City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Article 100

Submitted by: National Electrical Code Committee

ARTICLE 100 Definitions

Building. A structure that stands alone or that is separated from adjoining structures by fire walls. Fire walls shall be as defined by the International Building Code. For purposes of compliance with this code, a townhouse dwelling unit shall be considered a building if the townhouse dwellings units are separated from adjoining townhouse dwelling units by either fire walls or by double walls or common walls that do not serve as gravity load bearing walls. For the purposes of this definition, see the International Residential Code for double wall and common wall provisions for townhouses.

Elevator Disconnect Room or Closet.
An enclosed room or closet, with full-height door, located outside the hoistway, intended to be accessed with or without full bodily entry that is dedicated to electrical and/or mechanical equipment used directly in connection with the elevator when the elevator controller is located in the hoistway. The elevator disconnect required in 620.51(A), and the other elevator related disconnects, overcurrent devices, lighting, receptacles, etc. required by 620.22, 620.23, and 620.25 shall be located in this room or closet. In other than one- and two-family dwellings, and unless special permission is granted, the room or closet shall be located on the same level as the controller, within 50 feet of travel distance from the hoistway, shall be accessed directly from the corridor, and shall be accessible to qualified persons only. A label shall be provided at the elevator controller location identifying the location of the elevator disconnect room or closet. In one- and two-family dwellings only, an elevator disconnect room or closet shall not be required where the disconnecting means is located outside the hoistway in a readily accessible location and accessible to qualified persons only by being lockable in both the open and closed position and labeled in accordance with 110.22(A). The provisions for locking shall remain in place with or without the lock installed. The other disconnects, overcurrent devices, lighting, and receptacles required by 620.22, 620.23, and 620.25 shall be located adjacent to the disconnect required in 620.51(A).

Justification:

Building. The definition of Building when referenced by the NEC has been expanded to include townhouse dwelling units when separated by double walls or common walls that do not serve as gravity load bearing walls. This provides clarity related to townhouses with respect to NEC compliance.

Elevator Disconnect Room or Closet. A new definition has been added for Elevator Disconnect Room or Closet to define the dedicated space that is required to contain the elevator disconnects when the elevator controller is located in the hoistway. MRL (Machine Room Less) elevators typically have the elevator controller located in the hoistway. The code requires that disconnecting means for the elevator and related equipment be located outside the hoistway in a readily accessible location that is accessible to qualified persons only. This new definition of this location defined as a room or closet with a full height door is necessary to avoid confusion as to

an acceptable space that meets the various code sections related to these disconnects, including but not limited to NEC 620.51(C)(1), 620.22, 620.23, 620.25, 100, and 110.26. It is also important that the location of the room or closet is near the hoistway on the same level as the controller to allow quick access to the disconnects by first responders and elevator personnel in the event of an emergency. This is further emphasized by the requirement for a label indicating the location of the room or closet. In one- and two-family dwellings only, the room or closet is optional. However, if the room or closet is not provided, the disconnect must still be located outside the hoistway in a readily accessible location that is accessible to qualified persons only by being lockable in both the open and closed position and labeled as to its purpose. The other disconnects, overcurrent devices, lighting, and receptacles required by 620.22, 620.23, and 620.25 shall be located adjacent to the disconnect required in 620.51(A).

Cost Impact: Minimal cost impact.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 01/10/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date: 06/18/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 210.52(C)(2) and (3)

Submitted by: Home Builders Association of Central Arizona

210.52(C)(2) Island and Peninsular Countertops and Work Surfaces.
~~Receptacle outlets, if installed to serve an island or peninsular countertop or work surface, shall be installed in accordance with 210.52(C)(3). If a receptacle outlet is not provided to serve an island or peninsular countertop or work surface, provisions shall be provided at the island or peninsula for future addition of a receptacle outlet to serve the island or peninsular countertop or work surface.~~
At least one receptacle shall be installed at each island and peninsular countertop 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.

210.52(C)(3)Receptacle Outlet Location.
Receptacle outlets shall be located in one or more of the following:
(1) On or above, but not more than 500 mm (20 in.) above, a countertop or work surface
(2) In a countertop using receptacle outlet assemblies listed for use in countertops
(3) In a work surface using receptacle outlet assemblies listed for use in work surfaces or listed for use in countertops

Receptacle outlets rendered not readily accessible by appliances fastened in place, appliance garages, sinks, or rangetops as covered in 210.52(C)(1), Exception No. 1, or appliances occupying assigned spaces shall not be considered as these required outlets.
Exception: 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.
(1) Construction for the physically impaired
(2) 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 No. 1: See 406.5(E) for installation of receptacles in countertops and 406.5(F) for installation of receptacles in work surfaces. See 380.10 for installation of multioutlet assemblies.
Informational Note No. 2: See Informative Annex J and ANSI/ICC A117.1-2009, Standard on Accessible and Usable Buildings and Facilities, for additional information.

Justification:
There is inadequate justification to prohibit receptacles below the countertop or work surface. It is important to remember that the NEC is a minimum code, and its requirements should reflect that. Data from the U.S. Consumer Protection Safety Commission was presented as support for this change. However, the incidents recorded by the CPSC does not specifically indicate that

receptacles below the countertops of islands and peninsulas were the cause. There is also no proof that the changes made to the 2023 NEC will be beneficial.
The ultimate responsibility during the use of electrical appliances falls upon the user. To that end, appliance manufacturers have taken measures to address the concern. Manufacturers of cooking appliances already include multiple warnings in their instruction manuals. Below are examples from a single instruction manual of one appliance.

- "Close supervision is necessary when any appliance is used by or near children."
- "Do not let cord hang over edge of table or counter or touch hot surfaces."
- "Use deep fryer only on a clean, dry, level, stable, and heat-resistant surface, away from countertop edge."
- "Close supervision is necessary when any appliance is used by or near children. Hot oil can cause serious and painful burns."

Most notably, manufacturers have already addressed the issue through innovations, such as magnetic cords that are designed to detach easily from the appliance if pulled. This design feature would prove effective in all circumstances, including all of the existing receptacles located below the countertop.
Surprisingly, the proposed change does not actually prohibit all receptacles from being installed below a countertop on an island or peninsula, and therefore, will have limited effect. There are two reasons for this. First, only receptacles installed "to serve" an island or peninsular countertop or work surface would need to be installed in the areas specified by 210.52(C)(4). Convenience receptacles (at the standard height of 18 inches above finished floor) installed in an island or peninsula do not serve the countertop or work surface, and therefore, would be allowed.
Secondly, this provision is located under Part III. of article 210 titled Required Outlets (beginning at Section 210.50). Because this section only applies to required outlets, additional outlets would be allowed below the countertop as usual.
The reason given during the panel meeting for the new requirement under 210.52(C)(2) was that it would be too difficult to install a receptacle in an island or peninsula on a slab-on-grade floor after the home was completed. However, over a third of all new single-family homes are built over either a basement or a crawl space (source: https://eyeonhousing.org/2021/08/65-of-new-single-family-homes-used-slab-foundationin-2020/). In these cases, it would be possible to access the island or peninsula from below if a future receptacle were to be installed. Requiring all homes to meet the proposed text is too restrictive. There is also concern about how inspectors may enforce this provision differently. "Provisions shall be provided" is a very open requirement and can lead to differing guidance from no additional work needed (such as when there is access from below) to providing a powered circuit terminating in an electrical box. Requirements that are open to interpretation can be enforced much more strictly than those that clearly state what is intended—adding unnecessary costs to the homeowner.
This is yet another major change to the NEC with possible unintended consequences; adopting it can conceivably result in problems requiring future changes. These constant changes lead to confusion among all users of the code.

Cost Impact:

Staff Committee Rationale for Recommendation:
The NEC Committee recommended this proposed amendment to be denied as it does not address the additional safety hazard associated with the documented cases of children being burned by pulling the appliance cord that is plugged into a receptacle located below the counter. The intent of NEC 210.52 (and much of the electrical code) is to provide receptacle outlets located to preclude the need for extension cords. The code has long required at least one receptacle outlet, (located below the respective countertop), to serve island or peninsular

countertops. However, due to numerous instances of burn injuries as a result of spilling hot contents of countertop cooking appliances on children that pulled the appliance cord; the 2023 NEC was revised to no longer allow receptacle outlets to be located below the countertop. An amendment is proposed by the NEC Committee to address concerns with extension cords by requiring at least one receptacle at island and peninsula spaces.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 2/11/2025
☐ Approved as submitted ☐ Modified and approved ☒ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date: 06/18/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 210.52(G)(1)

Submitted by: National Electrical Code Committee

ARTICLE 210 Branch Circuits

210.52(G)(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 at not less than (18) inches and not more than 1.7 m (5 ½ ft.) above the floor.

Justification:
2024 IRC section G2408.2 (305.3) Elevation of ignition source. This section states that equipment and appliances having an ignition source shall be elevated such that the source of the ignition is not less than 18 inches (457 mm) above the floor in hazardous locations and public garages, private garages, repair garages, motor fuel dispensing facilities and parking garages.

Many private/dwelling garages are utilized to work on vehicles or other equipment that contain volatile fuels or other liquids and gases. Other jurisdictions around the United States have amended this section of NEC article 210.52 to address this situation. The receptacles outlets, if installed below the 18 inches, could possibly become an ignition source which could cause fire, property damage, injury, or death if these volatile liquids or gases are present.

Cost Impact: No cost impact. Receptacle outlets are required in the dwelling garages as per the NEC. All wiring and associated electrical equipment do not change from the NEC standard requirement.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 11/21/2024
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date: 06/18/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 215.25

Submitted by: National Electrical Code Committee

ARTICLE 215 Feeders

215.25 Feeder Circuits in Attached Single-Family Dwellings (Townhouses).
Dwelling Unit Feeders. Feeder circuits in each dwelling unit of attached one-family dwellings (townhouses) shall supply only loads within that dwelling unit or loads associated with that dwelling unit. Feeders serving adjoining townhouse dwelling units shall not pass through, above, below, or be attached to other townhouse dwelling units. This applies regardless of ownership of the individual townhouse units.

Justification:
Matching the intent of 210.25 for branch circuits with dwelling units, a new section was added to 215.25 for feeders serving attached one-family dwellings (townhouses). This new section clarifies that since the townhouse dwelling unit includes all spaces from foundation to roof, that feeders that do not serve an individual townhouse unit shall not pass through, above, below, or be attached to that unit. Townhouses can be sold as individual units. This section ensures that any work requiring access to the feeder does not require entry into another owner's unit.

Cost Impact: No cost impact. Feeders are not permitted to enter another person's property.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**

ACTION TAKEN:

2024 Code Committee				Date: 12/20/2024
☒ Approved as submitted	☐ Modified and approved	☐ Denied	☐ No action taken	
Development Advisory Board (DAB) Subcommittee				Date: 03/13/2025
☒ Approved as submitted	☐ Modified and approved	☐ Denied	☐ No action taken	
Development Advisory Board (DAB)				Date: 04/22/2025
☒ Approved as submitted	☐ Modified and approved	☐ Denied	☐ No action taken	
Transportation, Infrastructure and Planning Subcommittee				Date: 05/21/2025
☒ Approved as submitted	☐ Modified and approved	☐ Denied	☐ No action taken	
City Council Action				Date: 06/18/2025
☒ Approved as submitted	☐ Modified and approved	☐ Denied	☐ No action taken	

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 250.118(4)

Submitted by: National Electrical Code Committee

ARTICLE 250 Grounding and Bonding

250.118 Types of Equipment Grounding Conductors. The equipment grounding conductor run with or enclosing the circuit conductors shall be one or more or a combination of the following:

(4) Electrical metallic tubing with an additional equipment grounding conductor.

Justification:
This amendment requires that specific wiring methods include an individual equipment-grounding conductor. This amendment is more restrictive than the NEC, but provides for a higher degree of equipment grounding safety. The intent of the amendment is to supplement the low impedance path to ground and to attain reasonable compliance with requirements for the performance of the fault current path.

Cost Impact: Minor increase. Cost due to additional grounding conductor.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 11/21/2024	
☒ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025	
☒ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025	
☒ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025	
☒ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken
City Council Action	Date: 06/18/2025	
☒ Approved as submitted	☐ Modified and approved	☐ Denied ☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 310.12

Submitted by: National Electrical Code Committee

ARTICLE 310 Conductors for General Wiring

310.12 120/240-Volt, Single-Phase Dwelling Services and Feeders. For one-family dwellings and the individual dwelling units of two-family and multifamily dwellings, service and feeder conductors supplied by a single-phase, 120/240-volt system shall be permitted to be sized in accordance with 310.12(A) through (D).

~~For one-family dwellings and the individual dwelling units of two-family and multifamily dwellings, single-phase feeder conductors consisting of two ungrounded conductors and the neutral conductor from a 208Y/120 volt system shall be permitted to be sized in accordance with 310.12(A) through (C).~~

(A) Services. For a service rated 100 amperes through 400 amperes, the service conductors supplying the entire load associated with a one-family dwelling, or the service conductors supplying the entire load associated with an individual dwelling unit in a two-family or multifamily dwelling, shall be permitted to have an ampacity not less than 83 percent of the service rating. If no adjustment or correction factors are required, Table 310.12(A) shall be permitted to be applied.

(B) Feeders. For a feeder rated 100 amperes through 400 amperes, the feeder conductors supplying the entire load associated with a one-family dwelling, or the feeder conductors supplying the entire load associated with an individual dwelling unit in a two-family or multifamily dwelling, shall be permitted to have an ampacity not less than 83 percent of the feeder rating. If no adjustment or correction factors are required, Table 310.12(A) shall be permitted to be applied.

(C) Feeder Ampacities. In no case shall a feeder for an individual dwelling unit be required to have an ampacity greater than that specified in 310.12(A) or (B).

(D) Grounded Conductors. Grounded conductors shall be permitted to be sized smaller than the ungrounded conductors, if the requirements of 220.61 and 230.42 for service conductors or the requirements of 215.2 and 220.61 for feeder conductors are met.

Where correction or adjustment factors are required by 310.15(B) or (C), they shall be permitted to be applied to the ampacity associated with the temperature rating of the conductor.

Informational Note No. 1: See 240.6(A) for standard ampere ratings for fuses and inverse time circuit breakers.

Informational Note No. 2: See Informative Annex D, Example D7.

Justification:
Conductor ampacity is required by the code to be selected per the ampacity tables and adjusted for conditions that cause heating of the conductor. The ampacity of a conductor is affected by heat, including both the heat generated by current flowing in the conductor, and other adjacent conductors, and from the ambient temperature surrounding the conductors.

The ampacities in Table 310.16 are based on three current-carrying conductors in a raceway or cable and an ambient temperature of 86°F.

The code requires that if there are more than three current-carrying conductors, that the allowable ampacity be adjusted by the factors listed in Table 310.15(C)(1). This is due to the additional heating effects of having more current-carrying conductors in the same raceway or cable. Similarly, the code requires the ampacity to be adjusted if the ambient temperature is greater than the 86° F that Table 310.16 is based upon. The ampacity must be adjusted by the factors listed in Table 310.15(B)(1)(1). This is because the higher ambient temperature reduces the ampacity of the conductor as well as hinders the dissipation of heat from the conductor.

The 2017 NEC added 208Y/120-volt single-phase 3-wire systems to Section 310.15(B)(7). This presented an unsafe installation.

Consider the electrical characteristics of a single-phase 120/240V system, which has two ungrounded conductors and a neutral conductor. The ungrounded conductors are 180 degrees out of phase with each other. Therefore, for a balanced load, the neutral current would be zero and for an unbalanced load the neutral current will be a small value based on the unbalance. This system essentially represents two current-carrying conductors since the neutral current is negligible.

However, in a 208Y/120-volt single-phase system, with two ungrounded conductors and a neutral conductor, the ungrounded conductors are 120 degrees out of phase with each other. This results in neutral current that is the same as the phase current for a balanced load and almost as large as the phase current for an unbalanced load. Therefore, this system represents three current-carrying conductors.

Prior to the 2017 edition, NEC 310.15(B)(7), (now 2023 NEC 310.12), has historically only been applicable to 120/240-volt single phase dwelling services and feeders. This is due to considering only two current-carrying conductors and allowing an increase in ampacity in those conductors due to less heat being generated by the conductors. However, since 208V single-phase systems must be considered three current-carrying conductors, the ampacities in Table 310.16 must be used and 310.12 should not apply. Allowing the use of this ampacity adjustment on 208Y/120-volt systems will result in conductors being undersized based on the load and the overcurrent device intended to protect them. This will be an unsafe installation that could result in fire.

This amendment removes 208Y/120-volt systems from the code section. NEC 310.12 is only applicable to 120/240V single-phase dwellings.

Cost Impact: Minor increase.

Approved in previous 2018 Code Adoption process:	☒ **YES** ☐ **NO**
ACTION TAKEN:	
2024 Code Committee	Date: 11/21/2024
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date: 06/18/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 312.5(C) Exception No. 2

Submitted by: National Electrical Code Committee

ARTICLE 312 Cabinets, Cutout Boxes, and Meter Socket Enclosures

312.5(C) Cables.

Exception No. 2: For one- and two-family dwellings, cables with entirely nonmetallic sheaths shall be permitted to enter the back of a surface-mounted enclosure through one or more nonflexible raceways not more than 3 inches in diameter, and not less than 3 inches and not more than 24 inches in length, provided all of the following conditions are met:

1. *Each cable is fastened within 8 inches, measured along the sheath of the outer end of the raceway.*
2. *The raceway extends directly into an enclosed wall space.*
3. *A fitting is provided on each end of the raceway to protect the cable(s) from abrasion.*
4. *The raceway is sealed or plugged using approved means so as to prevent access to the enclosure through the raceway.*
5. *The cable sheath is continuous through the raceway and extends into the enclosure beyond the fitting not less than 2 inches.*
6. *The raceway, if greater than 12 inches, is fastened at its outer end in accordance with the applicable article.*
7. *The raceway shall be permitted to be filled to 60 percent of its total cross-sectional area, and 310.15(B)(3)(a) adjustment factors need not apply to this condition.*

Exception No. ~~2~~ 3: Single conductors and multiconductor cables shall be permitted to enter enclosures in accordance with 392.46(A) or (B).

Justification:
The intent of NEC 312.5(C) is to secure the cables and protect them from abrasion.
The method described in the code is to secure each cable separately to the panel enclosure.
The exception to the code allows multiple NM cables to be installed in a conduit sleeve connected to the top of the panel and stubbed into the ceiling space of an interior room (such as an unfinished basement). Securement happens within 12 inches of the point the NM cables emerge from the other end of the sleeve.

The standard practice in the Phoenix area of installing a short conduit sleeve from the back of an exterior mounted panel enclosure into the wall cavity of one- or two-family dwellings and installing multiple type NM cables through the sleeve complies with the intent of NEC 312.5(C) and its exception. The cables are required to be secured within 8 inches of emerging from the sleeve in the wall cavity, the sleeve is required to be sealed on the outside and inside, the cable sheath is continuous within the raceway and for a minimum of 2 inches upon entering the enclosure, and the sleeve is required to have fittings installed to prevent abrasion of the cables.

Cost Impact: No cost impact.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**
ACTION TAKEN:
2024 Code Committee Date: 12/16/2024 ☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken
Development Advisory Board (DAB) Subcommittee Date: 03/13/2025 ☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken
Development Advisory Board (DAB) Date: 04/22/2025 ☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken
Transportation, Infrastructure and Planning Subcommittee Date: 05/21/2025 ☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken
City Council Action Date: 06/18/2025 ☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 334.10

Submitted by: National Electrical Code Committee

ARTICLE 334 Nonmetallic-Sheathed Cable: Types NM and NMC

Part II. Installation

334.10 Uses Permitted. Type NM and Type NMC cables shall be permitted to be used in the following, except as prohibited in 334.12:

(1) One- and two-family dwellings and their attached or detached garages, and their storage buildings.

(2) Dwelling units in m~~M~~ulti-family dwellings ~~and their detached garages~~ permitted to be of Types III, IV, and V construction.

~~(3) Other structures permitted to be of Types III, IV, and V construction. Cables shall be concealed within walls, floors, or ceilings that provide a thermal barrier of material that has at least a 15-minute finish rating as identified in listings of fire-rated ass~~

~~(4)~~
(3) Cable trays in dwellings in accordance with 334.10(1) or in dwelling units, in accordance with 334.10(2), ~~structures permitted to be Types III, IV, or V~~ where the cables are identified for the use.

~~(5)~~
(4) Dwelling units in Types I and II construction where installed within raceways permitted to be installed in Types I and II construction.

Justification:
The use of Nonmetallic-Sheathed cable in commercial buildings has not typically been permitted in the Phoenix metropolitan area as well as many surrounding cities. Nonmetallic-Sheathed cable (NM) is traditionally used in dwelling units, whereas a stouter wiring method enclosed within raceways is traditionally used in commercial buildings.

The code restrictions of the NEC, with respect to allowing type NM cable in a commercial building, would tend to make the installation impractical in most cases, (i.e. NM cable would not be allowed underground or in drop ceilings), and at best the resulting installation would likely be a mixture of several different wiring methods, (each with their own requirements). This type of mixture would actually tend to make the installation more complex, creating a larger hurdle to providing a code compliant installation.

Concerns also exist that Nonmetallic-Sheathed Cable would be more subject to damage, such as nicks in the insulation, etc. The integrity of the insulation is critical to the safety of the electrical installation. In dwelling units, the NEC requires AFCI (Arc-Fault Circuit Interrupter)

protection for most circuits since a nick in the insulation, such as from a nail for hanging a picture, can cause an arcing fault which may not be cleared by a normal circuit breaker before a fire starts.

The AFCI breaker was developed specifically to detect and clear arcing faults; however, the NEC does not require AFCI protection in most non-dwelling occupancies.

It is therefore the general consensus of the electrical section, and supported in general by the Electrical Focus Group, (made up of members of the local electrical engineering community and others members of the industry), that the use of Nonmetallic-Sheathed Cable should be restricted to dwellings, as described within this document, to provide a higher degree of electrical safety in other occupancies.

Cost Impact:
Additional cost due to the cost difference between an installation consisting of Nonmetallic-Sheathed Cable and an installation consisting of another wiring method, depending on the wiring method chosen.

Approved in previous 2018 Code Adoption process: ☒ **YES** ☐ **NO**

ACTION TAKEN:	
2024 Code Committee	Date: 12/16/2024
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date: 06/18/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 620.6(B)

Submitted by: National Electrical Code Committee

ARTICLE 620 Elevators, Dumbwaiters, Escalators, Moving Walks, Platform Lifts, and Stairway Chairlifts

620.6 Ground-Fault Circuit-Interrupter Protection for Personnel.

(B) Machine Rooms, Control Spaces, Machinery Spaces, Control Rooms, Elevator Disconnect Rooms or Closets, and Truss Interiors. All 125-volt, single-phase, 15- and 20-ampere receptacles installed in machine rooms, control spaces, machinery spaces, control rooms, elevator disconnect rooms or closets, and truss interiors shall have listed Class A ground-fault circuit-interrupter protection for personnel.

Justification:
A new definition has been added for Elevator Disconnect Room or Closet to define the space that is required to contain the elevator disconnects, overcurrent devices, and related lighting and receptacles when the elevator controller is located in the hoistway. This amendment adds references to the elevator disconnect room or closet.

Cost Impact: Minor increase.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**

ACTION TAKEN:	
2024 Code Committee	Date: 01/10/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date: 06/18/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 620.22

Submitted by: National Electrical Code Committee

ARTICLE 620 Elevators, Dumbwaiters, Escalators, Moving Walks, Platform Lifts, and Stairway Chairlifts

620.22 Branch Circuits for Car Lighting, Receptacle(s), Ventilation, Heating, and Air-Conditioning.

(A) Car Light Receptacles, Auxiliary Lighting, and Ventilation.
A separate branch circuit shall supply the car lights. The car lights branch circuit shall be permitted to supply receptacles (alarm devices, emergency responder radio coverage (ERRC), car ventilation purification systems, monitoring devices not part of the control system), auxiliary lighting power source, car emergency signaling, communications devices (including their associated charging circuits), and ventilation on each elevator car or inside the operation controller. The overcurrent device protecting the branch circuit shall be located in the elevator machine room, control room, machinery space, or control space. Where there is no machine room, control room, machinery space, or control space outside the hoistway, the overcurrent device shall be located outside the hoistway in an elevator disconnect room or closet and accessible to qualified persons only.

Required lighting shall not be connected to the load side of a ground-fault circuit interrupter.

(B) Air-Conditioning and Heating Source.

A separate branch circuit shall supply the air-conditioning and heating units on each elevator car. The overcurrent device protecting the branch circuit shall be located in the elevator machine room, control room, machinery space, or control space. Where there is no machine room, control room, machinery space, or control space outside the hoistway, the overcurrent device shall be located outside the hoistway in an elevator disconnect room or closet and accessible only to qualified persons.

Justification:
A new definition has been added for Elevator Disconnect Room or Closet to define the space that is required to contain the elevator disconnects, overcurrent devices, and related lighting and receptacles when the elevator controller is located in the hoistway. This amendment adds references to the elevator disconnect room or closet.

Cost Impact: Minor increase.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**

ACTION TAKEN:	
2024 Code Committee	Date: 01/10/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date: 06/18/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 620.23

Submitted by: National Electrical Code Committee

ARTICLE 620 Elevators, Dumbwaiters, Escalators, Moving Walks, Platform Lifts, and Stairway Chairlifts

620.23 Branch Circuits for Machine Room, Control Room/Machinery Space, Control Space, Elevator Disconnect Room or Closet, or Truss Interior Lighting and Receptacle(s).

(A) Separate Branch Circuits.
The branch circuits supplying the lighting for machine rooms, control rooms, machinery spaces, control spaces, elevator disconnect rooms or closets, or truss interiors, where required, shall be separate from the branch circuits supplying the receptacles in those places. These circuits shall supply no other loads.

Required lighting shall not be connected to the load side of a ground-fault circuit interrupter.

(B) Lighting Switch.
The machine room, control room/machinery space, ~~or~~ control space, or elevator disconnect room or closet lighting switch shall be located at the point of entry.

(C) Duplex Receptacle.
At least one 125-volt, single-phase, 15- or 20-ampere duplex receptacle shall be provided in each machine room, control room and machinery space, control space, elevator disconnect room or closet, and in truss interiors where required.

Justification:
A new definition has been added for Elevator Disconnect Room or Closet to define the space that is required to contain the elevator disconnects, overcurrent devices, and related lighting and receptacles when the elevator controller is located in the hoistway. This amendment adds references to the elevator disconnect room or closet.

Cost Impact: Minor increase.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 01/10/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025

☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken	
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken	
City Council Action	Date: 06/18/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken	

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 620.25(B)

Submitted by: National Electrical Code Committee

ARTICLE 620 Elevators, Dumbwaiters, Escalators, Moving Walks, Platform Lifts, and Stairway Chairlifts

620.25 Branch Circuits for Other Utilization Equipment.

(B) Overcurrent Devices.
The overcurrent devices protecting the branch circuit(s) shall be located in the elevator machine room, control room, machinery space, or control space. Where there is no machine room, control room, machinery space, or control space outside the hoistway, or for escalator and moving walk applications, the overcurrent device shall be located outside the hoistway in an elevator disconnect room or closet and accessible only to qualified persons.

Justification:
A new definition has been added for Elevator Disconnect Room or Closet to define the space that is required to contain the elevator disconnects, overcurrent devices, and related lighting and receptacles when the elevator controller is located in the hoistway. This amendment adds references to the elevator disconnect room or closet.

Cost Impact: Minor increase.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**

ACTION TAKEN:

2024 Code Committee	Date: 01/10/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date: 06/18/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025

City of Phoenix
PLANNING & DEVELOPMENT DEPARTMENT

BUILDING CONSTRUCTION CODE CHANGE PROPOSAL

Amendment to 2023 National Electrical Code (NEC)
Section 620.51(C)(1)

Submitted by: National Electrical Code Committee

ARTICLE 620 Elevators, Dumbwaiters, Escalators, Moving Walks, Platform Lifts, and Stairway Chairlifts

620.51(C) Location.

The disconnecting means shall be located where it is readily accessible to qualified persons.

(1) On Elevators Without Generator Field Control.
On elevators without generator field control, the disconnecting means shall be located within sight of the motor controller. Where the motor controller is located in the elevator hoistway, the disconnecting means required by 620.51(A) shall be located outside the hoistway in an elevator disconnect room or closet and accessible to qualified persons only. An additional fused or non-fused, enclosed, externally operable motor-circuit switch that is lockable open in accordance with 110.25 to disconnect all ungrounded main power-supply conductors shall be located within sight of the motor controller. The additional switch shall be a listed device and shall comply with 620.91(C).

Driving machines or motion and operation controllers not within sight of the disconnecting means shall be provided with a manually operated switch installed in the control circuit to prevent starting. The manually operated switch(es) shall be installed adjacent to this equipment.

Where the driving machine of an electric elevator or the hydraulic machine of a hydraulic elevator is located in a remote machine room or remote machinery space, a single means for disconnecting all ungrounded main power-supply conductors shall be provided and be lockable open in accordance with 110.25.

Justification:
A new definition has been added for Elevator Disconnect Room or Closet to define the space that is required to contain the elevator disconnects, overcurrent devices, and related lighting and receptacles when the elevator controller is located in the hoistway. This amendment adds references to the elevator disconnect room or closet.

Cost Impact: Minor increase.

Approved in previous 2018 Code Adoption process: ☐ **YES** ☒ **NO**

ACTION TAKEN:

2024 Code Committee Date: 01/10/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied ☐ No action taken

Development Advisory Board (DAB) Subcommittee	Date: 03/13/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Development Advisory Board (DAB)	Date: 04/22/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
Transportation, Infrastructure and Planning Subcommittee	Date: 05/21/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken
City Council Action	Date: 06/18/2025
☒ Approved as submitted ☐ Modified and approved ☐ Denied	☐ No action taken

Adopted by City of Phoenix Ordinance G-7397 effective August 1, 2025