. 455-NFPA 70-2017 \[Section No. 210.52\(B\)\(1\)\]](#)[Public Input No. 258-NFPA 70-2017 \[Section No. 210.52\(B\)\(1\)\]](#)



First Revision No. 7521-NFPA 70-2018 [Section No. 210.52(C) [Excluding any Sub-Sections]]

In kitchens, pantries, breakfast rooms, dining rooms, and similar areas of dwelling units, receptacle outlets for countertop and work surfaces shall be installed in accordance with 210.52(C)(1) through and (C)(5). 2) and shall not be considered as the receptacle outlets required by 210.52(A).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 08 10:36:15 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: Receptacle outlet installations covered in 210.52(C) are separate from those covered by requirements in 210.52(A). This change clarifies that the receptacle outlets installed for the countertop or work surfaces are not permitted to satisfy the requirement for receptacle outlet placement as provided in 210.52(A). The revision to the charging paragraph is independent of the action on the rest of 210.52(C).

Response Message:

Public Input No. 1765-NFPA 70-2017 [Section No. 210.52(C) [Excluding any Sub-Sections]]

**First Revision No. 7598-NFPA 70-2018 [Section No. 210.52(E)(3)]****(3) Balconies, Decks, and Porches.**

Balconies, decks, and porches that are ~~attached to~~ within 102 mm (4 in) horizontally of the dwelling unit ~~and are accessible from inside the dwelling unit~~ shall have at least one receptacle outlet accessible from the balcony, deck, or porch. The receptacle outlet shall not be located more than 2.0 m (6½ ft) above the balcony, deck, or porch walking surface.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Tue Jan 09 08:19:34 EST 2018[Make Editorial Changes
Based on Committee
Text](#)**Committee Statement and Meeting Notes**

Committee Statement: This change will ensure this section is also applied to decks that are installed in a freestanding manner where connection to the actual dwelling is not made at any point, generally leaving an air gap to promote drainage and prevent wood decay at the building band board and siding. The distance of 4 inches was selected to coincide with building codes.

Response Message:

Public Input No. 1138-NFPA 70-2017 [Section No. 210.52(E)(3)]

**First Revision No. 7604-NFPA 70-2018 [Section No. 210.52(G)]****(G) Basements, Garages, and Accessory Buildings.**

For one- and two- family dwellings, and multi-family dwellings at least one receptacle outlet shall be installed in the areas specified in 210.52(G)(1) through (3). These receptacles shall be in addition to receptacles required for specific equipment.

(1) Garages.

In each attached garage and in each detached garage with electric power, at least one receptacle outlet shall be installed in each vehicle bay and not more than 1.7 m (5½ ft) above the floor.

Exception: Garage spaces not attached to an individual dwelling unit of a multi-family dwelling shall not require a receptacle outlet in each vehicle bay.

(2) Accessory Buildings.

In each accessory building with electric power.

(3) Basements.

In each separate unfinished portion of a basement.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

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Submittal Date: Tue Jan 09 08:33:02 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: Multifamily dwellings have needs similar to those of one- and two-family dwellings. An exception was added to the requirements of (1) Garages to not include those garages on larger multi-family dwellings that include parking garages and similar types of designs. The exception ensures that only those applications where garage spaces are attached to individual dwelling units are impacted.

Response Message:

Public Input No. 4080-NFPA 70-2017 [Section No. 210.52(G)]

Public Input No. 2963-NFPA 70-2017 [Section No. 210.52(G) [Excluding any Sub-Sections]]

Public Input No. 1013-NFPA 70-2017 [Section No. 210.52(G) [Excluding any Sub-Sections]]

**First Revision No. 7587-NFPA 70-2018 [Section No. 210.6(C)]****(C) 277 Volts to Ground.**

Circuits exceeding 120 volts, nominal, between conductors and not exceeding 277 volts, nominal, to ground shall be permitted to supply the following:

- (1) Listed electric-discharge or listed light-emitting diode-type luminaires with integral ballast or LED driver between the branch circuit and the lampholders
- (2) Listed incandescent luminaires, equipped with medium-base or smaller screw shell lampholders, where the lampholders are supplied at 120 volts or less from the output of a stepdown autotransformer that is an integral component of the luminaire and the outer shell terminal is electrically connected to a grounded conductor of the branch circuit
- (3) ~~Luminaires~~ Listed luminaires equipped with mogul-base screw shell lampholders
- (4) ~~Lampholders~~ Listed luminaires equipped with lampholders, other than the screw shell type, ~~applied when used~~ within their voltage ratings of their lampholders
- (5) Listed luminaires without lampholders, such as luminaires with non-serviceable LEDs
- (6) Auxiliary equipment of electric-discharge or light-emitting diode type lamps

Informational Note: See 410.137 for auxiliary equipment limitations.

- (7) Cord-and-plug-connected or permanently connected utilization equipment
- (8) Listed luminaires converted with a listed retrofit kit to accept LED lamps that also conforms with 210.6(C)(1), (C)(2), (C)(3), (C)(4) or (C)(5)

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Panel_2_FR-7587_210.6_C_leg_changes.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 08 21:14:12 EST 2018

Make Editorial Changes
Based on Committee Text

Committee Statement and Meeting Notes

Committee Statement: As currently written, there is equipment that could be incorrectly interpreted as being permitted by one clause while also prohibited by another clause. In an effort to clarify the historical intent of 210.6(C) and make it easier to use and understand, the following items revisions have been made.

List items (1) and (2) are revised to clarify that, with the exception of luminaires with integral ballasts or

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JANUARY 8 - 20, 2018 - SUBJECT TO REVISION - NOT FOR PUBLICATION

LED drivers, all medium-base or smaller lampholders were limited to 120 volts. The lampholders described in (2) were typically found in incandescent luminaires, but today they are commonly used to power energy-saving lamps.

List items (3) and (4) are revised to align them with the descriptive language of the preceding sub-clauses.

List item (5) is added to clarify that this requirement also applies to luminaires without lampholders, such as those with non-user-replaceable light sources.

List item (6) [formerly list item (5)] is revised to encompass LED auxiliary equipment. Such equipment is included in 410.137, which is referenced in the current explanatory note.

List item (8) is added to explicitly allow electric-discharge luminaires that have been retrofitted with listed luminaire retrofit kits in order to power LED lamps. To avoid a potential conflict between sub-clauses, the voltage requirements and limitations in (1) – (5) also apply to these retrofitted luminaires.

**Response
Message:**

[Public Input No. 2900-NFPA 70-2017 \[Section No. 210.6\(C\)\]](#)

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SUBJECT TO REVISION - NOT FOR PUBLICATION

**First Revision No. 7849-NFPA 70-2018 [Section No. 210.60]**

210.60 Guest Rooms, Guest Suites, ~~Dormitories~~ Dormitory Units , and Similar Occupancies.

(A) General.

Guest rooms or guest suites in hotels, motels, sleeping rooms in ~~dormitories~~ dormitory units , and similar occupancies shall have receptacle outlets installed in accordance with 210.52(A) and (D). Guest rooms or guest suites provided with permanent provisions for cooking shall have receptacle outlets installed in accordance with all of the applicable rules in 210.52.

(B) Receptacle Placement.

~~In applying the provisions of 210.52(A), the~~ The total number of receptacle outlets shall not be less than the minimum number that would comply with the provisions of that section. ~~required in 210.52(A).~~ These receptacle outlets shall be permitted to be located conveniently for permanent furniture layout. At least two receptacle outlets shall be readily accessible. Where receptacles are installed behind the bed, the receptacle shall be located to prevent the bed from contacting any attachment plug that may be installed or the receptacle shall be provided with a suitable guard.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 10 14:57:55 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The term dormitories is being replaced with dormitory units to align with the definition of dormitory units found in 210.2. See FR-7688.

The phrase "the provisions of" is unnecessary and redundant and is being deleted to increase usability.

Response Message:

Public Input No. 2807-NFPA 70-2017 [Section No. 210.60]

**First Revision No. 7589-NFPA 70-2018 [Section No. 210.70(A)(1)]****(1) Habitable Rooms.**

At least one ~~wall switch-controlled~~ lighting outlet controlled by a listed wall-mounted control device shall be installed in every habitable room, kitchen, and bathroom. The wall-mounted control device shall be located near an entrance to the room on a wall.

Exception No. 1: In other than kitchens and bathrooms, one or more receptacles controlled by a listed wall-switch-mounted control device shall be permitted in lieu of lighting outlets.

Exception No. 2: Lighting outlets shall be permitted to be controlled by occupancy sensors that are (1) in addition to listed wall-switches-mounted control device or (2) located at a customary wall switch location and equipped with a manual override that will allow the sensor to function as a wall switch.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

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Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 08 21:56:34 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The revised language will permit lighting and receptacle control technology that is currently available and being installed in dwellings and commercial buildings today. Numerous manufacturers offer remote devices that wirelessly communicate with controllers that control the lighting outlet or receptacle.

Response Message:

Public Input No. 4199-NFPA 70-2017 [Section No. 210.70(A)(1)]

**First Revision No. 7590-NFPA 70-2018 [Section No. 210.70(A)(2)]****(2) Additional Locations.**

Additional lighting outlets shall be installed in accordance with the following:

- (1) At least one ~~wall switch-controlled~~ lighting outlet controlled by a listed wall-mounted control device shall be installed in hallways, stairways, attached garages, and detached garages with electric power.
- (2) For dwelling units, attached garages, and detached garages with electric power, at least one ~~wall switch-controlled~~ lighting outlet shall be controlled by a listed wall-mounted control device shall be installed to provide illumination on the exterior side of outdoor entrances or exits with grade-level access. A vehicle door in a garage shall not be considered as an outdoor entrance or exit.
- (3) Where one or more lighting outlet(s) are installed for interior stairways, there shall be a listed wall-mounted control device at each floor level ~~and~~ landing level that includes an entryway ~~to~~ to control the lighting outlet(s) where the stairway between floor levels has six risers or more.

Exception to (A)(2)(1), (A)(2)(2), and (A)(2)(3): In hallways, in stairways, and at outdoor entrances, remote, central, or automatic control of lighting shall be permitted.

- (4) Lighting outlets controlled in accordance with 210.70(A)(2)(3) shall not be controlled by use of ~~dimmer switches~~ listed wall-mounted control devices unless they provide the full range of dimming control at each location.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

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Submittal Date: Mon Jan 08 22:03:20 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The revised language will permit lighting and receptacle control technology that is currently available and being installed in dwellings and commercial buildings today. Numerous manufacturers offer remote devices that wirelessly communicate with controllers that control the lighting outlet or receptacle.

Response Message:

Public Input No. 4193-NFPA 70-2017 [Section No. 210.70(A)(2)]

**First Revision No. 7591-NFPA 70-2018 [Section No. 210.70(A)(3)]****(3)– Storage or Equipment Spaces.**

For attics, underfloor spaces, utility rooms, and basements, at least one lighting outlet containing a switch or controlled by a wall switch shall be installed where these spaces are used for storage or contain equipment requiring servicing. At least one point of control shall be at the usual point of entry to these spaces. The lighting outlet shall be provided at or near the equipment requiring servicing.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Mon Jan 08 22:11:38 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: This section is being deleted because storage and equipment spaces are now addressed in 210.70(C).

Response Message:

[Public Input No. 369-NFPA 70-2017 \[Section No. 210.70\(A\)\(3\)\]](#)

[Public Input No. 222-NFPA 70-2017 \[Section No. 210.70\(A\)\(3\)\]](#)

[Public Input No. 4208-NFPA 70-2017 \[Section No. 210.70\(A\)\(3\)\]](#)

**First Revision No. 7592-NFPA 70-2018 [Section No. 210.70(B)]****(B) Guest Rooms or Guest Suites.**

In hotels, motels, or similar occupancies, guest rooms or guest suites shall have at least one ~~wall switch-controlled~~ lighting outlet controlled by a listed wall-mounted control device installed in every habitable room and bathroom.

Exception No. 1: In other than bathrooms and kitchens where provided, one or more receptacles controlled by a listed wall-switch-mounted control device shall be permitted in lieu of lighting outlets.

Exception No. 2: Lighting outlets shall be permitted to be controlled by occupancy sensors that are (1) in addition to listed wall-switches-mounted control devices or (2) located at a customary wall switch location and equipped with a manual override that allows the sensor to function as a wall switch.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 08 22:14:14 EST 2018

Make Editorial Changes
Based on Committee
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Committee Statement and Meeting Notes

Committee Statement: The revised language will permit lighting and receptacle control technology that is currently available and being installed in dwellings and commercial buildings today. Numerous manufacturers offer remote devices that wirelessly communicate with controllers that control the lighting outlet or receptacle.

Response Message:

Public Input No. 4219-NFPA 70-2017 [Section No. 210.70(B)]

**First Revision No. 7612-NFPA 70-2018 [Section No. 210.70(C)]****(C) All Occupancies.**

For attics and underfloor spaces, utility rooms, and basements, at least one lighting outlet containing a switch or controlled by a wall switch or listed wall-mounted control device shall be installed where these spaces are used for storage or contain equipment requiring servicing. ~~At least one~~ A point of control shall be at the usual point of entry to these spaces. ~~The lighting outlet shall be provided each entry that permits access to the attic and underfloor space, utility room, or basement. Where a lighting outlet is installed for equipment requiring service, the lighting outlet shall be installed at or near the equipment requiring servicing.~~

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Tue Jan 09 08:54:29 EST 2018[Make Editorial Changes
Based on Committee
Text](#)**Committee Statement and Meeting Notes**

Committee Statement: The revised language will permit lighting and receptacle control technology that is currently available and being installed in dwellings and commercial buildings today. Numerous manufacturers offer remote devices that wirelessly communicate with controllers that control the lighting outlet or receptacle.

A point of control is now required at each entry point to attics and underfloor spaces, utility rooms, and basements where these spaces are used for storage or contain equipment requiring servicing. The language change provides the ability to obtain illumination for safety when entering these spaces and ensures that if a point of entry does not provide access to a space that will be used for storage or that will contain equipment requiring servicing, it does not require a point of control for the lighting.

**Response
Message:**[Public Input No. 4318-NFPA 70-2017 \[Section No. 210.70\(C\)\]](#)[Public Input No. 4213-NFPA 70-2017 \[Section No. 210.70\(C\)\]](#)

**First Revision No. 7593-NFPA 70-2018 [Section No. 210.71]**

MOVE TO 210.71– 65

210.65 Meeting Rooms.

(A) General.

Each meeting room of not more than 93 m² (1000 ft²) in other than dwelling units shall have outlets for nonlocking-type, 125-volt, 15- or 20-ampere receptacles. The outlets shall be installed in accordance with 210.71 65 (B). Where a room or space is provided with movable partition(s), each room size shall be determined with the partition in the position that results in the smallest size meeting room.

Informational Note No. 1: For the purposes of this section, meeting rooms are typically designed or intended for the gathering of seated occupants for such purposes as conferences, deliberations, or similar purposes, where portable electronic equipment such as computers, projectors, or similar equipment is likely to be used.

Informational Note No. 2: Examples of rooms that are not meeting rooms include auditoriums, schoolrooms, and coffee shops.

(B) Receptacle Outlets Required.

The total number of receptacle outlets, including floor outlets and receptacle outlets in fixed furniture, shall not be less than as determined in (1) and (2). ~~These receptacle outlets shall be permitted to be located as determined by the designer or building owner.~~

(1) Receptacle Outlets in Fixed Walls.

~~Receptacle-~~ The required number of receptacle outlets shall be installed determined in accordance with 210.52(A)(1) through (A)(4). These receptacle outlets shall be permitted to be located as determined by the installer, designer or building owner.

(2) Floor Receptacle- Outlets.

A meeting room ~~with any floor dimension that is at least 3.7 m (12 ft) wide- or greater in any direction~~ and that has a floor area of at least 20 m² (215 ft²) shall have at least one floor receptacle outlet ~~located in the floor~~, or at least one floor outlet to serve receptacle(s), located at a distance not less than 1.8 m (6 ft) from any fixed wall for each 20 m² (215 ft²) or major portion of floor space.

Informational Note No. 1: See Section 314.27(B) for floor boxes used for receptacles located in the floor.

Informational Note No. 2: See Article 518 for assembly occupancies designed for 100 or more persons.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 08 22:19:57 EST 2018

Make Editorial Changes
Based on Committee Text

Committee Statement and Meeting Notes

Committee Statement: Section 210.71 is relocated to 210.65 for usability and uniform numbering. Because 210.71 provides the requirements for receptacle outlets, it is prudent to locate it with other requirements for receptacle outlets.

WORKING DRAFT OF CMP MEETING OUTPUT - NATIONAL ELECTRICAL CODE - NFPA 70
JANUARY 8 - 20, 2018 - SUBJECT TO REVISION - NOT FOR PUBLICATION

This section was modified to clarify that the placement of the receptacles is left to the designer and/or owner and the number of receptacles are determined in accordance with 210.52(A)(1) through (A)(4).

The revision clarifies length versus width concerns while addressing non-rectangular meeting rooms, such as those that are round. This revision provides the flexibility to provide a floor receptacle outlet or an outlet to supply receptacles providing flexibility to the installer and designer and accommodate hardwired furniture that would have receptacles. The 6 foot from fixed wall rule is to allow for emergency egress without having to cross over flexible cords.

**Response
Message:**

[Public Input No. 3172-NFPA 70-2017 \[Section No. 210.71\(B\)\(1\)\]](#)

[Public Input No. 660-NFPA 70-2017 \[Section No. 210.71\(B\)\(2\)\]](#)

[Public Input No. 224-NFPA 70-2017 \[Section No. 210.71\(B\)\]](#)

[Public Input No. 596-NFPA 70-2017 \[Section No. 210.71\]](#)

[Public Input No. 1942-NFPA 70-2017 \[Section No. 210.71\(B\)\(1\)\]](#)

[Public Input No. 2252-NFPA 70-2017 \[Section No. 210.71\(B\)\(1\)\]](#)

[Public Input No. 1650-NFPA 70-2017 \[Section No. 210.71\(A\)\]](#)

[Public Input No. 1651-NFPA 70-2017 \[Section No. 210.71\(B\)\]](#)

[Public Input No. 1943-NFPA 70-2017 \[Section No. 210.71\(B\)\(2\)\]](#)

[Public Input No. 598-NFPA 70-2017 \[Section No. 210.71\(B\)\(2\)\]](#)

[Public Input No. 782-NFPA 70-2017 \[Section No. 210.71\]](#)

[Public Input No. 2700-NFPA 70-2017 \[Section No. 210.71\]](#)

[Public Input No. 3676-NFPA 70-2017 \[Section No. 210.71\(B\)\]](#)



First Revision No. 7863-NFPA 70-2018 [Section No. 210.8 [Excluding any Sub-Sections]]

Ground-fault circuit-interrupter protection for personnel shall be provided as required in 210.8(A)through (E 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 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.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 10 16:42:48 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: The word "supply" was added to be consistent with the language in 680.22(A)5.

The modified language adds clarity to the distance requirements for GFCI protection. The removal of the words "door" and "doorway" addresses the confusion that a cabinet "door" or other door is not intended to eliminate GFCI protection.

Response Message:

Committee Notes:

Date Submitted By

Jan 10, 2018 NEC-CMP Panel 02 The charging paragraph is a ballot detail and is independent of the action on the rest of 210.8.

[Public Input No. 1080-NFPA 70-2017 \[Section No. 210.8 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 2291-NFPA 70-2017 \[Section No. 210.8 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 500-NFPA 70-2017 \[Section No. 210.8 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 4130-NFPA 70-2017 \[Section No. 210.8 \[Excluding any Sub-Sections\]\]](#)

**First Revision No. 7705-NFPA 70-2018 [Section No. 210.8(A)]****(A) Dwelling Units.**

All 125-volt, single-phase, 15- and 20-ampere through 250-volt receptacles installed in the locations specified in 210.8(A)(1) through (10) shall have ground-fault circuit-interrupter protection for personnel.

(1) Bathrooms**(2) Garages, and also accessory buildings that have a floor located at or below grade level not intended as habitable rooms and limited to storage areas, work areas, and areas of similar use****(3) Outdoors**

Exception to (3): Receptacles that are not readily accessible and are supplied by a branch circuit dedicated to electric snow-melting, deicing, or pipeline and vessel heating equipment shall be permitted to be installed in accordance with 426.28 or 427.22, as applicable.

(4) Crawl spaces — at or below grade level**(5) Unfinished portions or areas of the basement not intended as habitable rooms**

Exception to (5): A receptacle supplying only a permanently installed fire alarm or burglar alarm system shall not be required to have ground-fault circuit-interrupter protection.

Informational Note: See 760.41(B) and 760.121(B) for power supply requirements for fire alarm systems.

Receptacles installed under the exception to 210.8(A)(5) shall not be considered as meeting the requirements of 210.52(G).

(6) Kitchens — where the receptacles are installed to serve the countertop surfaces**(7) Sinks — where receptacles are installed within 1.8 m (6 ft) from the top inside edge of the bowl of the sink****(8) Boathouses****(9) Bathtubs or shower stalls — where receptacles are installed within 1.8 m (6 ft) of the outside edge of the bathtub or shower stall****(10) Laundry areas****Submitter Information Verification**

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jan 09 16:33:49 EST 2018

Make Editorial Changes
Based on Committee Text

Committee Statement and Meeting Notes

Committee Statement: The addition of 250 volt receptacles and removing amperage limitations will provide GFCI protection to most receptacles commonly used in the specified areas. These areas have been shown to require GFCI protection for receptacles. 250 volt receptacles present similar hazards. The change to include 250 volts receptacles is independent of the action on the rest of 210.8.

Response**Message:****Committee Notes:**

<u>Date</u>	<u>Submitted By</u>	
Jan 10, 2018	NEC-CMP Panel 02	The phrase "through 250-volt" is stand ballot detail and is independent of other 210.8 actions.
Jan 10, 2018	NEC-CMP Panel 02	No changes have been made to exception to 3, to exception for 5, or to the informational note.
Jan 15, 2018	NEC-CMP Panel 02	several ballotable details on this section

[Public Input No. 1875-NFPA 70-2017 \[Section No. 210.8\(A\)\]](#)

[Public Input No. 167-NFPA 70-2017 \[Section No. 210.8\(A\)\]](#)

FOR CODE-MAKING PANEL USE ONLY
SUBJECT TO REVISION - NOT FOR PUBLICATION

**First Revision No. 7791-NFPA 70-2018 [Section No. 210.8(B)]****(B) Other Than Dwelling Units.**

All ~~receptacles supplied by single-phase receptacles branch circuits rated 150 volts~~ 150 volts to ground or less, 50 amperes or less, and all ~~receptacles supplied by three-phase receptacles branch circuits rated 150 volts~~ 150 volts to ground or less, 100 ~~amperes~~ 100 amperes or less installed in the following locations specified in 210.8 (B)(1) through (B)(12) shall have ground-fault circuit-interrupter protection for personnel.

- (1) Bathrooms
- (2) Kitchens
- (3) Rooftops

Exception: Receptacles on rooftops shall not be required to be readily accessible other than from the rooftop.

- (4) Outdoors

Exception No. 1 to (3) and (4): Receptacles that are not readily accessible and are supplied by a branch circuit dedicated to electric snow-melting, deicing, or pipeline and vessel heating equipment shall be permitted to be installed in accordance with 426.28 or 427.22, as applicable.

Exception No. 2 to (4): In industrial establishments only, where the conditions of maintenance and supervision ensure that only qualified personnel are involved, an assured equipment grounding conductor program as specified in 590.6(B)(3) shall be permitted for only those receptacle outlets used to supply equipment that would create a greater hazard if power is interrupted or having a design that is not compatible with GFCI protection.

- (5) Sinks — where receptacles are installed within 1.8 m (6 ft) from the top inside edge of the bowl of the sink

Exception No. 1 to (5): In industrial laboratories, receptacles used to supply equipment where removal of power would introduce a greater hazard shall be permitted to be installed without GFCI protection.

Exception No. 2 to (5): For receptacles located in patient bed locations of general care (Category 2) or critical care (Category 1) spaces of health care facilities other than those covered under 210.8(B) (1), GFCI protection shall not be required.

- (6) Indoor wet locations
- (7) Locker rooms with associated showering facilities
- (8) Garages, service bays, and similar areas other than vehicle exhibition halls and showrooms
- (9) Crawl spaces — at or below grade level
- (10) Unfinished portions or areas of the basement not intended as habitable rooms

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

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Make Editorial Changes
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Submittal Date: Wed Jan 10 10:25:31 EST 2018**Committee Statement and Meeting Notes**

Committee Statement: Receptacles are listed and identified as having nominal or maximum voltage ratings but do not have identified voltage-to-ground ratings demonstrable by the installer or the manufacturer to the AHJ. While correlation with the limits of Class A GFCI protection of personnel requires applications not exceed 150 volts to ground, it is the rating of the branch circuit rather than of the receptacle that shall not exceed 150 volts to ground. Item numbers were added to match language in 210.8(A) and to address new exception in 210.8(B).

Response Message:

Committee Notes:

<u>Date</u>	<u>Submitted By</u>
Jan 14, 2018	NEC-CMP Panel No changes were made to the exceptions under this primary FR 02
Jan 15, 2018	NEC-CMP Panel several ballotable details on this section 02

[Public Input No. 1079-NFPA 70-2017 \[Section No. 210.8\(B\)\]](#)

[Public Input No. 888-NFPA 70-2017 \[Section No. 210.8\(B\)\]](#)

[Public Input No. 1120-NFPA 70-2017 \[Section No. 210.8\(B\)\]](#)

[Public Input No. 619-NFPA 70-2017 \[Section No. 210.8\(B\)\]](#)

**First Revision No. 7852-NFPA 70-2018 [Section No. 210.8(D)]**

~~(D) Kitchen Dishwasher Branch Circuit.~~

~~GFCI protection shall be provided for outlets that supply dishwashers installed in dwelling unit locations.~~

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 10 15:09:08 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: GFCI protection of dishwashers is being moved to 422. Language added in 210.8 (F) correlates GFCI protection in 210 with 422.

Response Message:

Public Input No. 1940-NFPA 70-2017 [Section No. 210.8(D)]

Public Input No. 587-NFPA 70-2017 [Section No. 210.8(D)]



First Revision No. 8075-NFPA 70-2018 [Section No. 220.12]

FOR CODE-MAKING PANEL USE ONLY
SUBJECT TO REVISION - NOT FOR PUBLICATION

220.12 Lighting Load for ~~Specified~~ Non-Dwelling Occupancies.

FOR CODE-MAKING PANEL USE ONLY
SUBJECT TO REVISION - NOT FOR PUBLICATION

(A) General. A unit load of not less than that specified in Table 220.12 for occupancies specified shall constitute non-dwelling occupancies and the floor area determined in 220.11 shall be used to calculate the minimum lighting load. The floor area for each floor shall be calculated from the outside dimensions of the building, dwelling unit, or other area involved. For dwelling units, the calculated floor area shall not include open porches, garages, or unused or unfinished spaces not adaptable for future use. Motors rated less than 1/8 HP and connected to a lighting circuit shall be considered general lighting load.

Informational Note: The unit values of Table 220.12 are based on minimum load conditions and 100 percent power factor and may not provide sufficient capacity for the installation contemplated.

Exception No. 1: (B) Energy Code. Where the building is designed and constructed to comply with an energy code adopted by the local authority, the lighting load shall be permitted to be calculated at using the unit values specified in the energy code where the following conditions are met:

- (1) A power monitoring system is installed that will provide continuous information regarding the total general lighting load of the building.
- (2) The power monitoring system will be set with alarm values to alert the building owner or manager if the lighting load exceeds the values set by the energy code. Automatic means to take action to reduce the connected load shall be permitted.
- (3) The demand factors specified in 220.42 are not applied to the general lighting load.

Exception No. 2: Where a building is designed and constructed to comply with an energy code adopted by the local authority and specifying an overall lighting density of less than 13.5 volt-amperes/m² (1.2 volt-amperes/ft²), the unit lighting loads in Table 220.12 for office and bank areas within the building shall be permitted to be reduced by 11 volt-amperes/m² (1 volt-amperes/ft²).

Table 220.12 General Lighting Loads by

- (1) The continuous load multiplier of 125 percent shall be applied.

Table 220.12 USE ATTACHED REVISED TABLE

General Lighting Loads by Non-Dwelling Occupancy

<u>Type of Occupancy</u>	<u>Unit Load</u>	
	<u>Volt-amperes/</u>	<u>Volt-amperes/</u>
	<u>m²</u>	<u>ft²</u>
<u>Armories and auditoriums</u>	<u>11</u>	<u>1</u>
<u>Banks</u>	<u>39^b</u>	<u>3 1/2^b</u>
<u>Barber shops and beauty parlors</u>	<u>33</u>	<u>3</u>
<u>Churches</u>	<u>11</u>	<u>1</u>
<u>Clubs</u>	<u>22</u>	<u>2</u>
<u>Courtrooms</u>	<u>22</u>	<u>2</u>
<u>Dwelling units^a</u>	<u>33</u>	<u>3</u>
<u>Garages — commercial (storage)</u>	<u>6</u>	<u>1/2</u>
<u>Hospitals</u>	<u>22</u>	<u>2</u>
<u>Hotels and motels, including apartment houses without provision for cooking by tenants^a</u>	<u>22</u>	<u>2</u>
<u>Industrial commercial (loft) buildings</u>	<u>22</u>	<u>2</u>
<u>Lodge rooms</u>	<u>17</u>	<u>1 1/2</u>
<u>Office buildings</u>	<u>39^b</u>	<u>3 1/2^b</u>
<u>Restaurants</u>	<u>22</u>	<u>2</u>

<u>Type of Occupancy</u>	<u>Unit Load</u>	
	<u>Volt-amperes/</u>	<u>Volt-amperes/</u>
	<u>m²</u>	<u>ft²</u>
<u>Schools</u>	<u>33</u>	<u>3</u>
<u>Stores</u>	<u>33</u>	<u>3</u>
<u>Warehouses (storage)</u>	<u>3</u>	<u>1/4</u>
<u>In any of the preceding occupancies except one-family dwellings and individual dwelling units of two-family and multifamily dwellings:</u>		
--		
<u>Assembly halls and auditoriums</u>	<u>11</u>	<u>1</u>
<u>Halls, corridors, closets, stairways</u>	<u>6</u>	<u>1/2</u>
<u>Storage spaces</u>	<u>3</u>	<u>1/4</u>
<u>a See 220.14(J).</u>		
<u>b See 220.14(K).</u>		

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
FR-8075_attachment.doc	new table 220.12--for staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jan 12 10:46:48 EST 2018

Make Editorial Changes
Based on Committee Text

Committee Statement and Meeting Notes

Committee Statement: NEC Table 220.12 General Lighting Loads by Occupancy has had minimal revisions since the 1970s. Those revisions have consisted of reducing the lighting loads in a few occupancies based on the technology enhancements over time, however a comprehensive set of data has historically not been available to support a revision to this table. The energy codes adopted across the country have also created further discussion around the appropriate values in Table 220.12, however some states adopt and enforce energy codes that were adopted over a decade ago. The development of the lighting power densities in the energy code have been established through case studies of various occupancies from ASHRAE which provided the foundation for this revision to the values in NEC Table 220.12.

Several areas are addressed in this First Revision:

1. The first significant revision is the list of occupancies. CMP 2 is expanding and aligning the list of occupancies in the NEC with those found in the ASHRAE 90.1 standard and the International Energy Conservation Code.

WORKING DRAFT OF CMP MEETING OUTPUT - NATIONAL ELECTRICAL CODE - NFPA 70
JANUARY 8 - 20, 2018 - SUBJECT TO REVISION - NOT FOR PUBLICATION

2. Assembly halls and auditoriums, armories and auditoriums, banks, barber shops and beauty parlors, clubs, industrial commercial (loft) buildings, and lodge rooms are relocated to an informational note to Table 220.12. This informational note cross references these occupancies to the appropriate occupancy to be used in the 2020 Table. It is the intent to eliminate the informational note in a future NEC revision cycle.
3. Hall, corridors, closets, stairways, storage spaces are eliminated since these areas within a building will be covered by the unit lighting load of the occupancy.
4. Dwelling and multi-family dwelling units are moved out of the table and strictly referenced in a new Section 220.14(J). See FR-8076.
5. The values in the table are established from ASHRAE 90.1 data. ASHRAE has data associated with each occupancy and many with multiple cases to determine the ASHRAE values. From an NEC perspective, the maximum value has been considered. The lighting power density (LPD) values from 90.1 (2000 cycle) establishes a minimum margin of 25% between the maximum values determined through field studies and the new values for Table 220.12. All but four occupancies are reduced to more closely align with actual use based on the field case studies conducted by the ASHRAE Lighting Committee.
6. Values for four occupancies were increased: gymnasium, manufacturing facility, religious facility, and warehouses.
7. The title for 220.12 is revised to "Lighting Loads for Specified Non-Dwelling Occupancies" to correlate with item 4 in this substantiation.
8. Information for floor area calculations has been removed from section 220.12 and has been relocated to a new Section 220.11 (See FR-8104). The relocation addresses both non-dwelling occupancies in 220.12 and dwelling occupancies in 220.14(J).
9. Exception 1 is being converted to positive text with the title "(B) Energy Code".
10. Exception 2 is deleted as it is no longer needed with the values in the table being revised.
11. Motors rated less than 1/8 HP and connected to a lighting circuit are included in the general lighting load. These loads are minimal and can be safely served using the unit loads as demonstrated by the long history of using this method by many installers and designers.
12. A note added to the table clarifies that the derating is already included in the values in the table in accordance with 210.20(A).

**Response
Message:**

[Public Input No. 3282-NFPA 70-2017 \[Section No. 220.12\]](#)

[Public Input No. 4122-NFPA 70-2017 \[Section No. 220.12\]](#)

[Public Input No. 577-NFPA 70-2017 \[Section No. 220.12\]](#)

[Public Input No. 3138-NFPA 70-2017 \[Section No. 220.12\]](#)

[Public Input No. 3139-NFPA 70-2017 \[Section No. 220.12\]](#)

**First Revision No. 8076-NFPA 70-2018 [Section No. 220.14(J)]****(J) Dwelling Occupancies.**

In one-family, two-family, and multifamily dwellings ~~and in guest rooms or guest suites of hotels and motels,~~ the outlets specified in ~~the~~ minimum unit load shall be not less than 33 VA/m² (3 VA/ft²). The lighting and receptacle outlets specified in 220.14 (J)(1), (J)(2), and (J)(3) are included in the general lighting load calculations of 220.12 – minimum unit load. No additional load calculations shall be required for such outlets. The minimum lighting load shall be determined using the minimum unit load and the floor area as determined in 220.11 for dwelling occupancies. Motors rated less than 1/8 HP and connected to a lighting circuit shall be considered part of the minimum lighting load.

- (1) All general-use receptacle outlets of 20-ampere rating or less, including receptacles connected to the circuits in 210.11(C)(3) and 210.11(C)(4)
- (2) The receptacle outlets specified in 210.52(E) and (G)
- (3) The lighting outlets specified in 210.70(A) and (B)

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Fri Jan 12 10:50:52 EST 2018[Make Editorial Changes
Based on Committee Text](#)**Committee Statement and Meeting Notes**

Committee Statement: This First Revision makes editorial changes to the dwelling unit load calculation in Section 220.14(J) and removes the reference to Table 220.12 to correlate the change of Table 220.12 and the new focus on non-dwelling unit occupancies.

The ASHRAE 90.1 table incorporates dwelling unit lighting loads of approximately 1.0 watts per square foot. The long-standing NEC calculation of 3.0 VA/s.f. for dwelling type applications which includes the general purpose receptacle load has been used successfully for many years and lowering this value could have unintended consequences, therefore, text to retain this long-standing practice has been included.

Motors rated less than 1/8 HP and connected to a lighting circuit are included in the general lighting load. These loads are minimal and can be safely served using the unit loads as demonstrated by the long history of using this method by many installers and designers.

Guest Room, hotels and motels are removed from 220.14(J) and moved to 220.14(M).

**Response
Message:**[Public Input No. 3147-NFPA 70-2017 \[Section No. 220.14\(J\)\]](#)[Public Input No. 1499-NFPA 70-2017 \[Section No. 220.14\(J\)\]](#)

**First Revision No. 8077-NFPA 70-2018 [Section No. 220.14(K)]**

(K)— ~~Banks and~~ Office Buildings.

In ~~banks or~~ office buildings, the receptacle loads shall be calculated to be the larger of (1) or (2):

- (1) The calculated load from 220.14(I) after all demand factors have been applied
- (2) 11 volt-amperes/m² or 1 volt-ampere/ft²

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Submittal Date: Fri Jan 12 10:52:20 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: “Banks” have been removed as this has been combined with office buildings. The revision clarifies that the calculation is to be performed after all demand factors have been applied.

Response Message:

Public Input No. 1095-NFPA 70-2017 [Section No. 220.14(K)]

Public Input No. 1309-NFPA 70-2017 [Section No. 220.14(K)]

**First Revision No. 8079-NFPA 70-2018 [Section No. 220.16(A)]****(A) Dwelling Units.**

Loads added to an existing dwelling unit(s) shall comply with the following as applicable:

- (1) Loads for structural additions to an existing dwelling unit or for a previously unwired portion of an existing dwelling unit, ~~either of which exceeds 46.5 m² (500 ft²),~~ shall be calculated in accordance with ~~220.12 and 220.14.~~
- (2) Loads for new circuits or extended circuits in previously wired dwelling units shall be calculated in accordance with ~~either with 220.12 or 220.14, as applicable.~~

Submitter Information Verification

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Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Jan 12 10:54:21 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: FR-8075 modified Table 220.12 and has removed any reference to dwelling occupancies. As a result, any minimum lighting load calculation for dwelling type occupancies is found only in 220.14(J). This First Revision correlates the changes in Table 220.12 with Section 220.16. Other changes are to list items (A)(2) and (A)(3) provide better clarity and usability to the user of the Code.

Response Message:

Public Input No. 3639-NFPA 70-2017 [Section No. 220.16]

**First Revision No. 8080-NFPA 70-2018 [Section No. 220.42]****220.42 General Lighting.**

The demand factors specified in Table 220.42 shall apply to that portion of the total branch-circuit load calculated for general illumination. They shall not be applied in determining the number of branch circuits for general illumination.

Table 220.42 Lighting Load Demand Factors

<u>Type of Occupancy</u>	<u>Portion of Lighting Load to Which Demand Factor Applies</u>	<u>Demand Factor (%)</u>
	<u>(Volt-Amperes)</u>	
Dwelling units	First 3000 at	100
	-	From 3001 to 120,000 at 35
	-	Remainder over 120,000 at 25
Hospitals*	First 50,000 or less at	40
	Remainder over 50,000 at	20
Hotels and motels, including apartment houses without provision for cooking by tenants*	First 20,000 or less at	50
	From 20,001 to 100,000 at	40
	Remainder over 100,000 at	30
Warehouses (storage)	First 12,500 or less at	100
	Remainder over 12,500 at	50
All others	Total volt-amperes	100

*The demand factors of this table shall not apply to the calculated load of feeders or services supplying areas in hospitals, hotels, and motels where the entire lighting is likely to be used at one time, as in operating rooms, ballrooms, or dining rooms.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Fri Jan 12 10:55:55 EST 2018[Make Editorial Changes
Based on Committee Text](#)**Committee Statement and Meeting Notes****Committee
Statement:**

All derating factors for hospitals are deleted based on the following:

1. As an example a 500,000 square foot hospital in the 2017 NEC would require an electrical distribution system sized to handle 1,000 kVA of lighting (500,000 sq.ft x 2 va/sf)
2. Taking the demand factors for hospitals and applying Table 220.42 (ignoring the first 50,000 VA and simply using the 20% demand) to the 1,000 kVA value one would end up with 200 kVA of lighting.

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3. Utilizing ASHRAE 90.1 - 2016 actual data, the average hospital lighting load today is .94 watts per square foot which means that the example 500,000 s.f hospital would have 470 kVA of lighting, assuming all lights were on.

4. Comparing the demand load of 200 kVA after applying the derating factors to the 2016 - 100% connected lighting load would indicate that the derating table assumes that 42% of lights are on in the hospital.

5. Changing the hospital unit load to 1.6 VA/sf for the 2020 NEC cycle and using the same derating factors will then assume that 32% of lights are on in the same hospital.

6. CMP-2 does not have data from ASHRAE or other organizations to validate this information and therefore deleted the derating values for hospital lighting.

Response**Message:****Committee Notes:**

<u>Date</u>	<u>Submitted By</u>
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Jan 12, 2018	NEC-CMP Panel revision is deletion of hospitals from table 02
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Public Input No. 3153-NFPA 70-2017 [Section No. 220.42]

**First Revision No. 8057-NFPA 70-2018 [Section No. 220.53]****220.53** Appliance Load — Dwelling Unit(s).

It shall be permissible to apply a demand factor of 75 percent to the nameplate rating load of four or more appliances rated 1/4 hp or greater, or 500 watts or greater, that are fastened in place, other than electric ranges, ovens and cooktop cooking appliances, clothes dryers, space-heating equipment, or air-conditioning equipment, that are served by the same feeder or service in a one-family, two-family, or multifamily dwelling.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Fri Jan 12 08:54:46 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: "Ovens and cooktop cooking appliances" have been added for clarity as these appliances are similar to ranges and should not be included in the four or more appliances for derating.

Loads of ¼ hp and 500 watts or greater have been added to establish a threshold value for when lower hp motors and wattage rated appliance should not be allowed to count toward the 4 or more appliances for derating. The revision for load ratings is independent of the other revision to this section.

**Response
Message:**

Committee Notes:

<u>Date</u>	<u>Submitted By</u>	
Jan 12, 2018	NEC-CMP Panel 02	The addition of "rated 1/4 hp or greater, or 500 watts or greater" is an separate ballot detail and is independent of other revisions to 220.53.

Public Input No. 1501-NFPA 70-2017 [Section No. 220.53]

Public Input No. 4338-NFPA 70-2017 [Section No. 220.53]

**First Revision No. 8062-NFPA 70-2018 [Section No. 220.60]****220.60 Noncoincident Loads.**

Where it is unlikely that two or more noncoincident loads will be in use simultaneously, it shall be permissible to use only the largest load(s) that will be used at one time for calculating the total load of a feeder or service. Where a motor is part of the noncoincident load and is not the largest of the noncoincident loads, 125 percent of the motor load shall be used in the calculation if it is the largest motor.

Submitter Information Verification**Submitter Full Name:** NEC-CMP Panel 02**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Fri Jan 12 09:24:22 EST 2018

Make Editorial Changes
Based on Committee
Text

Committee Statement and Meeting Notes

Committee Statement: Section 220.60 is revised to clarify that the value found in 220.18(A) is used when determining if a motor load is included in the load calculations when the motor is one of the noncoincident loads.

Response Message:

Public Input No. 4256-NFPA 70-2017 [Section No. 220.60]

**First Revision No. 8081-NFPA 70-2018 [Section No. 220.87]****220.87** Determining Existing Loads.

The calculation of a feeder or service load for existing installations shall be permitted to use actual maximum demand to determine the existing load under all of the following conditions:

Exception: If the feeder or service has any renewable energy system (i.e., solar photovoltaic systems or wind electric systems) or employs any form of peak load shaving, this calculation method shall not be used.

- (1) The maximum demand data is available for a 1-year period.

Exception: If the maximum demand data for a 1-year period is not available, the calculated load shall be permitted to be based on the maximum demand (the highest average kilowatts reached and maintained for a 15-minute interval) continuously recorded over a minimum 30-day period using a recording ammeter or power meter connected to the highest loaded phase of the feeder or service, based on the initial loading at the start of the recording. The recording shall reflect the maximum demand of the feeder or service by being taken when the building or space is occupied and shall include by measurement or calculation the larger of the heating or cooling equipment load, and other loads that may be periodic in nature due to seasonal or similar conditions.

- (2) The maximum demand at 125 percent plus the new load does not exceed the ampacity of the feeder or rating of the service.
- (3) The feeder has overcurrent protection in accordance with 240.4, and the service has overload protection in accordance with 230.90.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

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Submittal Date: Fri Jan 12 10:59:15 EST 2018

Make Editorial Changes
Based on Committee Text

Committee Statement and Meeting Notes

Committee Statement: Any feeder or service that includes any form of renewable energy system or peak load shaving system has effectively altered the actual peak demand load seen by a meter such that the maximum demand data available does not reflect the actual peak demand for the feeder or service. Additionally, there is no effective way to determine the contribution from these systems so the peak demand could be calculated and there is no easy way to describe a metering scenario that could be used to obtain the actual peak demand.

Therefore, an exception is added to indicate that the calculation method shall not be used if the feeder or service has any renewable energy system or employs any form of peak load shaving.

**Response
Message:**

Committee Notes:

<u>Date</u>	<u>Submitted By</u>
Jan 12, 2018	NEC-CMP Panel only revision is addition of exception under charging paragraph 02

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[Public Input No. 3628-NFPA 70-2017 \[Section No. 220.87\]](#)

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First Revision No. 7537-NFPA 70-2018 [Sections 210.52(C)(1), 210.52(C)(2), 210.52(C)(3), 210.52(C...)

Sections 210.52(C)(1), 210.52(C)(2), 210.52(C)(3), 210.52(C)(4), 210.52(C)(5)

(1)– Wall _ Countertop and Work Surface.

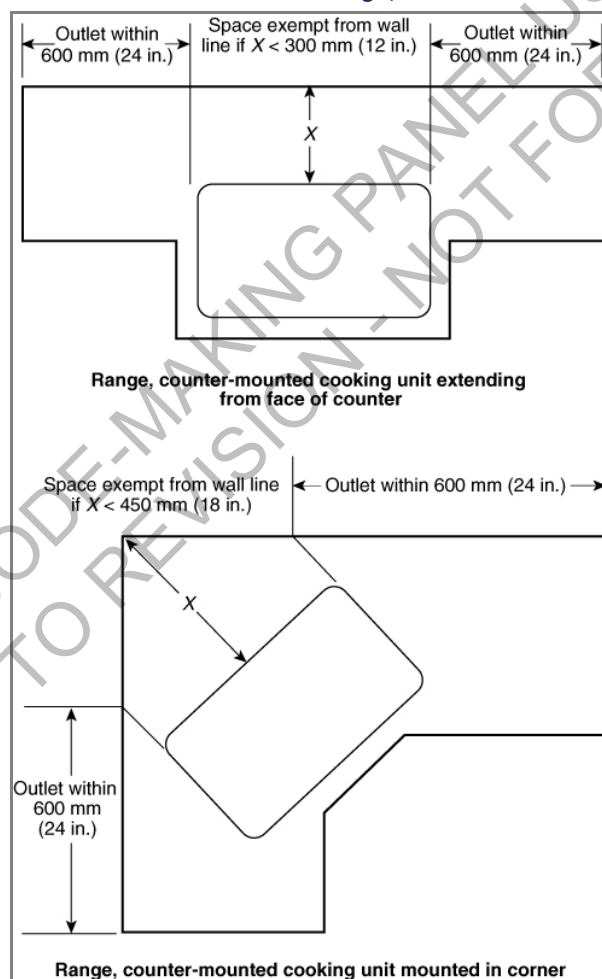
A receptacle outlet shall be installed at each wall countertop and work surface that is 300 mm (12 in.) or wider. Receptacle outlets shall be installed so that no following either (a) or (b).

(a) No point along the wall line is more than 600 mm (24 in.) measured horizontally from a receptacle outlet in that space.

(b) No point on the countertop or work surface is more than 900 mm (36 in.) measured horizontally from a receptacle outlet in that space.

Exception: Receptacle outlets shall not be required on a wall directly behind a range, counter-mounted cooking unit, or sink in the installation described in Figure 210.52(C)(1).

Figure 210.52(C)(1) Determination of Area Behind a Range, Counter-Mounted Cooking Unit, or Sink.



(2)

–Island Countertop Spaces

Receptacle Outlet Location .

At least one receptacle shall be installed at each island countertop space with a long dimension of 600 mm (24 in.) or greater and a short dimension of 300 mm (12 in.) or greater.

(3)– Peninsular Countertop Spaces.

At least one receptacle outlet shall be installed at each peninsular countertop long dimension space with a long dimension of 600 mm (24 in.) or greater and a short dimension of 300 mm (12 in.) or greater. A peninsular countertop is measured from the connected perpendicular wall.

(4)– Separate Spaces.

Countertop spaces separated by rangetops, refrigerators, or sinks shall be considered as separate countertop spaces in applying the requirements of 210.52(C)(1). If a range, counter-mounted cooking unit, or sink is installed in an island or peninsular countertop and the depth of the countertop behind the range, counter-mounted cooking unit, or sink is less than 300 mm (12 in.), the range, counter-mounted cooking unit, or sink shall be considered to divide the countertop space into two separate countertop spaces. Each separate countertop space shall comply with the applicable requirements in 210.52(C).

(5)– Receptacle Outlet Location.

Receptacle outlets shall be located on or ~~Receptacle outlets shall be located in one or more of the following:~~

(a) ~~On or above countertop or work surfaces:~~ On or above, but not more than 500 mm (20 in.) above, the countertop or work surface.

(b) ~~In countertop or work surfaces:~~ Receptacle outlet assemblies listed for use in countertops or work surfaces shall be permitted to be installed in countertops or work surfaces.

(c) ~~Below countertop or work surfaces:~~ Not more than 300 mm (12 in.) below the countertop or work surface. ~~Receptacles installed below a countertop or work surface shall not be located where the countertop or work surface extends more than 150 mm (6 in.) beyond its support base.~~

Receptacle outlets rendered not readily accessible by appliances fastened in place, appliance garages, sinks, or rangetops as covered in 210.52(C)(1), Exception, or appliances occupying dedicated space ~~assigned spaces~~ shall not be considered as these required outlets.

Informational Note: See 406.5(E) and 406.5(G) for requirements for installation of receptacles in countertops and 406.5(F) and 406.5(G) for requirements for installation of receptacles in work surfaces.

~~Exception to (5): To comply with the following conditions (1) and (2), receptacle outlets shall be permitted to be mounted not more than 300 mm (12 in.) below the countertop or work surface. Receptacles mounted below a countertop or work surface in accordance with this exception shall not be located where the countertop or work surface extends more than 150 mm (6 in.) beyond its support base.~~

- ~~Construction for the physically impaired~~

~~On island and peninsular countertops or work surface where the surface is flat across its entire surface (no backsplashes, dividers, etc.) and there are no means to mount a receptacle within 500 mm (20 in.) above the countertop or work surface, such as an overhead cabinet~~ *Informational Note: See Annex J, ADA Standards for Accessible Design, and ANSI/ICC A117.1-2009, Standard on Accessible and Usable Buildings and Facilities*

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

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Submittal Date: Mon Jan 08 12:01:20 EST 2018

Make Editorial Changes
Based on Committee Text

Committee Statement and Meeting Notes

Committee Statement: The method of measuring for receptacles has been simplified.

Section 210.52(C) has grown over several cycles. The new language addresses many kitchen designs

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and provides enough information for clear direction such that installers will be able to satisfy these simplified requirements. Two options have been provided to satisfy receptacle locations. The basic premise of this change is that no point along the countertop or work surface is more than 3 feet without a receptacle outlet in that space. This single requirement addresses peninsulars, islands, and all countertops and work surfaces. The language is clear, practical, easy to understand, and enforceable.

The 24 in. spacing is provided as option (a). An additional option, (b), has been provided that could be used in lieu of option (a). This option, while permissible on countertops with wall surfaces, is most useful for addressing peninsulars and islands and other similar applications where there is no wall space.

The informational note referring to Sections of Article 406 was removed as it was unnecessary and redundant as these are general requirements for receptacle installations.

The word "sink" is added to the the labels under each figure to match the figure title. The figures are representative of the many different configurations of sinks and counters.

The revision to (C)(1) is independent of the action on the rest of 210.52(C)

**Response
Message:**

Committee Notes:

<u>Date</u>	<u>Submitted By</u>	
Jan 8, 2018	NEC-CMP Panel 02	Change note on figures from: Range, counter-mounted cooking unit extending from face of counter to: Range, counter-mounted cooking unit, or sink, extending from face of counter
Jan 8, 2018	NEC-CMP Panel 02	Change note on figure from: Range, counter-mounted cooking unit mounted in corner to: Range, counter-mounted cooking unit, or sink mounted in corner

[Public Input No. 1647-NFPA 70-2017 \[Section No. 210.52\(C\)\]](#)

[Public Input No. 3134-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 4314-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 2283-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 774-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 3682-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 2694-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 1878-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 3834-NFPA 70-2017 \[Section No. 210.52\(C\)\(4\)\]](#)

[Public Input No. 3640-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 3837-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 3766-NFPA 70-2017 \[Section No. 210.52\(C\)\(1\)\]](#)

[Public Input No. 87-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 3188-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 1877-NFPA 70-2017 \[Section No. 210.52\(C\)\(2\)\]](#)

[Public Input No. 3184-NFPA 70-2017 \[Section No. 210.52\(C\)\(4\)\]](#)

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[Public Input No. 1648-NFPA 70-2017 \[Section No. 210.52\(C\)\(2\)\]](#)

[Public Input No. 3301-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 3057-NFPA 70-2017 \[Section No. 210.52\(C\)\(3\)\]](#)

[Public Input No. 1649-NFPA 70-2017 \[New Section after 210.52\(C\)\]](#)

FOR CODE-MAKING PANEL USE ONLY
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**First Revision No. 7588-NFPA 70-2018 [Sections 210.63, 210.64]****Sections 210.63, 210.64****210.63** ~~Heating, Air-Conditioning, and Refrigeration Equipment Outlet~~ 63 ~~Areas Where Equipment Requires Servicing~~.

A 125-volt, single-phase, 15- or 20-ampere-rated receptacle outlet shall be installed at an accessible location for the servicing of heating, air-conditioning, and refrigeration equipment. The receptacle ~~within 7.5 m (25 ft) of locations as specified in 210.63(A) and (B).~~

(A) Heating, Air-Conditioning, and Refrigeration Equipment Outlet.

The ~~receptacle outlet~~ shall be located on the same level and ~~within 7.5 m (25 ft) of~~ as the heating, air-conditioning, and refrigeration equipment. The receptacle outlet shall not be connected to the load side of the equipment disconnecting means.

Informational Note: See 210.8 for ground-fault circuit-interrupter requirements.

Exception: A receptacle outlet shall not be required at one- and two-family dwellings for the service of evaporative coolers.

210.64 ~~Electrical Service (B) Other Electrical Equipment Areas.~~

At least ~~In other than one 125-volt, single-phase, 15- or 20-ampere-rated and two-family dwellings, a~~ receptacle outlet shall be installed in an accessible location within 7.5 m (25 ft) of the indoor electrical service equipment. ~~located as specified in 210.64(B)(1) and (B)(2).~~

(1) Indoor Service Equipment

The required receptacle outlet shall be located within the same room or area as the service equipment.

~~Exception No. 1: The~~ (2) Dedicated Indoor Equipment Spaces without Service Equipment.

~~The required receptacle outlet shall not be required to be installed in one- and two-family dwellings. Exception No. 2: Where the service voltage is greater than 120 volts to ground, a receptacle outlet shall not be required for services dedicated to equipment covered in Articles 675 and 682 be located within the same room or area as the electrical equipment and shall not be connected to the load side of the equipment disconnecting means.~~

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
Panel_2_FR-7588_210.63_leg_changes.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 02

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 08 21:39:13 EST 2018

Make Editorial Changes
Based on Committee Text

Committee Statement and Meeting Notes

Committee The requirements from 210.63 and 210.64 have been combined. In doing so, the Exception 2 for

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Statement: 210.64 is deleted, as locations noted in that exception are outdoors and would not be subjected to this requirement. The text in Exception 1 for 210.64 is included as part of the basic requirement, thus removing the need for that exception.

New sub section (B)(2) addresses equipment other than service equipment, requiring a receptacle outlet to be provided where there will be the need to service and maintain equipment. This restructuring also includes the addition of the term "indoor" in the heading of the new (B)(2) to align with the fact that this requirement is specific to indoor service equipment.

While the requirements from 210.63 remain unchanged, the informational note is removed as it is considered unnecessary.

**Response
Message:**

[Public Input No. 664-NFPA 70-2017 \[Section No. 210.64\]](#)

[Public Input No. 1085-NFPA 70-2017 \[Section No. 210.64\]](#)

[Public Input No. 916-NFPA 70-2017 \[Section No. 210.64\]](#)

[Public Input No. 3699-NFPA 70-2017 \[Section No. 210.64\]](#)

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