Second Revision No. 7898-NFPA 70-2024 [Detail]

Renumber the current Article 627 and its content to Article 624.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 12:53:45 EDT 2024

Committee Statement

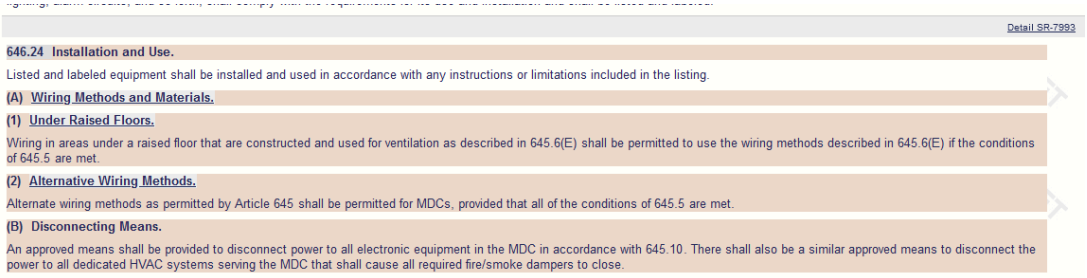
Committee Statement: Article 627 renumbered as Article 624 to be adjacent to the similar Article 625.

Response Message: SR-7898-NFPA 70-2024

Public Comment No. 163-NFPA 70-2024 [Article 627]

Second Revision No. 7993-NFPA 70-2024 [Detail]

Delete 646.4



Detail SR-7993

646.24 Installation and Use.

Listed and labeled equipment shall be installed and used in accordance with any instructions or limitations included in the listing.

(A) Wiring Methods and Materials.

(1) Under Raised Floors.

Wiring in areas under a raised floor that are constructed and used for ventilation as described in 645.6(E) shall be permitted to use the wiring methods described in 645.6(E) if the conditions of 645.5 are met.

(2) Alternative Wiring Methods.

Alternate wiring methods as permitted by Article 645 shall be permitted for MDCs, provided that all of the conditions of 645.5 are met.

(B) Disconnecting Means.

An approved means shall be provided to disconnect power to all electronic equipment in the MDC in accordance with 645.10. There shall also be a similar approved means to disconnect the power to all dedicated HVAC systems serving the MDC that shall cause all required fire/smoke dampers to close.

Supplemental Information

File Name	Description	Approved
CMP_12_SEction_646.24.docx	This word document shows where the existing text is being moved from and where it is being moved to. Please remove the location designations as they are just there to show where the text comes from and is not new text, just relocated text.	
NEC_CMP-12_Detail_SR-7993_646.4.docx	For prod use	

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Fri Oct 18 11:35:30 EDT 2024

Committee Statement

Committee Statement: Existing sections 646.4(K) Item (3), 646.4(K) Item (6) and 646.4(M) are to be moved to 646.24 since they are installation requirements and not part of other articles. Section 646.4 is not necessary in accordance with 90.3 and is thus being deleted. This removes redundancy in accordance with 4.1.2 of the NEC Style Manual.

Response Message: SR-7993-NFPA 70-2024

Public Comment No. 1105-NFPA 70-2024 [Section No. 646.4(B)]

Public Comment No. 1486-NFPA 70-2024 [Section No. 646.4(B)]

Public Comment No. 1111-NFPA 70-2024 [Section No. 646.4(E)]

Public Comment No. 1103-NFPA 70-2024 [Section No. 646.4(A)]

Public Comment No. 1142-NFPA 70-2024 [Section No. 646.4(K)]

Public Comment No. 1114-NFPA 70-2024 [Section No. 646.4(G)]

Public Comment No. 1112-NFPA 70-2024 [Section No. 646.4(F)]

Second Revision No. 7917-NFPA 70-2024 [Definition: Electric Self-Propelled Vehicle Supply Equipmen...]

Electric Self-Propelled Vehicle Supply Equipment (ESVSE).

Equipment for plug-in charging, including the ungrounded, grounded, and equipment grounding conductors, and the electric self-propelled vehicle connectors, attachment plugs, personnel protection system, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric self-propelled vehicle. (~~627~~ 624) (CMP-12)

Informational Note: Electric self-propelled vehicle power export equipment and electric self-propelled vehicle supply equipment or wireless power transfer equipment (WPTE) are sometimes contained in one piece of equipment, sometimes referred to as a bidirectional ESVSE or bidirectional WPTE.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 14:25:05 EDT 2024

Committee Statement

Committee Statement: The term “self-propelled” was added to the definition for clarity.

Response Message: SR-7917-NFPA 70-2024

Public Comment No. 164-NFPA 70-2024 [Definition: Electric Self-Propelled Vehicle Supply Equipmen...]

Public Comment No. 487-NFPA 70-2024 [Definition: Electric Self-Propelled Vehicle Supply Equipmen...]

Second Revision No. 7878-NFPA 70-2024 [Definition: Fastened-in-Place (as applied to electric vehic...]

~~**Fastened-in-Place (as applied to electric vehicle power transfer systems and electric self-propelled vehicle power transfer systems)**~~ **Hand Fastened** .

Mounting means of equipment in which the fastening means are specifically designed to permit removal without the use of a tool. (CMP-12)

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 11:35:46 EDT 2024

Committee Statement

Committee Statement: The term “fastened-in-place” is replaced with “hand fastened” for simplicity, clarity and consistency.

Response Message: SR-7878-NFPA 70-2024

Public Comment No. 2033-NFPA 70-2024 [Definition: Fastened-in-Place (as applied to electric vehic...]

Second Revision No. 7880-NFPA 70-2024 [Definition: Fixed-in-Place (as applied to electric vehicle ...]

~~**Fixed-in-Place (as applied to electric vehicle power transfer systems and electric self-propelled vehicle power transfer systems).**~~

~~Mounting means of equipment using fasteners that require a tool for removal. (CMP-12)~~

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 11:39:09 EDT 2024

Committee Statement

Committee Statement: The term “fixed-in-place” was deleted for simplicity, clarity and consistency.

Response Message: SR-7880-NFPA 70-2024

Public Comment No. 2040-NFPA 70-2024 [Definition: Fixed-in-Place (as applied to electric vehicle ...]

Second Revision No. 7987-NFPA 70-2024 [Definition: Remote Disconnect Control.]

Remote Disconnect Control.

An electric device and circuit that controls a disconnecting means through a relay or equivalent device. ~~(645)~~ (CMP-12)

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 19:48:57 EDT 2024

Committee Statement

Committee Statement: The designation for Article 645 was removed since the definition is intended to be used elsewhere in the code.

Response Message: SR-7987-NFPA 70-2024

Public Comment No. 1155-NFPA 70-2024 [Definition: Remote Disconnect Control.]

Second Revision No. 7882-NFPA 70-2024 [Definitions (100): Portable.... to Portable....]

Portable.

~~A device intended for indoor or outdoor use that is designed to be hand-carried from location to location, or easily transported without the use of other devices or equipment. (625)~~ Capable of being relocated with or without mechanical assistance to another location for use. (CMP-12)

~~**Portable.**~~

~~X-ray equipment designed to be hand-carried. (660) (CMP-12)~~

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 11:56:32 EDT 2024

Committee Statement

Committee Statement: The two definitions have been deleted. A new definition has been added to define "portable" within CMP-12 articles.

Response Message: SR-7882-NFPA 70-2024

Public Comment No. 497-NFPA 70-2024 [Definitions (100): Portable.... to Portable....]

Second Revision No. 7780-NFPA 70-2024 [Section No. 610.41(A)]

(A) Single Feeder.

The runway supply conductors and main contact conductors of a crane or monorail shall be protected by an ~~overcurrent device(s)~~ OCPD that shall not be greater than the largest rating or setting of any branch-circuit protective device plus the sum of the nameplate ratings of all the other loads with application of the demand factors from Table 610.14(E)(3).

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 13:39:17 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7780-NFPA 70-2024

Public Comment No. 1652-NFPA 70-2024 [Global Input]

Second Revision No. 7781-NFPA 70-2024 [Section No. 610.43(A)]

(A) Motor and Branch-Circuit Overload Protection.

Each motor, motor controller, and branch-circuit conductor shall be protected from overload by one of the following means:

(1) A single motor shall be considered as protected where the branch-circuit ~~overcurrent device~~ OCPD meets the rating requirements of 610.42.

(2) Overload relay elements in each ungrounded circuit conductor, with all relay elements protected from short circuit by the branch-circuit protection.

(3) Thermal sensing devices, sensitive to motor temperature or to temperature and current, that are thermally in contact with the motor winding(s). Hoist functions shall be considered to be protected if the sensing device limits the hoist to lowering only during an overload condition. Traverse functions shall be considered to be protected if the sensing device limits the travel in both directions for the affected function during an overload condition of either motor.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 13:40:33 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7781-NFPA 70-2024

Second Revision No. 7783-NFPA 70-2024 [Section No. 610.53]

610.53 Overcurrent Protection.

Conductors of control circuits shall be ~~protected against~~ provided with overcurrent protection . Control circuits shall be considered as protected by ~~overcurrent devices~~ OCPDs that are rated or set at not more than 300 percent of the ampacity of the control conductors, unless otherwise permitted in 610.53(A) or 610.53(B).

(A) Taps to Control Transformers.

Taps to control transformers shall be considered as protected where the secondary circuit is protected by a device rated or set at not more than 200 percent of the rated secondary current of the transformer and not more than 200 percent of the ampacity of the control circuit conductors.

(B) Continuity of Power.

Where the opening of the control circuit would create a hazard, as for example, the control circuit of a hot metal crane, the control circuit conductors shall be considered as being properly protected by the branch-circuit ~~overcurrent devices~~ OCPDs .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 13:44:22 EDT 2024

Committee Statement

Committee Statement: The first sentence was revised for usability and clarity. The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7783-NFPA 70-2024

Second Revision No. 7737-NFPA 70-2024 [Section No. 620.12(A)(2)]

(2) Class 2 and Communications Circuits.

Communications cables used for Class 2 or communications circuits shall have a current limit equal to or greater than the current required to power the powered Class 2 or communications device. Communications cables shall ~~comply with 800.179~~ be listed in accordance with 722.2 . The minimum conductor size for communications circuits shall be 24 AWG.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 11:12:12 EDT 2024

Committee Statement

Committee Statement: This change reflects the move of all limited-energy cables to Article 722. Communication cables are limited-energy cables.

Response Message: SR-7737-NFPA 70-2024

Public Comment No. 1145-NFPA 70-2024 [Section No. 620.12(A)(2)]

Second Revision No. 7740-NFPA 70-2024 [Section No. 620.16(C)]

~~(C) Available Fault Current Field Marking.~~

~~The elevator control panel shall be legibly marked in the field with the available fault current at its line terminals. The field marking(s) shall include the date the available fault current calculation was performed and shall meet the requirements of 110.21(B) . The calculation shall be documented and made available to those authorized to design, install, inspect, maintain, or operate the system.~~

~~When modifications to the electrical system occur that affect the available fault current at the elevator control panel, the available fault current shall be verified or recalculated as necessary to ensure the elevator control panel's short-circuit current rating is sufficient for the available fault current at the line terminals of the equipment. The required field marking(s) shall be adjusted to reflect the new level of available fault current.~~

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 11:35:11 EDT 2024

Committee Statement

Committee Statement: The requirement for marking of available fault current at the elevator control panel is redundant since Section 620.51(D) (1) already requires this information to be marked on the disconnecting means feeding the control panel

Response Message: SR-7740-NFPA 70-2024

Public Comment No. 1315-NFPA 70-2024 [Section No. 620.16(C)]

Public Comment No. 1830-NFPA 70-2024 [Section No. 620.16(C)]

Public Comment No. 1971-NFPA 70-2024 [Section No. 620.16(C)]

Second Revision No. 7746-NFPA 70-2024 [Section No. 620.21(A)(1)]

(1) Hoistways and Pits.

(a) Types CL2P, CL2R, and CL2 cables shall be permitted, provided the cables are supported and protected from physical damage. Substitute cables for Class 2 cables installed in accordance with ~~794.135(D)~~ 722.122 shall be permitted.

(b) Types CL4P, CL4R, and CL4 cables shall be permitted, provided the cables are supported and protected from physical damage.

(c) Flexible cords and cables that are components of listed equipment and used in circuits operating at 30 volts rms or less or 42 volts dc or less shall be permitted, provided the cords and cables are supported and protected from physical damage and are of a jacketed and flame-retardant type.

(d) The following wiring methods shall be permitted in the hoistway in lengths not to exceed 1.8 m (6 ft):

(1) Flexible metal conduit.

(2) Liquidtight flexible metal conduit.

(3) Liquidtight flexible nonmetallic conduit.

(4) Flexible cords and cables, or conductors grouped together and taped or corded, shall be permitted to be installed without a raceway. They shall be located to be protected from physical damage, shall be of a flame-retardant type, and shall be part of one of the following:

a. Listed equipment

b. Driving machine

c. Driving machine brake

Exception to (A)(1)(d)(1), (A)(1)(d)(2), and (A)(1)(d)(3): The conduit length shall not be required to be limited between risers and limit switches, interlocks, operating buttons, and similar devices.

(e) A sump pump or oil recovery pump located in the pit shall be permitted to be cord connected. The cord shall be a hard usage oil-resistant type, of a length not to exceed 1.8 m (6 ft), and shall be located to be protected from physical damage.

(f) Hard-service cords and junior hard-service cords that conform to the requirements of Table 400.4 shall be permitted as flexible connections between the fixed wiring in the hoistway and hoistway access switches when located in the hoistway door sight guard.

Informational Note: See ASME A17.1-2022/CSA B44-2022, *Safety Code for Elevators and Escalators*.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 11:53:24 EDT 2024

Committee Statement

Committee Statement:	This change reflects the move of all limited-energy cables to Article 772.CL cables are limited-energy cables.
Response Message:	SR-7746-NFPA 70-2024

Public Comment No. 1147-NFPA 70-2024 [Section No. 620.21(A)(1)]

Second Revision No. 7748-NFPA 70-2024 [Section No. 620.21(B)(2)]

(2) Class 2 Circuit Cables.

Types CL2P, CL2R, and CL2 cables shall be permitted ~~to be installed~~ within escalators and moving walkways, provided the cables are supported and protected from physical damage. Substitute cables for Class 2 cables installed in accordance with ~~794.135(D)~~ 722.122 shall be permitted.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:01:46 EDT 2024

Committee Statement

Committee Statement: This change reflects the move of all limited-energy cables to Article 722.CL cables are limited-energy cables. The term “to be installed” is redundant.

Response Message: SR-7748-NFPA 70-2024

Public Comment No. 1149-NFPA 70-2024 [Section No. 620.21(B)(2)]

Second Revision No. 7750-NFPA 70-2024 [Section No. 620.21(C)(2)]

(2) Class 2 Circuit Cables.

Types CL2P, CL2R, and CL2 cables shall be permitted ~~to be installed~~ within platform lifts and stairway chairlift runways and machinery spaces, provided the cables are supported and protected from physical damage. Substitute cables for Class 2 cables installed in accordance with ~~794.135(D)~~ 722.122 shall be permitted.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:06:03 EDT 2024

Committee Statement

Committee Statement: This change reflects the move of all limited-energy cables to Article 722. Class 2 cables are limited-energy cables. The term “to be installed” is redundant.

Response Message: SR-7750-NFPA 70-2024

Public Comment No. 1151-NFPA 70-2024 [Section No. 620.21(C)(2)]

Second Revision No. 7754-NFPA 70-2024 [Section No. 620.22(A)(2)]

(2) Overcurrent Protective Device.

The ~~overcurrent device protecting the~~ branch circuit OCPD 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 and accessible to qualified persons only.

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

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:20:12 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7754-NFPA 70-2024

Second Revision No. 7755-NFPA 70-2024 [Section No. 620.22(B)]

(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 OCPD 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 and accessible only to qualified persons.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:22:52 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7755-NFPA 70-2024

Second Revision No. 7757-NFPA 70-2024 [Section No. 620.25(B)]

(B) Overcurrent Protective Devices.

The ~~overcurrent devices protecting the~~ branch circuit~~(s)~~ OCPD 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 and accessible only to qualified persons.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:24:32 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7757-NFPA 70-2024

Second Revision No. 7760-NFPA 70-2024 [Section No. 620.36]

620.36 Different Systems in One Raceway or Traveling Cable.

Optical fiber cables and conductors for operating devices, operation and motion control, power, signaling, fire alarm, lighting, heating, and air-conditioning circuits of 1000 volts or less shall be permitted to be run in the same traveling cable or raceway system if all conductors are insulated for the maximum voltage applied to any conductor within the cables or raceway system and if all live parts of the equipment are insulated from ground for this maximum voltage. Traveling cable or raceway shall also be permitted to include shielded pairs, coaxial cables, and other communications circuits. Type CMP-LP or CMR-LP cables ~~complying~~ listed in accordance with ~~800.179~~ 722.2 shall be permitted in raceways.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:32:03 EDT 2024

Committee Statement

Committee Statement: This change reflects the move of all limited-energy cables to Article 722. CM cables are limited-energy cables

Response Message: SR-7760-NFPA 70-2024

Public Comment No. 1152-NFPA 70-2024 [Section No. 620.36]

Second Revision No. 7763-NFPA 70-2024 [Section No. 620.53]

620.53 Car Light, Receptacle(s), and Ventilation Disconnecting Means.

Elevators shall have a single means for disconnecting all ungrounded car light, receptacle(s), and ventilation power-supply conductors for that elevator car.

The disconnecting means shall be an enclosed, externally operable, fused motor-circuit switch or circuit breaker that is lockable open in accordance with 110.25 and shall be located in the machine room or control room for that elevator car. Where there is no machine room or control room outside the hoistway, the disconnecting means shall be located outside the hoistway and accessible to qualified persons only.

Disconnecting means shall be numbered to correspond to the identifying number of the elevator car whose light source they control.

The disconnecting means shall be provided with a sign to identify the location of the ~~supply side overcurrent protective device~~ branch circuit OCPD .

Exception: Where a separate branch circuit supplies car lighting, a receptacle(s), and a ventilation motor not exceeding 2 hp, the disconnecting means required by 620.53 shall be permitted to comply with 430.109(C). This disconnecting means shall be listed and shall be lockable open in accordance with 110.25.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:40:00 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7763-NFPA 70-2024

Second Revision No. 7764-NFPA 70-2024 [Section No. 620.54]

620.54 Heating and Air-Conditioning Disconnecting Means.

Elevators shall have a single means for disconnecting all ungrounded car heating and air-conditioning power-supply conductors for that elevator car.

The disconnecting means shall be an enclosed, externally operable, fused motor-circuit switch or circuit breaker that is lockable open in accordance with 110.25 and shall be located in the machine room or control room for that elevator car. Where there is no machine room or control room outside the hoistway, the disconnecting means shall be located outside the hoistway and accessible to qualified persons only.

Where there is equipment for more than one elevator car in the machine room, the disconnecting means shall be numbered to correspond to the identifying number of the elevator car whose heating and air-conditioning source they control.

The disconnecting means shall be provided with a sign to identify the ~~location of the supply side overcurrent protective device~~ branch circuit OCPD .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:42:34 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7764-NFPA 70-2024

Second Revision No. 7765-NFPA 70-2024 [Section No. 620.55]

620.55 Utilization Equipment Disconnecting Means.

Each branch circuit for other utilization equipment shall have a single means for disconnecting all ungrounded conductors. The disconnecting means shall be lockable open in accordance with 110.25.

Where there is more than one branch circuit for other utilization equipment, the disconnecting means shall be numbered to correspond to the identifying number of the equipment served. The disconnecting means shall be provided with a sign to identify the location of the ~~supply side overcurrent protective device~~ branch circuit OCPD .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:43:46 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7765-NFPA 70-2024

Second Revision No. 7767-NFPA 70-2024 [Section No. 620.61(A)]

(A) Operating Devices and Control and Signaling Circuits.

Operating devices and control and signaling circuits shall be ~~protected against~~ provided with overcurrent protection in accordance with 724.43 and 724.45.

Class 2 power-limited circuits shall be ~~protected against~~ provided with overcurrent protection in accordance with notes to Chapter 9~~, Notes to~~ Tables 11(A) and 11(B).

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:51:24 EDT 2024

Committee Statement

Committee Statement: This change is for usability and clarity.

Response Message: SR-7767-NFPA 70-2024

Second Revision No. 7768-NFPA 70-2024 [Section No. 620.62(A)]

(A) General.

Where more than one driving machine is supplied by the same source, the ~~overcurrent protective devices (OCPD)~~ OCPDs supplying the driving machines shall be selectively coordinated with any other supply-side and load-side OCPDs.

Selective coordination shall be selected by a licensed professional engineer or other qualified person engaged primarily in the design, installation, or maintenance of electrical systems. The selection and device settings shall be documented and made available to those authorized to design, install, inspect, maintain, and operate the system.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 12:57:30 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7768-NFPA 70-2024

Second Revision No. 7820-NFPA 70-2024 [Section No. 620.62(C)]

(C) Modifications.

If modifications, additions, or deletions to the elevator system(s) occur, selective coordination of the elevator system(s) OCPDs with all supply-side and load-side OCPDs shall be re-evaluated.

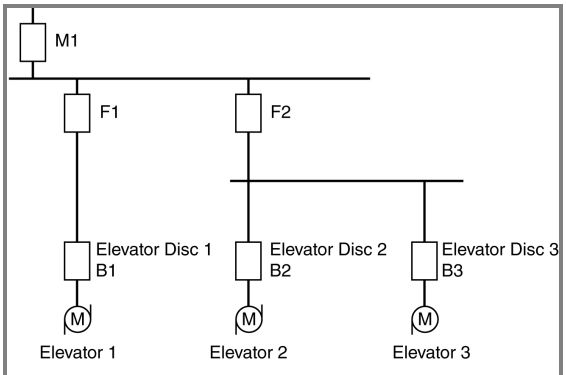
Exception: Selective coordination shall not be required between two ~~overcurrent devices~~ OCPDs located in series if no loads are connected in parallel with the downstream device.

Informational Note: See Figure Informational Note 620.62 for an example of how OCPDs supplying elevators selectively coordinate with all supply-side OCPDs.

Figure Informational Note 620.62 Selective Coordination for Overcurrent Protective Devices Supplying More Than One Elevator.

DELETED

OCPD B1 selectively coordinates with M1
OCPD F1 selectively coordinates with M1
OCPD B2 selectively coordinates with F2
OCPD B2 selectively coordinates with M1
OCPD F2 selectively coordinates with M1
OCPD B3 selectively coordinates with F2
OCPD B3 selectively coordinates with M1
OCPD B1 and F1 are not required to selectively coordinate due to the exception for OCPDs in series.



OCPD B1 selectively coordinates with M1
OCPD F1 selectively coordinates with M1
OCPD B2 selectively coordinates with F2
OCPD B2 selectively coordinates with M1
OCPD F2 selectively coordinates with M1
OCPD B3 selectively coordinates with F2
OCPD B3 selectively coordinates with M1
OCPD B1 and F1 are not required to selectively coordinate due to the exception for OCPDs in series.

Supplemental Information

File Name	Description	Approved
Corrected_Figure_for_620.62_C_.docx	Figure showing where to correct the existing B2 under Elevator Disc 1 to B1 for Figure Informational Note 620.62 Selective Coordination for Overcurrent Protective Devices Supplying More Than One Elevator.	

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 16:07:45 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code. The revision to the figure corrects an error in the figure as the B2 under Elevator Disc 1 in the figure should be B1.

Response Message: SR-7820-NFPA 70-2024

Public Comment No. 806-NFPA 70-2024 [Section No. 620.62(C)]

Second Revision No. 7771-NFPA 70-2024 [Section No. 620.65]

620.65 Signage.

Equipment enclosures containing selectively coordinated ~~overcurrent devices~~ OCPDs shall be legibly marked in the field to indicate that the ~~overcurrent devices~~ OCPDs are selectively coordinated. The marking shall meet the requirements of 110.21(B), shall be readily visible, and shall state the following:

CAUTION: OVERCURRENT DEVICES IN THIS ENCLOSURE ARE SELECTIVELY COORDINATED. EQUIVALENT REPLACEMENTS AND TRIP SETTINGS ARE REQUIRED.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 13:27:54 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7771-NFPA 70-2024

Second Revision No. 7853-NFPA 70-2024 [New Section after 625.2]

625.4 Qualified Persons.

Permanently installed electric vehicle power transfer system equipment shall be installed by qualified persons.

Informational Note: See NECA 413-2024, *Standard for Installing and Maintaining Electric Vehicle Supply Equipment (EVSE)* , or other ANSI approved installation standards.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 17:19:29 EDT 2024

Committee Statement

Committee Statement: This requirement was added to ensure that only qualified persons install permanently installed EVSE. The informational note was added for reference.

Response Message: SR-7853-NFPA 70-2024

Public Comment No. 1871-NFPA 70-2024 [New Section after 625.4]

Second Revision No. 7855-NFPA 70-2024 [New Section after 625.2]

625.5 Field Markings.

Electric vehicle supply equipment shall have the following permanent markings on the outside of the equipment enclosure that are visible after installation:

(1) Supply voltage, number of phases, frequency, and full-load current for each incoming supply circuit

(2) Short-circuit current rating of the electric vehicle supply equipment based on one of the following:

a. Short-circuit current rating of a listed and labeled assembly

b. Short-circuit current rating established utilizing an approved method

Informational Note: See UL 2594, *Standard Electric Vehicle Supply Equipment* , for an example of an approved method.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 17:33:26 EDT 2024

Committee Statement

Committee Statement: Due to 625.42 these parameters are adjustable. Field markings add a level of safety to the field installer and maintainer.

Response Message: SR-7855-NFPA 70-2024

Public Comment No. 1987-NFPA 70-2024 [New Section after 625.4]

Second Revision No. 7843-NFPA 70-2024 [Section No. 625.2]

625.2 Listing Requirements.

Electric vehicle power transfer system equipment shall be listed for the purposes of charging, power export, or bidirectional current flow ~~shall be listed for EVSE use~~ .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 17:00:51 EDT 2024

Committee Statement

Committee Statement: The requirement is revised for clarity and usability.

Response Message: SR-7843-NFPA 70-2024

Public Comment No. 1401-NFPA 70-2024 [Section No. 625.2]

Public Comment No. 1354-NFPA 70-2024 [Section No. 625.2]

Second Revision No. 7847-NFPA 70-2024 [Section No. 625.4]

~~**625.4** Voltages.~~

~~Unless other voltages are specified, the nominal ac system voltages of 120, 120/240, 208Y/120, 240, 480Y/277, 480, 600Y/347, 600, or 1000 volts or dc system input voltages of up to 1500 volts shall be used to supply equipment covered by this Article~~ 627 ~~.~~

~~Output voltages to the electric vehicle are not specified.~~

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 17:05:01 EDT 2024

Committee Statement

Committee Statement: The supply voltage requirements for equipment covered in Article 625 are clearly outlined in the applicable product standard.

Response Message: SR-7847-NFPA 70-2024

Public Comment No. 1908-NFPA 70-2024 [Section No. 625.4]

Public Comment No. 1195-NFPA 70-2024 [Section No. 625.4]

Second Revision No. 7856-NFPA 70-2024 [Section No. 625.17]

625.17 Cords and Cables.

(A) Power-Supply Cord.

The cable for cord-connected electric vehicle supply equipment (EVSE) shall comply with all of the following:

(1) Be any of the types specified in 625.17(B)(1) or hard service cord, junior hard service cord, or portable power cable types in accordance with Table 400.4. Hard service cord, junior hard service cord, or portable power cable types shall be listed, as applicable, for exposure to oil and damp and wet locations.

(2) Be of a type and ampacity as specified in Table 400.5(A)(1) or of a type specified in 625.17(B)(1) and considered to have the same ampacity rating as equivalent gauge hard service cord in Table 400.5(A)(1) . For 8 AWG and larger, the cable shall be permitted to be of a type as specified in Table 400.5(A)(2) with an ampacity as specified in the 60°C (140°F) column of Table 400.5(A)(2).

(3) Have an overall length as specified in either of the following:

a. When the interrupting device of the personnel protection system is located within the enclosure of the supply equipment or charging system, the power-supply cord shall be not more than the length indicated in either of the following:

i. For portable equipment in accordance with 625.44(A), the power-supply cord shall be not more than 300 mm (12 in.) long.

ii. For ~~fastened-in-place~~ hand fastened equipment in accordance with 625.44(B), the power-supply cord shall be not more than 1.8 m (6 ft) long and the equipment shall be installed at a height that prevents the power-supply cord from contacting the floor when it is connected to the proper receptacle.

b. When the interrupting device of the personnel protection system is located at the attachment plug, or within the first 300 mm (12 in.) of the power-supply cord, the overall cord length shall be not greater than 4.6 m (15 ft).

(B) Output Cable to Electric Vehicles.

The output cable to electric vehicles shall be one of the following:

(1) Listed Type EV, EVJ, EVE, EVJE, EVT, or EVJT flexible cable as specified in Table 400.4

(2) An integral part of listed electric vehicle supply equipment

Informational Note No. 1: See UL 2594~~-2016~~ , *Standard for Electric Vehicle Supply Equipment*, for information on conductive electric vehicle supply equipment.

Informational Note No. 2: See UL 2202~~-2009~~ , *Standard for Electric Vehicle (EV) Charging System Equipment*, for information on conductive electric vehicle charging equipment.

(C) Overall Cord and Cable Length.

The overall usable length shall not exceed 7.5 m (25 ft) unless equipped with a cable management system that is part of the listed electric vehicle supply equipment.

(1) Portable Equipment.

For portable EVSE, the cord-exposed usable length shall be measured from the face of the attachment plug to the face of the electric vehicle connector.

(2) ~~Fastened-in-Place~~ Hand Fastened .

(a) Where the EVSE is ~~fastened-in-place~~ hand fastened , the usable length of the output cable to the electric vehicle shall be measured from the cable exit of the electric vehicle supply equipment to the face of the electric vehicle connector.

(b) Where the wireless power transfer equipment (WPTE) is ~~fastened-in-place~~ hand fastened , the output cable to the primary pad shall be measured from the cable exit of the control box to the cable inlet at the primary pad.

(D) Interconnecting Cabling Systems.

Other cabling systems that are integral parts of listed EVSE and are intended to interconnect pieces of equipment within an EVSE system using approved installation methods shall be permitted.

Supplemental Information

File Name	Description	Approved
CMP_12_Section_625.17.docx	Word doc in track changes showing changes accurately.	

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 18:12:21 EDT 2024

Committee Statement

Committee Statement: Section 625.17(A)(2) was expanded to include the use of EV cords for supply cords that meet the ampacity ratings of equivalent gauge hard service cord in Table 400.5(A)(1) and to allow an ampacity rating for EV Type cables as referenced in 625.17(B)(1) when used as power supply cords.

The term “fastened in place” was replaced with “hand fastened” for clarity and consistency throughout the Code.

Response Message: SR-7856-NFPA 70-2024

Public Comment No. 1202-NFPA 70-2024 [Section No. 625.17(A)]

Public Comment No. 552-NFPA 70-2024 [Section No. 625.17(A)]

Public Comment No. 2045-NFPA 70-2024 [Section No. 625.17]

Second Revision No. 8103-NFPA 70-2024 [Section No. 625.42]

625.42 Rating.

The service, feeder, and branch circuit supplying EVSE shall have sufficient rating to supply the load served, unless the overall rating of the installation can be limited through controls as permitted by 625.42(A) or 625.42(B).

(A) ~~Energy Management System (EMS)~~ Power Control Systems (PCS) .

All ~~EMS~~ PCS used to provide load management of EVSE shall comply with ~~130.30~~ Article 130 Part II and the maximum equipment load on a service, feeder, and branch circuit shall be the maximum load permitted by the ~~EMS~~ PCS . The ~~EMS~~ PCS shall be permitted to be integral to one piece of equipment or integral to a listed system consisting of more than one piece of equipment. When one or more pieces of equipment are provided with an integral load management control, the system shall be marked to indicate this control is provided.

~~Network residing software that directs and limits EVSE output shall be permitted to be used as an energy management system for fleets of three or more vehicles, provided that the software complies with all of the following:~~

(0) ~~Programming shall be based on fleet modeling, including assessments of vehicle loading, travel distance, efficiency, battery degradation, and environment.~~

(0) ~~The EMS shall communicate directly with EVSE and include communication failure alarm(s).~~

(0) ~~Loss of EMS communication shall not result in an EVSE load greater than the load permitted by the service, feeder, and branch circuit rating.~~

Exception: Network residing software that directs and limits EVSE output shall be permitted to be used as ~~an energy management system~~ a PCS for fleets of three or more vehicles~~, provided that the software complies with all of the following:~~ .

(B) EVSE with Adjustable Settings.

EVSE with a current adjustment setting shall be permitted if restricted access to the adjustment setting is accomplished by at least one of the methods permitted in ~~130.30(C)~~ 130.70(B) . If the adjusted current setting has an impact on the rating label, those changes shall be in accordance with manufacturer's instructions, and the adjusted current setting shall appear on the field-installed rating label in accordance with 110.21. EVSE as referenced shall be permitted to have a current rating that is equal to the adjusted current setting. For equipment other than self-adjusting, the current adjustment setting shall be set at the time of installation and shall only be readjusted by a qualified person.

Informational Note: An example of a current adjustment setting is an EVSE that has the capability of being set to a maximum of 80A but is adjusted to a 40A maximum output to match the 50A branch circuit supplying the EVSE.

Supplemental Information

File Name	Description	Approved
CMP_12_Section_625.42.docx	Word doc with track change as this is displaying cleaner than what was being shown in Terra. Use this word doc for the changes that were made.	
CMP_12_Section_625.42_SR-8103.docx	For prod use	

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Sun Oct 20 10:26:24 EDT 2024

Committee Statement

Committee Statement: The requirements in this section have been revised to align with the terminology with Article 130, Part II.

The second paragraph was converted to an exception to comply with NEC Style Manual. The NEC currently lacks authority over software and does not maintain a cybersecurity policy. The list items were deleted because software programming requirements would be difficult to enforce.

The section reference in 625.42(B) is corrected.

Response Message: SR-8103-NFPA 70-2024

Public Comment No. 642-NFPA 70-2024 [Section No. 625.42]

Public Comment No. 1196-NFPA 70-2024 [Section No. 625.42]

Public Comment No. 1492-NFPA 70-2024 [Section No. 625.42(A)]

Public Comment No. 887-NFPA 70-2024 [Section No. 625.42(B)]

Second Revision No. 7866-NFPA 70-2024 [Section No. 625.43]

625.43 Disconnecting Means.

~~EVSE and WPTE, shall be provided with one or more disconnecting means in accordance with 625.43(A) and 625.43(B) .~~

(A) General.

EVSE and WPTE~~,~~ shall be provided with one or more disconnecting means in accordance with 625.43(D) and 625.43(E).

(B) Disconnects not Listed for EVSE or WPTE.

Disconnecting means that are not listed for EVSE or WPTE use shall be rated for continuous load or have a nameplate current rating that is 125 percent of the EVSE or WPTE branch circuit rating.

(C) Multifamily Dwellings.

For multifamily dwellings where multiple EVSE or WPTE are each served through individual disconnecting means, a plaque or directory shall be attached to each EVSE or WPTE and its corresponding disconnect clearly identifying which disconnect serves which EVSE or WPTE.

(D) Equipment Disconnects.

For permanently connected EVSE and WPTE, a disconnecting means shall be provided and installed in a readily accessible location. If the disconnecting means is installed remote from the equipment, a plaque or directory shall be installed on the equipment denoting the location of the disconnecting means. For cord- and plug-connected EVSE and WPTE, with a rating not exceeding 60 amperes or not exceeding 150 volts to ground, the cord and plug shall be permitted to serve as the disconnecting means. The disconnecting means shall be lockable open in accordance with 110.25.

(E) Emergency Shutoff.

~~For permanently connected EVSE and WPTE, one or more clearly identified emergency disconnect devices or electrical disconnects shall be provided and shall meet all of the following:~~

(0) ~~Be installed in a readily accessible location in sight from the equipment~~

(0) ~~Disconnect power to all EVSE and WPTE within sight of emergency shutoff~~

(0) ~~Be marked "EVSE EMERGENCY DISCONNECT" in accordance with 110.22(A)~~

(0) ~~Be a manual reset type~~

(0) ~~Disconnect all ungrounded conductors of the circuits simultaneously from the source of supply~~

~~The disconnecting means required in accordance with 625.43(A) shall be permitted to serve as the emergency disconnect if it complies with all the requirements of 625.43(B) .~~

(1) Emergency Disconnect Devices.

For other than one- and two-family dwellings, all permanently connected EVSE and WPTE~~,~~ shall be provided with one or more clearly identified emergency disconnect devices or electrical disconnects ~~shall be provided and shall~~ that meet all of the following:

(1) Be installed in a readily accessible location not less than 6.0 m (20 ft) nor more than 30.0 m (100 ft) from the equipment and in sight from the equipment

(2) Disconnect power to all EVSE and WPTE within sight of emergency shutoff

(3) Be marked "EVSE EMERGENCY DISCONNECT" and "WARNING: ELECTRIC VEHICLE(S) WILL REMAIN ENERGIZED" in accordance with 110.22(A)

(4) Be a manual reset type

(5) Disconnect all ungrounded conductors of the circuits simultaneously from the source of supply

(2) Disconnecting Means Serving as Emergency Shutoff.

The disconnecting means required in accordance with 625.43(D) shall be permitted to serve as the emergency disconnect if it complies with all the requirements of 625.43(E).

Supplemental Information

File Name	Description	Approved
CMP_12_Section_625.43.docx	Updated word doc for SR 7866	
CMP_12_Section_625.43_SR-7866.docx	For prod use	

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 19:17:51 EDT 2024

Committee Statement

Committee Statement: The reference to 110.25 was removed from 625.43(A). In Section 625.43(B), one- and two-family dwellings were excluded from the emergency shutoff requirements because of the emergency disconnecting means requirements of 230.85. Distance requirements were added to ensure a safe distance in the event of an electric vehicle fire. Marking requirements were expanded to make clear that the emergency shutoff only disconnects power to the EVSE, and that the electric vehicle can still remain energized.

Requirements were added for multi-family dwellings to ensure that disconnecting means not listed for EVSE or WPTE use be rated no less than 125% of the equipment rating. Requirements were added in 625.43(C) to ensure that in the event of an emergency, individuals can clearly identify which disconnect serves which equipment.

Response Message: SR-7866-NFPA 70-2024

Public Comment No. 1940-NFPA 70-2024 [Section No. 625.43]

Public Comment No. 1946-NFPA 70-2024 [Section No. 625.43(B)]

Public Comment No. 1785-NFPA 70-2024 [Section No. 625.43(B)]

Public Comment No. 1216-NFPA 70-2024 [Section No. 625.43]

Public Comment No. 554-NFPA 70-2024 [Section No. 625.43(B)]

Second Revision No. 8104-NFPA 70-2024 [Sections 625.44(A), 625.44(B)]

(A) Portable Equipment.

Portable equipment shall be connected to the premises wiring system by one or more of the following methods:

(1) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated at 125 volts or 250 volts, single phase in accordance with one of the following:

a. 15 or 20 amperes

b. 30 or 50 amperes listed ~~and marked~~ for EVSE and WPTE use

(2) A nonlocking, 3-pole, 4-wire grounding-type receptacle outlet rated at 125/250 volts, single phase in accordance with one of the following:

a. 15 or 20 amperes

b. 30, 50, or 60 amperes listed ~~and marked~~ for EVSE and WPTE use

(3) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated at 277 volts, single phase in accordance with one of the following:

a. 15 or 20 amperes

b. 30 or 50 amperes listed ~~and marked~~ for EVSE and WPTE use

(4) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated at 60 volts dc maximum, 15 or 20 amperes

(5) A locking, pin-and-sleeve, 3-pole, 4-wire grounding type receptacle outlet rated 277/480 volts, three-phase 60 amperes or 100 amperes

(B) ~~Fastened-in-Place~~ Hand Fastened Equipment.

Equipment that is ~~fastened-in-place~~ hand fastened shall be connected to the premises wiring system by one of the following methods:

(1) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated 125 volts or 250 volts, single phase in accordance with one of the following:

a. 15 or 20 amperes

b. 30 or 50 amperes listed ~~and marked~~ for EVSE and WPTE use

(2) A nonlocking, 3-pole, 4-wire grounding-type receptacle outlet rated 250 volts, three phase in accordance with one of the following:

a. 15 or 20 amperes

b. 30, 50, or 60 amperes listed ~~and marked~~ for EVSE and WPTE use

(3) A nonlocking, 3-pole, 4-wire grounding-type receptacle outlet rated 125/250 volts, single phase in accordance with one of the following:

a. 15 or 20 amperes

b. 30, 50, or 60 amperes listed ~~and marked~~ for EVSE and WPTE use

(4) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated 277 volts, single phase in accordance with one of the following:

a. 15 or 20 amperes

b. 30, 50, or 60 amperes listed ~~and marked~~ for EVSE and WPTE use

(5) A nonlocking, 3-pole, 4-wire grounding-type receptacle outlet rated at 120/208 volts, three phase in accordance with one of the following:

a. 15 or 20 amperes

b. 30, 50, or 60 amperes listed ~~and marked~~ for EVSE and WPTE use

(6) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated 60 volts dc maximum, 15 or 20 amperes

(7) A locking, pin-and-sleeve, 3-pole, 4-wire grounding type receptacle outlet rated 277/480 volts, three phase 60 amperes or 100 amperes

Supplemental Information

File Name	Description	Approved
CMP_12_Section_625.44_A_and_B_.docx	Word doc with track change as this is displaying cleaner than what was being shown in Terra. Use this word doc for the changes that were made.	

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Sun Oct 20 10:45:26 EDT 2024

Committee Statement

Committee Statement: The term “and marked” was removed because this is driven by the standard certification requirements for listed equipment. Section 625.44(A) Item (5) and 625.44(B) were added to facilitate high-speed, high-power chargers. These sections were expanded to allow for the use of locking pin-and-sleeve receptacle outlets.

	The term “fastened in place” was replaced with “hand fastened” for clarity and consistency throughout the Code.
Response Message:	SR-8104-NFPA 70-2024

Public Comment No. 1710-NFPA 70-2024 [Section No. 625.44(A)]

Second Revision No. 8105-NFPA 70-2024 [Section No. 625.44(C)]

(C) ~~Fixed-in-~~ Securely Fastened in Place Equipment.

All other EVSE and WPTE shall be permanently wired and fixed-in-place to the supporting surface.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Sun Oct 20 11:08:13 EDT 2024

Committee Statement

Committee Statement: The term “fixed in place” was replaced with “securely fastened in place for clarity” and consistency throughout the Code.

Response Message: SR-8105-NFPA 70-2024

Public Comment No. 2048-NFPA 70-2024 [Sections 625.44(B), 625.44(C)]

Second Revision No. 7870-NFPA 70-2024 [Section No. 625.44 [Excluding any Sub-Sections]]

EVSE and WPTE that is connected to the premises wiring shall be connected in accordance with one of the methods in 625.44(A) through 625.44(C).

Cord- and plug-connected equipment shall be provided with an attachment plug rated not less than 125 percent of the maximum rating of the equipment.

A 50-ampere rated receptacle shall not be installed on a 40-ampere branch circuit as permitted in 210.24 .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 20:13:11 EDT 2024

Committee Statement

Committee Statement: Requirements were added to prevent a 50-ampere receptacle to be installed on a 40-ampere branch circuit as allowed in Section 210.24.

Response Message: SR-7870-NFPA 70-2024

Public Comment No. 1203-NFPA 70-2024 [Section No. 625.44 [Excluding any Sub-Sections]]

Public Comment No. 1069-NFPA 70-2024 [Section No. 625.44]

Second Revision No. 7873-NFPA 70-2024 [Section No. 625.48]

625.48 Interactive Equipment.

EVSE or WPTE that incorporates a power export function and that is part of an interactive system that serves as an optional standby system, an electric power production source, or a bidirectional power feed shall be listed and marked as suitable for that purpose. When used as an optional standby system, the requirements of Article 702 Parts I and II ~~of Article 702~~ shall apply; when used as an electric power production source, the requirements of ~~Parts I and II of~~ Article 705 shall apply. EVPE that provides a receptacle outlet as its point of power export shall be in accordance with 625.60.

Informational Note No. 1: See UL 1741, *Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources*, for further information on supply equipment.

Informational Note No. 2: See UL 9741, *Bidirectional Electric Vehicle (EV) Charging System Equipment*, for vehicle interactive systems.

Informational Note No. 3: See SAE J3072, *Standard for Interconnection Requirements for Onboard, Utility-Interactive Inverter Systems*, for further information.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 20:26:34 EDT 2024

Committee Statement

Committee Statement: The reference to Article 705 is to encompass all requirements when EVSE is used as an electric power production source.

Response Message: SR-7873-NFPA 70-2024

Second Revision No. 7875-NFPA 70-2024 [Section No. 625.54]

625.54 Ground-Fault Circuit-Interrupter (GFCI) or Special Purpose Ground-Fault Circuit-Interrupter (SPGFCI) Protection for Personnel.

~~All receptacles and outlets installed for the connection of electric vehicle charging shall have ground-fault circuit-interrupter protection for personnel.~~

(A) Cord- and Plug-Connected.

(1) 150 Volts or Less to Ground.

All receptacles ~~and outlets~~ rated 150 volts or less to ground, installed for the connection of electric vehicle charging shall have ~~ground-fault circuit-interrupter protection~~ GFCI for personnel protection .

(2) Greater than 150 Volts to Ground.

All receptacles rated greater than 150 volts to ground shall have SPGFCI with a ground-fault trip current not exceeding 20 mA for personnel protection.

(B) Permanently Wired.

(1) 150 Volts or Less to Ground.

All outlets rated 150 volts or less to ground, installed for the connection of electric vehicle charging, shall have GFCI for personnel protection.

(2) Greater than 150 Volts to Ground.

All outlets installed for permanently wired electric vehicle charging, shall have SPGFCI with a ground-fault trip current not exceeding 20 mA for personnel protection. This requirement shall become effective January 1, 2029.

Exception No. 1 to (B)(1) and (B)(2): Outlets installed to supply dc charging shall not require SPGFCI protection.

Exception No. 2 to (B)(1) and (B)(2): Outlets installed for electric vehicle bidirectional charging shall not require SPGFCI protection.

Supplemental Information

File Name	Description	Approved
CMP_12_Section_625.54.docx	CMP 12 section 625.54	
CMP_12_Section_625.54_SR-7875.docx	For prod use	

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 11:05:02 EDT 2024

Committee Statement

Committee Statement: 625.54(A)(2) and 625.54(B): The use of SPGFCI was expanded to receptacles and outlets greater than 150 volts to ground and installed for EVSE.

625.54(B): The January 1, 2029 date allows the industry time to develop the technology for power export and GFCI protection.

Exception No. 1 was added for DC charging.

Exception No. 2 was added for bidirectional charging

Response Message: SR-7875-NFPA 70-2024

Public Comment No. 703-NFPA 70-2024 [Section No. 625.54]

Public Comment No. 227-NFPA 70-2024 [Section No. 625.54]

Public Comment No. 1730-NFPA 70-2024 [Section No. 625.54]

Public Comment No. 1477-NFPA 70-2024 [Section No. 625.54]

Second Revision No. 7874-NFPA 70-2024 [Section No. 625.102(C)]

(C) Primary Pad.

The primary pad shall be installed secured to the surface or embedded in the surface of the floor with its top flush with the surface or below the surface, all per manufacturer's instructions and the following:

(1) If the primary pad is located in an area requiring snow removal, it shall not be located on or above the surface.

Exception: Where installed on private property where snow removal is done manually, the primary pad shall be permitted to be ~~installed~~ on or above the surface.

(2) The primary pad enclosure shall be suitable for the environment. If the primary pad is located in an area subject to severe climatic conditions (e.g., flooding), the enclosure shall be suitably rated for those conditions.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 20:54:31 EDT 2024

Committee Statement

Committee Statement: The term "installed" was removed because of redundancy.

Response Message: SR-7874-NFPA 70-2024

Second Revision No. 7884-NFPA 70-2024 [New Section after 626.1]

626.2 Listing Requirements.

Electrified truck parking space equipment shall be listed.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 12:07:47 EDT 2024

Committee Statement

Committee Statement: Section 2.2.1 of the 2023 NEC Style Manual requires the XXX.2 section to contain listing requirements.

Response Message: SR-7884-NFPA 70-2024

Second Revision No. 8042-NFPA 70-2024 [Sections 626.32(B), 626.32(C)]

(B) Cord Sets or Cable Assemblies.

The cord shall be a ~~listed~~ type with four conductors, for 3-phase connection, one of which shall be identified in accordance with 400.23 for use as the equipment grounding conductor. Extra-hard usage cables rated not less than 90°C (194°F), 600 volts, ~~listed~~ suitable for both wet locations and sunlight resistance, and having an outer jacket rated to be resistant to temperature extremes, oil, gasoline, ozone, abrasion, acids, and chemicals, shall be permitted where flexibility is necessary between the electrified truck parking space supply equipment and the inlet(s) on the TRU.

(C) Attachment Plug(s) and Cord Connector(s).

Where a flexible cord is provided with an attachment plug or cord connector, they shall comply with 250.138(A). The attachment plug(s) or cord connector(s) shall be ~~listed~~ suitable , by itself or as part of the power-supply cord assembly, for the purpose and shall be molded to or installed on the flexible cord so that it is secured tightly to the cord at the point where the cord enters the attachment plug or cord connector. If a right-angle cap is used, the configuration shall be oriented so that the grounding member is farthest from the cord. An attachment plug or cord connector for the connection of a truck or trailer shall be rated in accordance with one of the following:

(1) 30-ampere, 480-volt, 3-phase, 3-pole, 4-wire and intended for use with 30-ampere, 480-volt, 3-phase, 3-pole, 4-wire receptacles and inlets, respectively

(2) 60-ampere, 208-volt, 3-phase, 3-pole, 4-wire and intended for use with 60-ampere, 208-volt, 3-phase, 3-pole, 4-wire receptacles and inlets, respectively

(3) 20-ampere, 1000-volt, 3-phase, 3-pole, 4-wire and intended for use with 20-ampere, 1000-volt, 3-phase, 3-pole, 4-wire receptacles and inlets, respectively

(4) 60-ampere, 480-volt, 3-phase, 3-pole, 4-wire and intended for use with 60-ampere, 480-volt, 3-phase, 3-pole, 4-wire receptacles and inlets, respectively

(5) 60-ampere, 250-volt, 3-phase, 3-pole, 4-wire and intended for use with 60-ampere, 250-volt, 3-phase, 3-pole, 4-wire receptacles and inlets, respectively

Informational Note: See UL 1686~~-2012~~ , *Pin and Sleeve Configurations*, Figures C2.12 and C2.11, for complete details of the 30-ampere pin and sleeve receptacle configuration for refrigerated containers (TRUs) and for various configurations of 60-ampere pin and sleeve receptacles.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Fri Oct 18 16:55:29 EDT 2024

Committee Statement

Committee Statement: Listing requirements for equipment are addressed by new 626.2.

Response Message: SR-8042-NFPA 70-2024

Public Comment No. 647-NFPA 70-2024 [Section No. 626.32]

Second Revision No. 7896-NFPA 70-2024 [Section No. 627.1]

624.1 Scope.

This article covers the electrical conductors and equipment connecting an electric self-propelled vehicle (ESV) to premises wiring for the purposes of charging, power export, or bidirectional current flow.

Informational Note No. 1: See NFPA 505 , *Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations* , for information on fire protection of industrial trucks.

Informational Note No. 2: See UL 2594, *Electrical Vehicle Supply Equipment* , for information on conductive electric vehicle supply equipment.

Informational Note No. 3: See UL 2202, *Electric Vehicle Charging System Equipment* , for information on conductive electric vehicle charging equipment.

Informational Note No. 4: See UL 2750-2020, *Outline of Investigation for Wireless Power Transfer Equipment for Electric Vehicles* , for information on wireless power transfer equipment for transferring power to an electric vehicle.

Informational Note No. 5: See NECA 413-2019, *Installing and Maintaining Electric Vehicle Supply Equipment (EVSE)* , for information on the procedures for installing and maintaining AC Level 1, AC Level 2, and fast-charging dc electric vehicle supply equipment (EVSE).

Submitter Information Verification

Committee: NEC-P12
Submittal Date: Thu Oct 17 12:47:07 EDT 2024

Committee Statement

Committee Statement: Informational notes were added to improve usability of the article.
Response Message: SR-7896-NFPA 70-2024

Public Comment No. 1198-NFPA 70-2024 [Section No. 627.1]

Second Revision No. 7897-NFPA 70-2024 [Section No. 627.4]

~~**627.4** Voltages.~~

~~Unless other voltages are specified, the nominal ac system voltages of 120, 120/240, 208Y/120, 240, 480Y/277, 480, 600Y/347, 600, or 1000 volts or dc system input voltages of up to 1000 volts shall be used to supply equipment covered by Article 627 .~~

~~Output voltages to the ESV are not specified.~~

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 12:48:27 EDT 2024

Committee Statement

Committee Statement: The supply voltage requirements for equipment covered this article are clearly outlined in the applicable product standard.

Response Message: SR-7897-NFPA 70-2024

Public Comment No. 1200-NFPA 70-2024 [Section No. 627.4]

Second Revision No. 7901-NFPA 70-2024 [Section No. 627.17(A)]

(A) Power-Supply Cords.

Cables for cord-connected ESVSE shall comply with all of the following:

(1) Be any of the types specified in 624.17(B)(1)(1) or hard service cord, junior hard service cord, or portable power cable types in accordance with Table 400.4. Hard service cord, junior hard service cord, or portable power cable types shall be listed, as applicable, for exposure to oil and damp and wet locations.

(2) Have an ampacity as specified in Table 400.5(A)(1) or, for 8 AWG and larger, in the 60°C (140°F) columns of Table 400.5(A)(2)

(2) ~~Have an overall length as specified in either of the following:~~

0. ~~When the interrupting device of the personnel protection system specified in 627.22 is located within the enclosure of the supply equipment or charging system, the power-supply cord is not more than indicated in either of the following:~~

~~For portable equipment in accordance with 627.44(A) , not more than 300 mm (12 in.) long~~

~~For fastened-in-place equipment in accordance with 627.44(B) 627.44(B), not more than 1.8 m (6 ft) long, with equipment installed at a height that prevents the power-supply cord from contacting the floor when it is connected to the proper receptacle~~

(3) ~~When the interrupting device of the~~ Have a personnel protection system ~~specified in 627.22 is~~ located within the ESVSE, at the attachment plug, or within the first 300 mm (12 in.) of the power-supply cord~~,~~ and have an overall length not ~~more than 4.6 m (15 ft) long~~ exceeding 15.25 m (50 ft)

Supplemental Information

File Name	Description	Approved
NEC_CMP-12_SR-7901_627.17_A_.docx		

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 13:11:08 EDT 2024

Committee Statement

Committee Statement: Requirements for the power supply cord were expanded to 50’ for unique charging applications such as for aircraft while maintaining the 12” requirements for personnel protection system devices. The 50 feet is allowable because this article applies to vehicle types that will not be primarily charged or operated by the general public. The equipment is installed in a more controlled location with qualified people.

Response Message: SR-7901-NFPA 70-2024

Public Comment No. 401-NFPA 70-2024 [Section No. 627.17(A)]

Second Revision No. 8051-NFPA 70-2024 [Sections 627.17(B), 627.17(C)]

(B) Output Cables to ESV.

~~Output cables to ESVs shall be either of the following~~

(0) ~~Listed Types EV, EVJ, EVE, EVJE, EVT, or EVJT flexible cables as specified in Table 400.4~~

(0) ~~Integral parts of listed ESVSE~~

(1) Output Cable Type.

Output cables to ESVs shall be ~~either~~ one of the following

(1) Listed Types EV, EVJ, EVE, EVJE, EVT, or EVJT flexible cables as specified in Table 400.4

(2) Integral parts of listed ESVSE

(2) Overall ~~Cord and~~ Output Cable Length.

~~Overall~~ The overall usable length of output cable to the ESV shall not exceed ~~7.5~~ 15 m (~~25~~ 50 ft) unless equipped with a cable management system that is part of the listed ESVSE.

(a) The usable length of output cables to ESVs shall be measured from the cable exits of the ESVSE to the face of ESV connectors.

(b) Where wireless power transfer equipment (WPTE) is hand fastened~~-in-place~~ , the output cables to the primary pads shall be measured from the cable exits of the control boxes to the cable inlets at the primary pads.

~~Where ESVSE is fastened-in-place, the usable length of output cables to ESVs shall be measured from the cable exits of the ESVSE to the face of ESV connectors.~~

~~Where wireless power transfer equipment (WPTE) is fastened-in-place, the output cables to the primary pads shall be measured from the cable exits of the control boxes to the cable inlets at the primary pads.~~

~~**(1)** Portable Equipment.~~

~~For portable ESVSE, cord-exposed usable length shall be measured from the face of attachment plugs to the face of ESV connectors.~~

~~**(2)** Fastened-in-Place.~~

(0) ~~Where ESVSE is fastened-in-place, the usable length of output cables to ESVs shall be measured from the cable exits of the ESVSE to the face of ESV connectors.~~

(0) ~~Where wireless power transfer equipment (WPTE) is fastened-in-place, the output cables to the primary pads shall be measured from the cable exits of the control boxes to the cable inlets at the primary pads.~~

Supplemental Information

File Name	Description	Approved
CMP_12_Section_627.17_B_.docx	attachment for SR 8051	
NEC_CMP-12_SR-8051_627.17_B_.docx	For prod use	

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Fri Oct 18 17:40:03 EDT 2024

Committee Statement

Committee Statement: Requirements for output cables were expanded to 50’ for equipment that requires longer output cables.

The 50 feet is allowable because this article applies to vehicle types that will not be primarily charged or operated by the general public. The equipment is installed in a more controlled location with qualified people.

Fastened-in-place was changed to hand fastened to correlate with the new definition.

Response Message: SR-8051-NFPA 70-2024

Public Comment No. 402-NFPA 70-2024 [Sections 627.17(B), 627.17(C)]

Second Revision No. 7908-NFPA 70-2024 [Section No. 627.41(B)]

(B) Noncontinuous Loads.

Where noncontinuous loads are supplied from the same feeder, ~~overcurrent devices~~ OCPDs shall have current ratings of not less than the sum of the noncontinuous loads plus 125 percent of the continuous loads.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 14:10:22 EDT 2024

Committee Statement

Committee Statement: For consistency and usability throughout the code, the term “overcurrent protective devices” was changed to “OCPDs”.

Response Message: SR-7908-NFPA 70-2024

Second Revision No. 7910-NFPA 70-2024 [Section No. 627.42]

624.42 Rating.

ESVSE shall have sufficient rating to supply the load served. Charging loads shall be considered continuous loads for the purposes of this article. Service and feeders shall be sized in accordance with the product ratings, unless the overall rating of the installation can be limited through controls as permitted by 624.42(A) or 624.42(B).

(A) ~~Energy Management System (EMS)~~ Power Control System (PCS) .

Where ~~energy management systems (EMSs)~~ PCSs in accordance with ~~130.30~~ Article 130 Part II provide load management of ESVSE, the maximum equipment load on service and feeders shall be the maximum load permitted by the ~~EMS~~ PCSs . ~~EMSs~~ PCSs shall be permitted to be integral to one piece of equipment or integral to listed systems consisting of more than one piece of equipment. When one or more pieces of equipment are provided with integral load management control, systems shall be marked to indicate such control is provided.

(B) Supply Equipment with Adjustable Settings.

Supply equipment with restricted access to an ampere adjusting means complying with ~~130.30(C)~~ 130.70(B) shall be permitted. If adjustments have an impact on the rating label, such changes shall comply with manufacturer's instructions, with the adjusted rating appearing on the rating label with sufficient durability to withstand the environment involved. Such supply equipment shall be permitted to have ampere ratings that are equal to the adjusted current setting.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 14:12:55 EDT 2024

Committee Statement

Committee Statement: The requirements in this section have been revised to align with the terminology with Article 130, Part II.

The section reference in 627.42(B) is corrected.

Response Message: SR-7910-NFPA 70-2024

Public Comment No. 650-NFPA 70-2024 [Section No. 627.42]

Public Comment No. 1201-NFPA 70-2024 [Section No. 627.42]

Second Revision No. 7911-NFPA 70-2024 [Section No. 627.48]

624.48 Interactive Equipment.

ESVSE or WPTE that incorporates power export functions and are part of interactive systems that serve as optional standby systems, electric power production sources, or bidirectional power feeds shall be listed and marked as suitable for that purpose. When ESVSE or WPTE are used as optional standby systems, the requirements of Article 702~~, Parts I and II,~~ shall apply; when ESVSE or WPTE are used as electric power production sources, the requirements of Article 705~~, Parts I and II,~~ shall apply. Electric vehicle power export equipment (EVPE) that provide receptacle outlets as points of power export shall comply with 627.60.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 14:18:13 EDT 2024

Committee Statement

Committee Statement: The references to Article 702, Parts I and II and Article 705 Parts I and II were deleted to encompass all requirements when EVSE is used as an electric power production source.

Response Message: SR-7911-NFPA 70-2024

Second Revision No. 7913-NFPA 70-2024 [Section No. 627.102(C)]

(C) Primary Pads.

Primary pads shall be installed secured to the surface or embedded in the surface of the floor with their tops flush with or below the surface in accordance with the manufacturer's instructions and the following:

(1) If located in an area requiring snow removal, primary pads shall not be located on or above the surface.

Exception: Where installed on private property where snow removal is done manually, primary pads shall be permitted to be ~~installed~~ on or above the surface.

(2) Primary pad enclosures shall be suitable for the environment and, if located in an area subject to severe climatic conditions (e.g., flooding), suitably rated for those conditions.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 14:21:15 EDT 2024

Committee Statement

Committee Statement: The term "installed" was removed because of redundancy.

Response Message: SR-7913-NFPA 70-2024

Second Revision No. 7786-NFPA 70-2024 [Section No. 630.2]

630.2 Listing Requirements.

All welding and cutting power equipment ~~under the scope of this article~~ shall be listed.

Submitter Information Verification

Committee: NEC-P12
Submittal Date: Wed Oct 16 13:49:05 EDT 2024

Committee Statement

Committee Statement: Section was revised to remove redundant text.
Response Message: SR-7786-NFPA 70-2024

Public Comment No. 651-NFPA 70-2024 [Section No. 630.2]

Second Revision No. 7788-NFPA 70-2024 [Section No. 630.12]

630.12 Overcurrent Protection.

~~Overcurrent protection~~ OCPD for arc welders shall be as provided in 630.12(A) and 630.12(B). Where the values as determined by this section do not correspond to the standard ampere ratings provided in 240.6 or where the rating or setting specified results in unnecessary opening of the overcurrent device, the next higher standard rating or setting shall be permitted.

(A) For Welders.

Each welder shall have overcurrent protection rated or set at not more than 200 percent of I_{1max}. Alternatively, if the I_{1max} is not given, the overcurrent protection shall be rated or set at not more than 200 percent of the rated primary current of the welder.

An ~~overcurrent device~~ OCPD shall not be required for a welder that has supply conductors protected by an ~~overcurrent device~~ OCPD rated or set at not more than 200 percent of I_{1max} or at the rated primary current of the welder.

If the supply conductors for a welder are protected by an ~~overcurrent device~~ OCPD rated or set at not more than 200 percent of I_{1max} or at the rated primary current of the welder, a separate ~~overcurrent device~~ OCPD shall not be required.

(B) For Conductors.

Conductors that supply one or more welders shall be protected by an ~~overcurrent device~~ OCPD rated or set at not more than 200 percent of the conductor ampacity.

Informational Note: I_{1max} is the maximum value of the rated supply current at maximum rated output. I_{1eff} is the maximum value of the effective supply current, calculated from the rated supply current (I_1), the corresponding duty cycle (duty factor) (X), and the supply current at no-load (I_0) by the following equation:

$$I_{1eff} = \sqrt{I_1^2 X + I_0^2 (1 - X)} \qquad \textbf{[630.12(B)]}$$

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 13:52:09 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7788-NFPA 70-2024

Second Revision No. 7791-NFPA 70-2024 [Section No. 630.32]

630.32 Overcurrent Protection.

Overcurrent protection for resistance welders shall be as provided in 630.32(A) and 630.32(B). Where the values as determined by this section do not correspond with the standard ampere ratings provided in 240.6 or where the rating or setting specified results in unnecessary opening of the ~~overcurrent device~~ OCPD , a higher rating or setting that does not exceed the next higher standard ampere rating shall be permitted.

(A) For Welders.

Each welder shall have an ~~overcurrent device~~ OCPD rated or set at not more than 300 percent of the rated primary current of the welder. If the supply conductors for a welder are protected by an ~~overcurrent device~~ OCPD rated or set at not more than 200 percent of the rated primary current of the welder, a separate ~~overcurrent device~~ OCPD shall not be required.

(B) For Conductors.

Conductors that supply one or more welders shall be protected by an ~~overcurrent device~~ OCPD rated or set at not more than 300 percent of the conductor ampacity.

Submitter Information Verification

Committee: NEC-P12
Submittal Date: Wed Oct 16 13:56:32 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.
Response Message: SR-7791-NFPA 70-2024

Second Revision No. 7792-NFPA 70-2024 [Section No. 630.42 [Excluding any Sub-Sections]]

Cables ~~shall be permitted to be~~ installed in a dedicated cable tray ~~as provided in~~ shall comply with 630.42(A), 630.42(B), and 630.42(C).

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 14:00:38 EDT 2024

Committee Statement

Committee Statement: The section was revised for usability and clarity.

Response Message: SR-7792-NFPA 70-2024

Second Revision No. 7991-NFPA 70-2024 [Section No. 640.4]

640.4 Locations and Other Articles.

Circuits and equipment shall comply with 640.4(A) through 640.4(J) , as applicable.

(A) Spread of Fire or Products of Combustion.

Section 300.23 shall apply.

(B) Ducts, Plenums, and Other Air-Handling Spaces.

Section 300.25(B) shall apply to circuits and equipment installed in ducts specifically fabricated for environmental air. Section 300.25(C) shall apply to circuits and equipment installed in other spaces used for environmental air (plenums).

Exception No. 1: Class 2 and Class 3 cables installed in accordance with 794.135(A) shall be permitted to be installed in ducts specifically fabricated for environmental air.

Exception No. 2: Class 2 and Class 3 cables installed in accordance with 794.135(A) shall be permitted to be installed in other spaces used for environmental air (plenums).

Informational Note: See NFPA 90A -2024, *Standard for the Installation of Air-Conditioning and Ventilating Systems* , 8.5.5.6, which permits loudspeakers, loudspeaker assemblies, and their accessories listed in accordance with UL 2043-2023, *Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces* , to be installed in other spaces used for environmental air (ceiling cavity plenums).

(C) Communications Cables.

Types CMP, CMR, CMG, and CM communications cables shall be permitted to substitute for Class 2 and Class 3 cables in accordance with 794.135(D) .

(D) Cable Trays.

Cable trays and cable tray systems shall be installed in accordance with Article 392 , Part II. The installation of Class 2, Class 3, and Type PLTC cables in cable trays shall be in accordance with 794.135(A) .

(E) Hazardous (Classified) Locations.

Equipment used in hazardous (classified) locations shall comply with the applicable requirements of Chapter 5 .

(F) Special Occupancies.

Audio equipment used in special occupancies shall comply with the requirements in the associated special occupancy article in Chapter 5 .

(G) Combination Systems.

Where the authority having jurisdiction permits audio systems for paging or music, or both, to be combined with fire alarm systems, the wiring shall comply with 760.139(E) .

Informational Note: See *NFPA 72* -2025, *National Fire Alarm and Signaling Code* ; and NFPA 101 -2024, *Life Safety Code* , for installation requirements for such combination systems.

(H) Antennas.

Equipment used in audio systems that contain an audio or video tuner and an antenna input shall comply with the Chapter 8 requirements. Wiring other than antenna wiring that connects such equipment to other audio equipment shall comply with this article.

~~(I) Generators.~~

~~Generators shall be installed in accordance with 445.10 through 445.12 , 445.14 through 445.16 , and 445.18 . Grounding of portable and vehicle-mounted generators shall be in accordance with 250.34 .~~

~~(J) Organ Pipes.~~

~~Additions of pipe organ pipes to an electronic organ shall be in accordance with 650.5 through 650.10 .~~

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Fri Oct 18 11:15:43 EDT 2024

Committee Statement

Committee Statement: Section 640.4 is not necessary in accordance with 90.3. This removes redundancy in accordance with 4.1.2 of the NEC Style Manual.

Response Message: SR-7991-NFPA 70-2024

Public Comment No. 404-NFPA 70-2024 [Section No. 640.4]

Second Revision No. 7934-NFPA 70-2024 [Section No. 640.9(C)]

(C) Output Wiring and Listing of Amplifiers.

Amplifiers with output circuits carrying audio program signals shall be permitted to employ Class 1, Class 2, or Class 3 wiring where the amplifier is listed and marked for use with the specific class of wiring method. Such listing shall ensure the energy output is equivalent to the shock and fire risk of the same class as stated in Article 725~~,~~ Part II. Overcurrent protection shall be provided and shall be permitted to be inherent in the amplifier.

Audio amplifier output circuits wired using Class 1 wiring methods shall be considered equivalent to Class 1 circuits and shall be installed in accordance with ~~724.46~~ 724.40 , where applicable.

Audio amplifier output circuits wired using Class 2 or Class 3 wiring methods shall be considered equivalent to Class 2 or Class 3 circuits, respectively. They shall use conductors insulated at not less than the requirements of ~~794.2~~ 722.2 and shall be installed in accordance with ~~794.135~~ Table 722.120 and ~~725.136 through 794.204~~ 722.122 .

Informational Note No. 1: See UL 1711~~-2016~~ , *Amplifiers for Fire Protective Signaling Systems*, which contains requirements for the listing of amplifiers used for fire alarm systems in compliance with *NFPA 72*~~-2025~~ , *National Fire Alarm and Signaling Code*.

Informational Note No. 2: See UL 813~~-1996~~ , *Commercial Audio Equipment*, UL 1419~~-2016~~ , *Professional Video and Audio Equipment*, ANSI/UL 1492~~-1996~~ , *Audio-Video Products and Accessories*, UL 6500~~-1999~~ , *Audio/Video and Musical Instrument Apparatus for Household, Commercial, and Similar Use*, and UL 62368-1~~-2014~~ , *Audio/Video, Information and Communication Technology Equipment — Part 1: Safety Requirements*, for examples of requirements for listing amplifiers used in residential, commercial, and professional use.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 17:02:21 EDT 2024

Committee Statement

Committee Statement: The section references were corrected.

Response Message: SR-7934-NFPA 70-2024

Second Revision No. 7938-NFPA 70-2024 [Section No. 640.22]

640.22 Wiring of Equipment Racks and Enclosures.

Metal equipment racks and enclosures shall be bonded and grounded. Bonding shall not be required if the rack is connected to a technical power ground.

Wires, cables, structural components, or other equipment shall not be placed in such a manner as to prevent reasonable access to equipment power switches and resettable or replaceable circuit overcurrent protection devices.

Supply cords or cables, if used, shall terminate within the equipment rack enclosure in an identified connector assembly. The supply cords or cable (and connector assembly if used) shall have sufficient ampacity to carry the total load connected to the equipment rack and shall be protected by ~~overcurrent devices~~ OCPDs .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 17:14:55 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7938-NFPA 70-2024

Second Revision No. 7941-NFPA 70-2024 [Section No. 640.43]

640.43 Wiring of Equipment Racks.

Equipment racks fabricated of metal shall be bonded and grounded. Nonmetallic racks with covers (if provided) removed shall not allow access to Class 1, Class 3, or primary circuit power without the removal of covers over terminals or the use of tools.

Wires, cables, structural components, or other equipment shall not be placed in such a manner as to prevent reasonable access to equipment power switches and resettable or replaceable circuit ~~overcurrent protection devices~~ OCPDs .

Wiring that exits the equipment rack for connection to other equipment or to a power supply shall be relieved of strain or otherwise suitably terminated such that a pull on the flexible cord or cable will not increase the risk of damage to the cable or connected equipment such as to cause an unreasonable risk of fire or electric shock.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 17:17:38 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7941-NFPA 70-2024

Second Revision No. 7957-NFPA 70-2024 [Section No. 645.4]

645.4 Other Articles.

Circuits and equipment shall comply with 645.4(A) through 645.4(I) , as applicable.

(A) Spread of Fire or Products of Combustion.

Sections 300.23 , 770.26, and 800.26 shall apply to penetrations of the fire-resistant room boundary.

(B) Wiring and Cabling in Other Spaces Used for Environmental Air (Plenums).

The following sections and tables shall apply to wiring and cabling in other spaces used for environmental air (plenums) above an information technology equipment room:

(0) Wiring methods: 300.25(C)(1)

(0) Class 2, Class 3, and Class 4 cables: 794.135(A)

(0) Fire alarm systems: 760.53(B)(2) and Table 794.320

(0) Optical fiber cables: 770.113(C) and Table 770.154(a)

(0) Communications circuits: 800.133(C) and Table 800.154(a)

(0) CATV and radio distribution systems: 800.113(C) and Table 800.154(a)

(C) Bonding and Grounding.

The non-current-carrying conductive members of optical fiber cables in an information technology equipment room shall be bonded and grounded in accordance with 750.118 .

(D) Electrical Classification of Data Circuits.

Section 721.30(A)(4) shall apply to the electrical classification of listed information technology equipment signaling circuits.

(E) Fire Alarm Cables and Equipment.

Article 760 , Parts I, II, and III shall apply to fire alarm systems cables and equipment installed in an information technology equipment room. Only fire alarm cables listed in accordance with Article 760 , Part IV and listed fire alarm equipment shall be permitted to be installed in an information technology equipment room.

(F) Cable Routing Assemblies, Communications Wires, Cables, Raceways, and Equipment.

Sections 800.110, 800.113, and 800.154 shall apply to cable routing assemblies and communications raceways. Article 800 , Parts I, II, III, IV, and V and Article 805 , Parts I, II, III, IV, and V shall apply to communications wires, cables, and equipment installed in an information technology equipment room. Only communications wires and cables listed in accordance with 800.179, cable routing assemblies, communications raceways listed in accordance with 800.182, and communications equipment listed in accordance with 800.171 shall be permitted to be installed in an information technology equipment room. Article 645 shall apply to the powering of communications equipment in an information technology equipment room.

Informational Note: See Article 100 for a definition of *communications equipment* .

~~(G) Community Antenna Television and Radio Distribution Systems Coaxial Cables and Equipment.~~

~~Article 800 , Parts I, II, III, IV, and V and Article 820 , Parts I, II, III, IV, and V shall apply to community antenna television and radio distribution systems coaxial cables and equipment installed in an information technology equipment room. Only community antenna television and radio distribution coaxial cables listed in accordance with 800.179 and listed CATV equipment shall be permitted to be installed in an information technology equipment room. Article 645 shall apply to the powering of community antenna television and radio distribution systems equipment installed in an information technology equipment room.~~

~~(H) Optical Fiber Cables.~~

~~Only optical fiber cables listed in accordance with 770.179 shall be permitted to be installed in an information technology equipment room.~~

~~(I) Cables Not in Information Technology Equipment Room.~~

~~Cables extending beyond the information technology equipment room shall be subject to the applicable requirements of this code.~~

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 18:38:25 EDT 2024

Committee Statement

Committee Statement: Section 645.4 is not necessary in accordance with 90.3. This removes redundancy in accordance with 4.1.2 of the NEC Style Manual.

Response Message: SR-7957-NFPA 70-2024

Public Comment No. 1102-NFPA 70-2024 [Section No. 645.4(A)]

Public Comment No. 1104-NFPA 70-2024 [Section No. 645.4(B)]

Public Comment No. 1109-NFPA 70-2024 [Section No. 645.4(F)]

Public Comment No. 1106-NFPA 70-2024 [Section No. 645.4(E)]

Public Comment No. 1113-NFPA 70-2024 [Sections 645.4(G), 645.4(H)]

Second Revision No. 7960-NFPA 70-2024 [Section No. 645.5]

645.5 Special Requirements for Information Technology Equipment Room.

The alternative wiring methods to ~~Chapter 3 and Article 725 , Parts I and II~~ 722.120 for signaling wiring and ~~Article 770 , Parts I and V~~ 722.160 for optical fiber cabling shall be permitted where all of the following conditions are met:

(1) Disconnecting means complying with 645.10 are provided.

(2) A heating/ventilating/air-conditioning (HVAC) system is provided in one of the methods identified in the following:

a. A separate HVAC system that is dedicated for information technology equipment use and is separated from other areas of occupancy

b. An HVAC system that serves other occupancies and meets all of the following:

i. Also serves the information technology equipment room

ii. Provides fire/smoke dampers at the point of penetration of the room boundary

iii. Activates the damper operation upon initiation by smoke detector alarms, by operation of the disconnecting means required by 645.10, or by both

Informational Note No. 1: See NFPA 75~~-2024~~ , *Standard for the Fire Protection of Information Technology Equipment*, ~~Chapter 11,~~ Section 11.1, 11.1.1, 11.1.2, and 11.1.3, for further information.

(3) All information technology and communications equipment installed in the room, including measurement, control, and laboratory equipment, is listed.

(4) The room is occupied by, and accessible to, only those personnel needed for the maintenance and functional operation of the installed information technology equipment.

(5) The room is separated from other occupancies by fire-resistant-rated walls, floors, and ceilings with protected openings.

Informational Note No. 2: See NFPA 75~~-2024~~ , *Standard for the Fire Protection of Information Technology Equipment*, Chapter 6, for further information on room construction requirements.

(6) Only electrical equipment and wiring associated with the operation of the information technology room is installed in the room.

Informational Note No. 3: HVAC systems, communications systems, and monitoring systems such as telephone, fire alarm systems, security systems, water detection systems, and other related protective equipment are examples of equipment associated with the operation of the information technology room.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 18:45:05 EDT 2024

Committee Statement

Committee Statement: Section references were corrected.

Response Message: SR-7960-NFPA 70-2024

Public Comment No. 1115-NFPA 70-2024 [Section No. 645.5]

Second Revision No. 7963-NFPA 70-2024 [Section No. 645.6(A)]

(A) Branch~~-Circuit Conductors~~ Circuits .

~~The branch-circuit conductors supplying one or more units of information~~ Information technology equipment shall ~~have an ampacity not less than 125 percent of the total connected load~~ be considered a continuous load for branch circuits .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 18:50:42 EDT 2024

Committee Statement

Committee Statement: Text was changed to provide consistency of terms and application throughout the code.

Response Message: SR-7963-NFPA 70-2024

Public Comment No. 99-NFPA 70-2024 [Section No. 645.6(A)]

Second Revision No. 7973-NFPA 70-2024 [Section No. 645.6(E)(2)]

(2) Installation Requirements for Power-Supply Cords, Data Cables, Interconnecting Cables, and Grounding Conductors Under a Raised Floor.

The following cords, cables, and conductors shall be permitted to be installed under a raised floor:

(1) Power-supply cords of listed information technology equipment in accordance with 645.6(B).

(2) Interconnecting cables enclosed in a raceway.

(3) Equipment grounding conductors.

(4) Where the air space under a raised floor is protected by an automatic fire suppression system, ~~in addition to wiring installed in compliance with 794.135(A) , Types CL2R, CL3R, CL4R, CL2, CL3, CL4, and substitute cables, including CMP, CMR, CM, and CMG, installed in accordance with 794.135(D)~~ the following cables shall be permitted under raised floors~~.~~ :

a. Types CL2P, CL3P, CL4P, CMP plenum cables

b. Types CL2R, CL3R, CL4R, CMR riser cables

c. Types CL2, CL3, CL4, CM, CMG general-purpose cables

(5) Where the air space under a raised floor is not protected by an automatic fire suppression system, ~~in addition to wiring installed in compliance with 794.135(A) , substitute cable Type CMP installed in accordance with 794.135(D) shall be permitted under raised floors~~ only Types CL2P, CL3P, CL4P, and CMP plenum cables shall be permitted .

(6) Listed Type DP cable having ~~adequate~~ fire-resistant characteristics suitable for use under raised floors of an information technology equipment room.

Informational Note: See CSA C22.2 No. 0.3, *Test Methods for Electrical Wires and Cables*, CSA Vertical Flame Test-Cables in Cable Trays for one method of defining resistance to the spread of fire where the damage (char length) of the cable does not exceed 1.5 m (4 ft 11 in.) or ~~"UL Flame Exposure, Vertical Flame Tray Test" in~~ UL 1685~~-2015~~ , ~~*Standard for Safety for*~~ *Vertical-Tray Fire-Propagation and Smoke-Release Test for Electrical and Optical-Fiber Cables*, UL Flame Exposure, Vertical Flame Tray Test . The smoke measurements in the test method are not applicable.

Supplemental Information

File Name	Description	Approved
CMP_12_Section_645.6_E_2_.docx	Word file for this section of text in track changes.	

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 19:17:45 EDT 2024

Committee Statement

Committee Statement:	Unnecessary references were removed, and lists were introduced in compliance with the NEC Style Manual. Item (6): Adequate was removed as unenforceable.
Response Message:	SR-7973-NFPA 70-2024

Public Comment No. 654-NFPA 70-2024 [Section No. 645.6(E)(2)]

Public Comment No. 1116-NFPA 70-2024 [Section No. 645.6(E)(2)]

Second Revision No. 7977-NFPA 70-2024 [Section No. 645.6(E)(3)]

(3) Installation Requirements for Optical Fiber Cables Under a Raised Floor.

The installation of optical fiber cables shall comply with either of the following:

(1) Where the air space under a raised floor is protected by an automatic fire suppression system, ~~optical fiber cables installed in accordance with 770.113(C),~~ Types OFNP, OFCP, OFNR, OFCR, OFNG, OFCG, OFN, and OFC shall be permitted under raised floors.

(2) Where the air space under a raised floor is not protected by an automatic fire suppression system, only ~~optical fiber cables installed in accordance with 70.113(C)~~ Types OFNP and OFCP cables shall be permitted under raised floors.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 19:22:07 EDT 2024

Committee Statement

Committee Statement: Unnecessary references were removed.

Response Message: SR-7977-NFPA 70-2024

Second Revision No. 7980-NFPA 70-2024 [Section No. 645.10(B)]

(B) Critical Operations Data Systems.

Remote disconnecting controls shall not be required for critical operations data systems when all of the following conditions are met:

(1) An approved procedure has been established and maintained for removing power and air movement within the room or zone.

(2) Qualified personnel are continuously available to advise emergency responders and to instruct them of disconnecting methods.

(3) A smoke-sensing fire detection system is in place.

Informational Note: See *NFPA 72~~-2025~~* , *National Fire Alarm and Signaling Code*, for further information.

(4) An approved fire suppression system suitable for the application is in place.

(5) Cables installed under a raised floor, other than branch-circuit wiring, and power cords are installed in compliance with 645.6(E)(2) or 645.6(E)(3), or in compliance with Table 645.10(B).

Table 645.10(B) Cables Installed Under Raised Floors

Cable Type	Applicable Sections
Branch circuits under raised floors	645.6(E)(1)
Supply cords of listed information technology equipment	645.6(E)(2)(1), 300.25(C)
Class 2 and Class 3 remote control and Class 4 cables in other spaces used for environmental air (plenums)	~~722.135(B)~~ Table 722.120
Optical fiber cable in other spaces used for environmental air (plenums)	~~770.113(C) and Table 770.154(a)~~ Table 722.120 and 722.160 (A)(1)
Communications wires and cables, cable routing assemblies, and communications raceways in other spaces used for environmental air (plenums)	~~800.113(C) and Tables 800.154(a), 800.154(b), and 800.154(c)~~ Table 722.120, Table 722.130, 723.20, 723.22, 723.30, and 723.32
Coaxial CATV and radio distribution cables in other spaces used for environmental air (plenums)	~~800.113(C) and Table 800.154(a)~~ Table 722.120 and 722.133

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 19:35:10 EDT 2024

Committee Statement

Committee Statement: Section references were corrected.

Response Message: SR-7980-NFPA 70-2024

Public Comment No. 1141-NFPA 70-2024 [Section No. 645.10(B)]

Second Revision No. 7983-NFPA 70-2024 [Section No. 645.16]

645.16 Marking.

Each unit of an information technology system supplied by a branch circuit shall be provided with a manufacturer's nameplate, which shall also include the input power requirements for voltage, frequency, and maximum rated load in amperes.

Informational Note: See UL 62368-1, *Audio/Video, Information and Communication Technology Equipment — Part 1: Safety Requirements* , for information on product markings.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 19:44:12 EDT 2024

Committee Statement

Committee Statement: Product markings and labeling requirements are primarily governed by end-product standards.

Response Message: SR-7983-NFPA 70-2024

Public Comment No. 1778-NFPA 70-2024 [Section No. 645.16]

Second Revision No. 7986-NFPA 70-2024 [Section No. 645.25]

645.25 Engineering Supervision.

As an alternative to the feeder and service load calculations required by Article 120~~,~~ Parts I, III, and IV, feeder and service load calculations for new or existing loads shall be permitted to be used if provided by qualified persons under engineering supervision.

Submitter Information Verification

Committee: NEC-P12
Submittal Date: Thu Oct 17 19:46:16 EDT 2024

Committee Statement

Committee Statement: Article part numbering changed to align with changes to Article 120.
Response Message: SR-7986-NFPA 70-2024

Second Revision No. 7984-NFPA 70-2024 [Section No. 645.27(A)]

(A) General.

Critical operations data system(s) ~~overcurrent protective devices (OCPD)~~ OCPDs shall be selectively coordinated with all supply-side ~~overcurrent protective devices~~ OCPDs .

Selective coordination shall be selected by a licensed professional engineer or other qualified persons engaged primarily in the design, installation, or maintenance of electrical systems. The selection shall be documented and made available to those authorized to design, install, inspect, maintain, and operate the system.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Thu Oct 17 19:45:06 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7984-NFPA 70-2024

Second Revision No. 7996-NFPA 70-2024 [Section No. 646.6]

646.6 Nameplate Data.

A permanent nameplate shall be attached to each equipment enclosure of an MDC and shall be plainly visible after installation. The nameplate shall include the following information, as applicable:

(1) Supply voltage, number of phases, frequency, and full-load current. The full-load current shown on the nameplate shall not be less than the sum of the full-load currents required for all motors and other equipment that may be in operation at the same time under normal conditions of use. Where unusual type loads, duty cycles, and so forth, require oversized conductors or permit reduced-size conductors, the required capacity shall be included in the marked full-load current. Where more than one incoming supply circuit is to be provided, the nameplate shall state the preceding information for each circuit. For listed equipment, the full-load current shown on the nameplate shall be permitted to be the maximum, measured, 15-minute, average full-load current.

Informational Note No. 1: See 430.22(E) and 430.26 for duty cycle requirements.

(2) For MDCs powered by a separate service, the short-circuit current rating of the service equipment provided as part of the MDC.

Informational Note No. 2: This rating may be part of the service equipment marking.

(3) For MDCs powered by a separate service, if the required service as determined by Article 120~~,~~ Parts I, III, and IV is less than the rating of the service panel used, the required service shall be included on the nameplate. As an alternative to the feeder and service load calculations required by Article 120~~,~~ Parts III and IV, feeder and service load calculations for new, future, or existing loads shall be permitted to be used if performed by qualified persons under engineering supervision.

Informational Note No. 3: Branch circuits supplying ITE loads are assumed to be loaded not less than 80 percent of the branch-circuit rating with a 100 percent duty cycle.

(4) Electrical diagram number(s) or the number of the index to the electrical drawings.

(5) For MDC equipment enclosures that are not powered by a separate service, feeder, or branch circuit, a reference to the powering equipment.

(6) Manufacturer’s name or trademark.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Fri Oct 18 11:46:38 EDT 2024

Committee Statement

Committee Statement: Article part numbering changed to align with changes to Article 120.

Response Message: SR-7996-NFPA 70-2024

Second Revision No. 7997-NFPA 70-2024 [Section No. 646.21(C)]

(C) Power Transformers.

Power transformers that supply power only to the MDC shall be permitted ~~to be installed~~ in the MDC equipment enclosure. Only dry-type transformers shall be permitted ~~to be installed~~ in the MDC equipment enclosure. ~~Such transformers shall be installed in accordance with Article 450 , Parts I, II, and III.~~

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Fri Oct 18 11:51:09 EDT 2024

Committee Statement

Committee Statement: Section is revised to comply with 4.1.4 of the NEC Style Manual and eliminate redundant language.

Response Message: SR-7997-NFPA 70-2024

Public Comment No. 655-NFPA 70-2024 [Section No. 646.21(C)]

Second Revision No. 7998-NFPA 70-2024 [Section No. 647.6]

647.6 Three-Phase Systems.

Where 3-phase power is supplied, a separately derived 6-phase “wye” system with 60 volts to ground ~~installed under this article~~ shall be configured as three separately derived 120-volt single-phase systems having a combined total of no more than six disconnects.

Submitter Information Verification

Committee: NEC-P12
Submittal Date: Fri Oct 18 11:54:03 EDT 2024

Committee Statement

Committee Statement: Language was removed to eliminate redundant terms.
Response Message: SR-7998-NFPA 70-2024

Second Revision No. 7999-NFPA 70-2024 [Section No. 647.9(A)]

(A) Disconnecting Means.

All luminaires connected to separately derived systems operating at 60 volts to ground, and associated control equipment if provided, shall have a disconnecting means that simultaneously opens all ungrounded conductors. The disconnecting means shall be located within sight of the luminaire in accordance with 110.29 or be lockable open in accordance with 110.25.

Submitter Information Verification

Committee: NEC-P12
Submittal Date: Fri Oct 18 11:55:07 EDT 2024

Committee Statement

Committee Statement: Language was revised to comply with changes made in the Article 110.
Response Message: SR-7999-NFPA 70-2024

Second Revision No. 7775-NFPA 70-2024 [Section No. 650.4(B)]

(B) ~~Optical Fiber Cable~~ Limited-Energy Cables .

Installations of ~~optical fiber~~ limited-energy cables shall be in accordance with ~~Article 770 ; Parts I and V~~ Table 722.120 and 722.131 .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 13:32:44 EDT 2024

Committee Statement

Committee Statement: This change reflects the move of all limited-energy cables to Article 722. Fiber Optic Cables are limited-energy cables.

Response Message: SR-7775-NFPA 70-2024

Public Comment No. 1143-NFPA 70-2024 [Section No. 650.4(B)]

Second Revision No. 7776-NFPA 70-2024 [Section No. 650.9]

650.9 Overcurrent Protection.

Circuits shall be so arranged that 20 AWG through 28 AWG conductors shall be protected by an ~~overcurrent device~~ OCPD rated at not more than 6 amperes. Other conductor sizes shall be protected in accordance with their ampacity. A common return conductor shall not require overcurrent protection.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 13:33:45 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7776-NFPA 70-2024

Second Revision No. 7795-NFPA 70-2024 [Section No. 660.3]

660.3 Reconditioned Equipment.

~~All equipment for new X-ray installations and all used or~~ The installation of reconditioned X-ray equipment ~~moved to and reinstalled at a new location~~ shall be ~~of a~~ permitted ~~type~~ .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 14:05:50 EDT 2024

Committee Statement

Committee Statement: Section 660.3 was rewritten to correspond to the Correlating Committee Usability Task Group's recommended format for reconditioned equipment.

Response Message: SR-7795-NFPA 70-2024

Public Comment No. 656-NFPA 70-2024 [Section No. 660.3]

Second Revision No. 7798-NFPA 70-2024 [Section No. 660.7]

660.7 Rating of Supply Conductors and Overcurrent Protection.

(A) Branch-Circuit Conductors.

The ampacity of supply branch-circuit conductors and the ~~overcurrent protective devices~~ OCPDs shall not be less than 50 percent of the momentary rating or 100 percent of the long-time rating, whichever is greater.

(B) Feeder Conductors.

The ampacity of conductors and the rating of ~~overcurrent devices~~ OCPDs of a feeder for two or more branch circuits supplying X-ray units shall not be less than 100 percent of the momentary demand rating [as determined by 660.7(A)] of the two largest X-ray apparatus plus 20 percent of the momentary ratings of other X-ray apparatus.

Informational Note: The minimum conductor size for branch and feeder circuits is also governed by voltage regulation requirements. For a specific installation, the manufacturer usually specifies minimum distribution transformer and conductor sizes, rating of disconnect means, and overcurrent protection.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 14:12:02 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7798-NFPA 70-2024

Second Revision No. 7799-NFPA 70-2024 [Section No. 660.9]

660.9 Minimum Size of Conductors.

Size 18 AWG or 16 AWG fixture wires, as specified in 724.49, and flexible cords shall be permitted for the control and operating circuits of X-ray and auxiliary equipment where protected by not larger than 20-ampere ~~overcurrent devices~~ OCPDs .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 14:13:18 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7799-NFPA 70-2024

Second Revision No. 7800-NFPA 70-2024 [Section No. 660.35]

660.35 General.

Transformers and capacitors that are part of ~~an~~ X-ray equipment shall not be required to comply with ~~450.1~~ Article 450 and ~~460.1~~ Article 460 .

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 14:14:54 EDT 2024

Committee Statement

Committee Statement: Section 660.35 was revised to reference the Articles 450 and 460 to comply with the NEC Style Manual Section 4.1.4 noting that references to entire articles are permitted where considered necessary.

Response Message: SR-7800-NFPA 70-2024

Public Comment No. 658-NFPA 70-2024 [Section No. 660.35]

Second Revision No. 7803-NFPA 70-2024 [Section No. 668.4(C)]

(C) Electrolytic Cell Lines.

Electrolytic cell lines shall comply with the provisions of Chapters 1 through 4 except as amended in 668.4(C)(1) through 668.4(C)(4).

(1) Conductors.

The electrolytic cell line conductors shall not be required to comply with ~~110.1 , 120.1 , 210.1 , 215.1 , and 225.1~~ Articles 110 , 120 , 210 , 215 , and 225 . See 668.12.

(2) Overcurrent Protection.

Overcurrent protection of electrolytic cell dc process power circuits shall not be required to comply with the requirements of ~~240.1~~ Article 240 .

(3) Grounding.

Except as required by this article, equipment located or used within the electrolytic cell line working zone or associated with the cell line dc power circuits shall not be required to comply with ~~250.1~~ Article 250 .

(4) Working Zone.

The electrolytic cells, cell line attachments, and the wiring of auxiliary equipment and devices within the cell line working zone shall not be required to comply with ~~110.1 , 120.1 , 210.1 , 215.1 , and 225.1~~ Articles 110 , 120 , 210 , 215 , and 225 . See 668.30.

Informational Note: See 668.15 for equipment, apparatus, and structural component grounding.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 14:18:39 EDT 2024

Committee Statement

Committee Statement: Section 668.4(C) was revised to reference the articles to comply with the NEC Style Manual Section 4.1.4 noting that references to entire articles are permitted where considered necessary.

Response Message: SR-7803-NFPA 70-2024

Public Comment No. 660-NFPA 70-2024 [Section No. 668.4]

Second Revision No. 7805-NFPA 70-2024 [Section No. 668.21(A)]

(A) Isolated Circuits.

Circuits supplying power to ungrounded receptacles for hand-held, cord-connected equipment shall be electrically isolated from any distribution system supplying areas other than the cell line working zone and shall be ungrounded. Power for these circuits shall be supplied through isolating transformers. Primaries of such transformers shall operate at not more than 1000 volts between conductors and shall be provided with proper overcurrent protection. The secondary voltage of such transformers shall not exceed 300 volts between conductors, and all circuits supplied from such secondaries shall be ungrounded and shall have an approved ~~overcurrent device~~ OCPD of proper rating in each conductor.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 14:22:22 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7805-NFPA 70-2024

Second Revision No. 7806-NFPA 70-2024 [Section No. 669.9]

669.9 Overcurrent Protection.

Direct-current (dc) conductors shall be ~~protected from~~ provided with overcurrent protection by one or more of the following:

(1) Fuses or circuit breakers

(2) A current-sensing device that operates a disconnecting means

(3) Other approved means

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 14:23:28 EDT 2024

Committee Statement

Committee Statement: Section 669.9 was revised for usability and clarity.

Response Message: SR-7806-NFPA 70-2024

Second Revision No. 7808-NFPA 70-2024 [Section No. 670.5(C)]

(C) Overcurrent Protection.

Where furnished as part of the machine, overcurrent protection for each supply circuit shall consist of a single circuit breaker or set of fuses, the machine shall bear the marking required in 670.4, and the supply conductors shall be considered either as feeders or as taps as covered by 240.21.

The rating or setting of the ~~overcurrent protective device~~ OCPD for the circuit supplying the machine shall not be greater than the sum of the largest rating or setting of the branch-circuit short-circuit and ground-fault protective device provided with the machine, plus 125 percent of the full-load current rating of all resistance heating loads, plus the sum of the full-load currents of all other motors and apparatus that could be in operation at the same time.

Exception: Where one or more instantaneous trip circuit breakers or motor short-circuit protectors are used for motor branch-circuit short-circuit and ground-fault protection as permitted by 430.52(C), the procedure specified in 670.5(C) for determining the maximum rating of the ~~protective device~~ OCPD for the circuit supplying the machine shall apply with the following provision: For the purpose of the calculation, each instantaneous trip circuit breaker or motor short-circuit protector shall be assumed to have a rating not exceeding the maximum percentage of motor full-load current permitted by Table 430.52(C)(1) for the type of machine supply circuit protective device employed.

Where no branch-circuit short-circuit and ground-fault protective device is provided with the machine, the rating or setting of the overcurrent protective device shall be based on 430.52 and 430.53, as applicable.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 14:25:08 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7808-NFPA 70-2024

Second Revision No. 7810-NFPA 70-2024 [Section No. 685.10]

685.10 Location of Overcurrent Protective Devices in or on Premises.

Location of ~~overcurrent devices~~ OCPDs that are critical to integrated electrical systems shall be permitted to be accessible, with mounting heights permitted to ensure security from operation by unqualified personnel.

Submitter Information Verification

Committee: NEC-P12

Submittal Date: Wed Oct 16 14:26:57 EDT 2024

Committee Statement

Committee Statement: The change to the overcurrent device terminology is for consistency throughout the code.

Response Message: SR-7810-NFPA 70-2024