

Instructions:

Fees \$ 75

Print these pages.

1. Circle the correct answers and transfer them to the [answer sheet](#).
2. Page down to the last page for the [verification forms](#) and mailing instructions.
3. Use the included 2017 NEC definitions above each mini section.

Course: 2017 NEC Article’s Definition Quiz part 2

This course is valid for these credentials:

<u>Credential Description</u>	<u>Cred Code</u>	<u>Credit Hours</u>
Registered/Beginner Electrician	BE	8
Commercial Electrical Inspector	CEI	8
Industrial Journeyman Electrician	IJE	8
Journeyman Electrician	JE	8
Master Electrician	ME	8
Residential Journeyman Electrician	RJE	8
Residential Master Electrician	RME	8
UDC-Electrical Inspector	UEI	2.5

2017 NEC Article’s Definition Quiz Part 2

620.2 Definitions. Elevators, Dumbwaiters, Escalators, Moving Walks, Platform Lifts, and Stairway Chairlifts

Control Room (for Elevator, Dumbwaiter). An enclosed control space outside the hoistway, intended for full bodily entry, that contains the elevator motor controller. The room could also contain electrical and/or mechanical equipment used directly in connection with the elevator or dumbwaiter but not the electric driving machine or the hydraulic machine.

Control Space (for Elevator, Dumbwaiter). A space inside or outside the hoistway, intended to be accessed with or without full bodily entry, that contains the elevator motor controller. This space could also contain electrical and/or mechanical equipment used directly in connection with the elevator or dumbwaiter but not the electrical driving machine or the hydraulic machine.

Control System. The overall system governing the starting, stopping, direction of motion, acceleration, speed, and retardation of the moving member.

Controller, Motion. The electrical device(s) for that part of the control system that governs the acceleration, speed, retardation, and stopping of the moving member.

Controller, Motor. The operative units of the control system comprised of the starter device(s) and power conversion equipment used to drive an electric motor, or the pumping unit used to power hydraulic control equipment.

Controller, Operation. The electrical device(s) for that part of the control system that initiates the starting, stopping, and direction of motion in response to a signal from an operating device.

Machine Room (for Elevator, Dumbwaiter). An enclosed machinery space outside the hoistway, intended for full bodily entry, that contains the electrical driving machine or the hydraulic machine. The room could also contain electrical and/or mechanical equipment used directly in connection with the elevator or dumbwaiter.

Machinery Space (for Elevator, Dumbwaiter). A space inside or outside the hoistway, intended to be accessed with or without full bodily entry, that contains elevator or dumbwaiter mechanical equipment, and could also contain electrical equipment used directly in connection with the elevator or dumbwaiter.

This space could also contain the electrical driving machine or the hydraulic machine.

Operating Device. The car switch, pushbuttons, key or toggle switch(s), or other devices used to activate the operation controller.

Remote Machine Room and Control Room (for Elevator, Dumbwaiter). A machine room or control room that is not attached to the outside perimeter or surface of the walls, ceiling, or floor of the hoistway.

Remote Machinery Space and Control Space (for Elevator, Dumbwaiter). A machinery space or control space that is not within the hoistway, machine room, or control room and that is not attached to the outside perimeter or surface of the walls, ceiling, or floor of the hoistway.

Signal Equipment. Includes audible and visual equipment such as chimes, gongs, lights, and displays that convey information to the user.

1. The operative units of the control system comprised of the starter device(s) and power conversion equipment used to drive an electric motor, or the pumping unit used to power hydraulic control equipment defines:
 - a. Controller, Operation
 - b. Controller, Motor
 - c. Machine Room
 - d. Machinery Space
2. The electrical device(s) for that part of the control system that initiates the starting, stopping, and direction of motion in response to a signal from an operating device defines:
 - a. Controller, Operation
 - b. Controller, Motor
 - c. Machine Room
 - d. Machinery Space
3. An enclosed machinery space outside the hoistway, intended for full bodily entry, that contains the electrical driving machine or the hydraulic machine. The room could also contain electrical and/or mechanical equipment used directly in connection with the elevator or dumbwaiter defines:
 - a. Controller, Operation
 - b. Controller, Motor
 - c. Machine Room
 - d. Machinery Space
4. A space inside or outside the hoistway, intended to be accessed with or without full bodily entry, that contains elevator or dumbwaiter mechanical equipment, and could also contain electrical equipment used directly in connection with the elevator or dumbwaiter. This space could also contain the electrical driving machine or the hydraulic machine defines:
 - a. Controller, Operation
 - b. Controller, Motor
 - c. Machine Room
 - d. Machinery Space
5. An enclosed control space outside the hoistway, intended for full bodily entry, that contains the elevator motor controller. The room could also contain electrical and/or mechanical equipment used directly in connection with the elevator or dumbwaiter but not the electric driving machine or the hydraulic machine defines:
 - a. Control Space
 - b. Control Room
 - c. Control System
 - d. Controller, Motion
6. A space inside or outside the hoistway, intended to be accessed with or without full bodily entry, that contains the elevator motor controller. This space could also contain electrical and/or mechanical equipment used directly in connection with the elevator or dumbwaiter but not the electrical driving machine or the hydraulic machine defines:
 - a. Control Space
 - b. Control Room
 - c. Control System
 - d. Controller, Motion
7. The overall system governing the starting, stopping, direction of motion, acceleration, speed, and retardation of the moving member.
 - a. Control Space

- b. Control Room
 - c. Control System
 - d. Controller, Motion
8. The electrical device(s) for that part of the control system that governs the acceleration, speed, retardation, and stopping of the moving member defines:
- a. Control Space
 - b. Control Room
 - c. Control System
 - d. Controller, Motion
9. The car switch, pushbuttons, key or toggle switch(s), or other devices used to activate the operation controller defines:
- a. Signal Equipment
 - b. Remote Machine Room and Control Room
 - c. Operating Device
 - d. Remote Machinery Space and Control Space
10. A machine room or control room that is not attached to the outside perimeter or surface of the walls, ceiling, or floor of the hoistway defines:
- a. Signal Equipment
 - b. Remote Machine Room and Control Room
 - c. Operating Device
 - d. Remote Machinery Space and Control Space
11. A machinery space or control space that is not within the hoistway, machine room, or control room and that is not attached to the outside perimeter or surface of the walls, ceiling, or floor of the hoistway defines:
- a. Signal Equipment
 - b. Remote Machine Room and Control Room
 - c. Operating Device
 - d. Remote Machinery Space and Control Space
12. Includes audible and visual equipment such as chimes, gongs, lights, and displays that convey information to the user defines:
- a. Signal Equipment
 - b. Remote Machine Room and Control Room
 - c. Operating Device
 - d. Remote Machinery Space and Control Space

625.2 Definitions. Electric Vehicle Charging System

Cable Management System. An apparatus designed to control and organize the output cable to the electric vehicle or to the primary pad.

Charger Power Converter. The device used to convert energy from the power grid to a high-frequency output for wireless power transfer.

Electric Vehicle. An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For the purpose of this article, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

Electric Vehicle Connector. A device that, when electrically coupled (conductive or inductive) to an electric vehicle inlet, establishes an electrical connection to the electric vehicle for the purpose of power transfer and information exchange. This device is part of the electric vehicle coupler.

Electric Vehicle Coupler. A mating electric vehicle inlet and electric vehicle connector set.

Electric Vehicle Inlet. The device on the electric vehicle into which the electric vehicle connector is electrically coupled (conductive or inductive) for power transfer and information exchange. This device is part of the electric vehicle coupler. For the purposes of this *Code*, the electric vehicle inlet is considered to be part of the electric vehicle and not part of the electric vehicle supply equipment.

Electric Vehicle Storage Battery. A battery, comprised of one or more rechargeable electrochemical cells, that has no provision for the release of excessive gas pressure during normal charging and operation, or for the addition of water or electrolyte for external measurements of electrolyte-specific gravity.

Electric Vehicle Supply Equipment. The conductors, including the ungrounded, grounded, and equipment grounding conductors, and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

Fastened in Place. Mounting means of an EVSE in which the fastening means are specifically designed to permit periodic removal for relocation, interchangeability, maintenance, or repair without the use of a tool.

Fixed in Place. Mounting means of an EVSE attached to a wall or surface with fasteners that require a tool to be removed.

Output Cable to the Electric Vehicle. An assembly consisting of a length of flexible EV cable and an electric vehicle connector (supplying power to the electric vehicle).

Output Cable to the Primary Pad. A multi-conductor, shielded cable assembly consisting of conductors to carry the high frequency energy and any status signals between the charger power converter and the primary pad.

Personnel Protection System. A system of personnel protection devices and constructional features that when used together provide protection against electric shock of personnel.

Plug-In Hybrid Electric Vehicle (PHEV). A type of electric vehicle intended for on-road use with the ability to store and use off-vehicle electrical energy in the rechargeable energy storage system, and having a second source of motive power.

Portable (as applied to EVSE). A device intended for indoor or outdoor use that can be carried from charging location to charging location and is designed to be transported in the vehicle when not in use.

Power-Supply Cord. An assembly consisting of an attachment plug and length of flexible cord that connects equipment to a receptacle.

Primary Pad. A device external to the EV that provides power via the contactless coupling and may include the charger power converter.

Rechargeable Energy Storage System. Any power source that has the capability to be charged and discharged.

Wireless Power Transfer (WPT). The transfer of electrical energy from a power source to an electrical load via electric and magnetic fields or waves by a contactless inductive means between a primary and a secondary device.

Wireless Power Transfer Equipment (WPTE). Equipment consisting of a charger power converter and a primary pad. The two devices are either separate units or contained within one enclosure.

13. An assembly consisting of a length of flexible EV cable and an electric vehicle connector (supplying power to the electric vehicle) defines:

- a. Portable
- b. Output Cable to the Primary Pad
- c. Output Cable to the Electric Vehicle.
- d. Personnel Protection System
- e. Plug-In Hybrid Electric Vehicle

14. A multi-conductor, shielded cable assembly consisting of conductors to carry the high frequency energy and any status signals between the charger power converter and the primary pad defines:

- a. Portable
- b. Output Cable to the Primary Pad
- c. Output Cable to the Electric Vehicle.
- d. Personnel Protection System
- e. Plug-In Hybrid Electric Vehicle

15. A system of personnel protection devices and constructional features that when used together provide protection against electric shock of personnel defines:

- a. Portable
- b. Output Cable to the Primary Pad
- c. Output Cable to the Electric Vehicle.
- d. Personnel Protection System

- e. Plug-In Hybrid Electric Vehicle
16. A type of electric vehicle intended for on-road use with the ability to store and use off-vehicle electrical energy in the rechargeable energy storage system, and having a second source of motive power defines:
- a. Portable
 - b. Output Cable to the Primary Pad
 - c. Output Cable to the Electric Vehicle.
 - d. Personnel Protection System
 - e. Plug-In Hybrid Electric Vehicle
17. A device intended for indoor or outdoor use that can be carried from charging location to charging location and is designed to be transported in the vehicle when not in use defines:
- a. Portable
 - b. Output Cable to the Primary Pad
 - c. Output Cable to the Electric Vehicle.
 - d. Personnel Protection System
 - e. Plug-In Hybrid Electric Vehicle
18. An assembly consisting of an attachment plug and length of flexible cord that connects equipment to a receptacle defines:
- a. Wireless Power Transfer Equipment
 - b. Primary Pad
 - c. Power-Supply Cord
 - d. Rechargeable Energy Storage System
 - e. Wireless Power Transfer
19. A device external to the EV that provides power via the contactless coupling and may include the charger power converter defines:
- a. Wireless Power Transfer Equipment
 - b. Primary Pad
 - c. Power-Supply Cord
 - d. Rechargeable Energy Storage System
 - e. Wireless Power Transfer
20. Any power source that has the capability to be charged and discharged defines:
- a. Wireless Power Transfer Equipment
 - b. Primary Pad
 - c. Power-Supply Cord
 - d. Rechargeable Energy Storage System
 - e. Wireless Power Transfer
21. The transfer of electrical energy from a power source to an electrical load via electric and magnetic fields or waves by a contactless inductive means between a primary and a secondary device defines:
- a. Wireless Power Transfer Equipment
 - b. Primary Pad
 - c. Power-Supply Cord
 - d. Rechargeable Energy Storage System
 - e. Wireless Power Transfer
22. Equipment consisting of a charger power converter and a primary pad. The two devices are either separate units or contained within one enclosure defines:
- a. Wireless Power Transfer Equipment
 - b. Primary Pad
 - c. Power-Supply Cord
 - d. Rechargeable Energy Storage System
 - e. Wireless Power Transfer
23. The device on the electric vehicle into which the electric vehicle connector is electrically coupled (conductive or inductive) for power transfer and information exchange. This device is part of the electric vehicle coupler. For the purposes of this *Code*, the electric vehicle inlet is considered to be part of the electric vehicle and not part of the electric vehicle supply equipment defines:
- a. Electric Vehicle Storage Battery

- b. Electric Vehicle Inlet
- c. Electric Vehicle Supply Equipment
- d. Fastened in Place
- e. Fixed in Place

24. A battery, comprised of one or more rechargeable electrochemical cells, that has no provision for the release of excessive gas pressure during normal charging and operation, or for the addition of water or electrolyte for external measurements of electrolyte-specific gravity defines:

- a. Electric Vehicle Storage Battery
- b. Electric Vehicle Inlet
- c. Electric Vehicle Supply Equipment
- d. Fastened in Place
- e. Fixed in Place

25. The conductors, including the ungrounded, grounded, and equipment grounding conductors, and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle. defines:

- a. Electric Vehicle Storage Battery
- b. Electric Vehicle Inlet
- c. Electric Vehicle Supply Equipment
- d. Fastened in Place
- e. Fixed in Place

26. Mounting means of an EVSE in which the fastening means are specifically designed to permit periodic removal for relocation, interchangeability, maintenance, or repair without the use of a tool defines:

- a. Electric Vehicle Storage Battery
- b. Electric Vehicle Inlet
- c. Electric Vehicle Supply Equipment
- d. Fastened in Place
- e. Fixed in Place

27. Mounting means of an EVSE attached to a wall or surface with fasteners that require a tool to be removed defines:

- a. Electric Vehicle Storage Battery
- b. Electric Vehicle Inlet
- c. Electric Vehicle Supply Equipment
- d. Fastened in Place
- e. Fixed in Place

28. An apparatus designed to control and organize the output cable to the electric vehicle or to the primary pad defines:

- a. Electric Vehicle
- b. Charger Power Converter
- c. Electric Vehicle Connector
- d. Electric Vehicle Coupler
- e. Cable Management System

29. The device used to convert energy from the power grid to a high-frequency output for wireless power transfer defines:

- a. Electric Vehicle
- b. Charger Power Converter
- c. Electric Vehicle Connector
- d. Electric Vehicle Coupler
- e. Cable Management System

30. An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For the purpose of this article, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included defines:

- a. Electric Vehicle
- b. Charger Power Converter
- c. Electric Vehicle Connector
- d. Electric Vehicle Coupler
- e. Cable Management System

31. A device that, when electrically coupled (conductive or inductive) to an electric vehicle inlet, establishes an electrical connection to the electric vehicle for the purpose of power transfer and information exchange. This device is part of the electric vehicle coupler defines:

- a. Electric Vehicle
- b. Charger Power Converter
- c. Electric Vehicle Connector
- d. Electric Vehicle Coupler
- e. Cable Management System

32. A mating electric vehicle inlet and electric vehicle connector set defines:

- a. Electric Vehicle
- b. Charger Power Converter
- c. Electric Vehicle Connector
- d. Electric Vehicle Coupler
- e. Cable Management System

626.2 Definitions. Electrified Truck Parking Spaces

Cable Management System (Electrified Truck Parking Spaces). An apparatus designed to control and organize unused lengths of cable or cord at electrified truck parking spaces.

Cord Connector. A device that, by inserting it into a truck flanged surface inlet, establishes an electrical connection to the truck for the purpose of providing power for the on-board electric loads and may provide a means for information exchange. This device is part of the truck coupler.

Disconnecting Means, Parking Space. The necessary equipment usually consisting of a circuit breaker or switch and fuses, and their accessories, located near the point of entrance of supply conductors in an electrified truck parking space and intended to constitute the means of cutoff for the supply to that truck.

Electrified Truck Parking Space. A truck parking space that has been provided with an electrical system that allows truck operators to connect their vehicles while stopped and to use off-board power sources in order to operate on-board systems such as air conditioning, heating, and appliances, without any engine idling.

Electrified Truck Parking Space Wiring Systems. All of the electrical wiring, equipment, and appurtenances related to electrical installations within an electrified truck parking space, including the electrified parking space supply equipment.

Overhead Gantry. A structure consisting of horizontal framework, supported by vertical columns spanning above electrified truck parking spaces, that supports equipment, appliances, raceway, and other necessary components for the purpose of supplying electrical, HVAC, internet, communications, and other services to the spaces.

Separable Power Supply Cable Assembly. A flexible cord or cable, including ungrounded, grounded, and equipment grounding conductors, provided with a cord connector, an attachment plug, and all other fittings, grommets, or devices installed for the purpose of delivering energy from the source of electrical supply to the truck or TRU flanged surface inlet.

Transport Refrigerated Unit (TRU). A trailer or container, with integrated cooling or heating, or both, used for the purpose of maintaining the desired environment of temperature-sensitive goods or products.

Truck. A motor vehicle designed for the transportation of goods, services, and equipment.

Truck Coupler. A truck flanged surface inlet and mating cord connector.

Truck Flanged Surface Inlet. The device(s) on the truck into which the connector(s) is inserted to provide electric energy and other services. This device is part of the truck coupler. For the purposes of this article, the truck flanged surface inlet is considered to be part of the truck and not part of the electrified truck parking space supply equipment.

33. A flexible cord or cable, including ungrounded, grounded, and equipment grounding conductors, provided with a cord connector, an attachment plug, and all other fittings, grommets, or devices installed for the purpose of delivering energy from the source of electrical supply to the truck or TRU flanged surface inlet defines:
- Truck Coupler
 - Truck
 - Separable Power Supply Cable Assembly
 - Transport Refrigerated Unit
34. A trailer or container, with integrated cooling or heating, or both, used for the purpose of maintaining the desired environment of temperature-sensitive goods or products defines:
- Truck Coupler
 - Truck
 - Separable Power Supply Cable Assembly
 - Transport Refrigerated Unit
35. A motor vehicle designed for the transportation of goods, services, and equipment defines:
- Truck Coupler
 - Truck
 - Separable Power Supply Cable Assembly
 - Transport Refrigerated Unit
36. A truck flanged surface inlet and mating cord connector defines:
- Truck Coupler
 - Truck
 - Separable Power Supply Cable Assembly
 - Transport Refrigerated Unit
37. The device(s) on the truck into which the connector(s) is inserted to provide electric energy and other services. This device is part of the truck coupler. For the purposes of this article, the truck flanged surface inlet is considered to be part of the truck and not part of the electrified truck parking space supply equipment defines:
- Electrified Truck Parking Space
 - Electrified Truck Parking Space Wiring Systems
 - Truck Flanged Surface Inlet
 - Overhead Gantry
38. A truck parking space that has been provided with an electrical system that allows truck operators to connect their vehicles while stopped and to use off-board power sources in order to operate on-board systems such as air conditioning, heating, and appliances, without any engine idling defines:
- Electrified Truck Parking Space
 - Electrified Truck Parking Space Wiring Systems
 - Truck Flanged Surface Inlet
 - Overhead Gantry
39. All of the electrical wiring, equipment, and appurtenances related to electrical installations within an electrified truck parking space, including the electrified parking space supply equipment defines:
- Electrified Truck Parking Space
 - Electrified Truck Parking Space Wiring Systems
 - Truck Flanged Surface Inlet
 - Overhead Gantry
40. A structure consisting of horizontal framework, supported by vertical columns spanning above electrified truck parking spaces, that supports equipment, appliances, raceway, and other necessary components for the purpose of supplying electrical, HVAC, internet, communications, and other services to the spaces defines:
- Electrified Truck Parking Space
 - Electrified Truck Parking Space Wiring Systems
 - Truck Flanged Surface Inlet
 - Overhead Gantry
41. An apparatus designed to control and organize unused lengths of cable or cord at electrified truck parking spaces defines:
- Disconnecting Means, Parking Space
 - Cable Management System

c. Cord Connector

42. A device that, by inserting it into a truck flanged surface inlet, establishes an electrical connection to the truck for the purpose of providing power for the on-board electric loads and may provide a means for information exchange. This device is part of the truck coupler defines:

- a. Disconnecting Means, Parking Space
- b. Cable Management System
- c. Cord Connector

43. The necessary equipment usually consisting of a circuit breaker or switch and fuses, and their accessories, located near the point of entrance of supply conductors in an electrified truck parking space and intended to constitute the means of cutoff for the supply to that truck defines:

- a. Disconnecting Means, Parking Space
- b. Cable Management System
- c. Cord Connector

640.2 Definitions. Audio Signal Processing, Amplification, and Reproduction Equipment

Abandoned Audio Distribution Cable. Installed audio distribution cable that is not terminated at equipment and not identified for future use with a tag.

Audio Amplifier or Pre-Amplifier. Electronic equipment that increases the current or voltage, or both, of an audio signal intended for use by another piece of audio equipment. *Amplifier* is the term used within this article to denote an audio amplifier.

Audio Autotransformer. A transformer with a single winding and multiple taps intended for use with an amplifier loudspeaker signal output.

Audio Signal Processing Equipment. Electrically operated equipment that produces, processes, or both, electronic signals that, when appropriately amplified and reproduced by a loudspeaker,

produce an acoustic signal within the range of normal human hearing (typically 20–20 kHz). Within this article, the terms *equipment* and *audio equipment* are assumed to be equivalent to audio signal processing equipment.

Audio System. Within this article, the totality of all equipment and interconnecting wiring used to fabricate a fully functional audio signal processing, amplification, and reproduction system.

Audio Transformer. A transformer with two or more electrically isolated windings and multiple taps intended for use with an amplifier loudspeaker signal output.

Equipment Rack. A framework for the support, enclosure, or both, of equipment; can be portable or stationary.

Loudspeaker. Equipment that converts an ac electric signal into an acoustic signal. The term *speaker* is commonly used to mean *loudspeaker*.

Maximum Output Power. The maximum power delivered by an amplifier into its rated load as determined under specified test conditions.

Mixer. Equipment used to combine and level match a multiplicity of electronic signals, such as from microphones, electronic instruments, and recorded audio.

Portable Equipment. Equipment fed with portable cords or cables intended to be moved from one place to another.

Rated Output Power. The amplifier manufacturer's stated or marked output power capability into its rated load.

Technical Power System. An electrical distribution system with grounding in accordance with 250.146(D), where the equipment grounding conductor is isolated from the premises grounded conductor and the premises equipment grounding conductor except at a single grounded termination point within a branch-circuit panelboard, at the originating (main breaker) branch-circuit panelboard, or at the premises grounding electrode.

Temporary Equipment. Portable wiring and equipment intended for use with events of a transient or temporary nature where all equipment is presumed to be removed at the conclusion of the event.

44. A transformer with two or more electrically isolated windings and multiple taps intended for use with an amplifier loudspeaker signal output defines:

- a. Maximum Output Power

- b. Mixer
 - c. Loudspeaker
 - d. Equipment Rack
 - e. Audio Transformer
45. A framework for the support, enclosure, or both, of equipment; can be portable or stationary defines:
- a. Maximum Output Power
 - b. Mixer
 - c. Loudspeaker
 - d. Equipment Rack
 - e. Audio Transformer
46. Equipment that converts an ac electric signal into an acoustic signal defines:
- a. Maximum Output Power
 - b. Mixer
 - c. Loudspeaker
 - d. Equipment Rack
 - e. Audio Transformer
47. The maximum power delivered by an amplifier into its rated load as determined under specified test conditions defines:
- a. Maximum Output Power
 - b. Mixer
 - c. Loudspeaker
 - d. Equipment Rack
 - e. Audio Transformer
48. Equipment used to combine and level match a multiplicity of electronic signals, such as from microphones, electronic instruments, and recorded audio defines:
- a. Maximum Output Power
 - b. Mixer
 - c. Loudspeaker
 - d. Equipment Rack
 - e. Audio Transformer
49. Equipment fed with portable cords or cables intended to be moved from one place to another defines:
- a. Rated Output Power
 - b. Technical Power System
 - c. Temporary Equipment
 - d. Portable Equipment
 - e. Pre-Amplifier
50. The amplifier manufacturers stated or marked output power capability into its rated load defines:
- a. Rated Output Power
 - b. Technical Power System
 - c. Temporary Equipment
 - d. Portable Equipment
 - e. Pre-Amplifier
51. An electrical distribution system with grounding in accordance with 250.146(D), where the equipment grounding conductor is isolated from the premises grounded conductor and the premises equipment grounding conductor except at a single grounded termination point within a branch-circuit panelboard, at the originating (main breaker) branch-circuit panelboard, or at the premises grounding electrode defines:
- a. Rated Output Power
 - b. Technical Power System
 - c. Temporary Equipment
 - d. Portable Equipment
 - e. Pre-Amplifier
52. Portable wiring and equipment intended for use with events of a transient or temporary nature where all equipment is presumed to be removed at the conclusion of the event defines:
- a. Rated Output Power

- b. Technical Power System
- c. Temporary Equipment
- d. Portable Equipment
- e. Pre-Amplifier

53. Electronic equipment that increases the current or voltage, or both, of an audio signal intended for use by another piece of audio equipment. *Amplifier* is the term used within this article to denote an audio amplifier defines:

- a. Rated Output Power
- b. Technical Power System
- c. Temporary Equipment
- d. Portable Equipment
- e. Pre-Amplifier

54. Installed audio distribution cable that is not terminated at equipment and not identified for future use with a tag defines:

- a. Audio Amplifier
- b. Audio Autotransformer
- c. Audio Signal Processing Equipment
- d. Audio System
- e. Abandoned Audio Distribution Cable

55. Electronic equipment that increases the current or voltage, or both, of an audio signal intended for use by another piece of audio equipment. *Amplifier* is the term used within this article to denote an audio amplifier defines:

- a. Audio Amplifier
- b. Audio Autotransformer
- c. Audio Signal Processing Equipment
- d. Audio System
- e. Abandoned Audio Distribution Cable

56. A transformer with a single winding and multiple taps intended for use with an amplifier loudspeaker signal output defines:

- a. Audio Amplifier
- b. Audio Autotransformer
- c. Audio Signal Processing Equipment
- d. Audio System
- e. Abandoned Audio Distribution Cable

57. Electrically operated equipment that produces, processes, or both, electronic signals that, when appropriately amplified and reproduced by a loudspeaker, produce an acoustic signal within the range of normal human hearing (typically 20–20 kHz). Within this article, the terms *equipment* and *audio equipment* are assumed to be equivalent to audio signal processing equipment defines:

- a. Audio Amplifier
- b. Audio Autotransformer
- c. Audio Signal Processing Equipment
- d. Audio System
- e. Abandoned Audio Distribution Cable

58. Within this article, the totality of all equipment and interconnecting wiring used to fabricate a fully functional audio signal processing, amplification, and reproduction system defines:

- a. Audio Amplifier
- b. Audio Autotransformer
- c. Audio Signal Processing Equipment
- d. Audio System
- e. Abandoned Audio Distribution Cable

Abandoned Supply Circuits and Interconnecting Cables. Installed supply circuits and interconnecting cables that are not terminated at equipment and not identified for future use with a tag.

Critical Operations Data System. An information technology equipment system that requires continuous operation for reasons of public safety, emergency management, national security, or business continuity.

Information Technology Equipment Room. A room within the information technology equipment area that contains the information technology equipment.

Remote Disconnect Control. An electric device and circuit that controls a disconnecting means through a relay or equivalent device.

Zone. A physically identifiable area (such as barriers or separation by distance) within an information technology equipment room, with dedicated power and cooling systems for the information technology equipment or systems.

646.2 Definitions. Modular Data Centers

Modular Data Center (MDC). Prefabricated units, rated 1000 volts or less, consisting of an outer enclosure housing multiple racks or cabinets of information technology equipment (ITE) (e.g., servers) and various support equipment, such as electrical service and distribution equipment, HVAC systems, and the like.

650.2 Definitions. Pipe Organs

Electronic Organ. A musical instrument that imitates the sound of a pipe organ by producing sound electronically.

Pipe Organ. A musical instrument that produces sound by driving pressurized air (called wind) through pipes selected via a keyboard.

Sounding Apparatus. The sound-producing part of a pipe organ, including, but not limited to, pipes, chimes, bells, the pressurized air (wind)-producing equipment (blower), associated controls, and power equipment.

59. An information technology equipment system that requires continuous operation for reasons of public safety, emergency management, national security, or business continuity defines:

- a. Remote Disconnect Control
- b. Information Technology Equipment Room
- c. Zone
- d. Critical Operations Data System

60. A room within the information technology equipment area that contains the information technology equipment defines:

- a. Remote Disconnect Control
- b. Information Technology Equipment Room
- c. Zone
- d. Critical Operations Data System

61. An electric device and circuit that controls a disconnecting means through a relay or equivalent device defines:

- a. Remote Disconnect Control
- b. Information Technology Equipment Room
- c. Zone
- d. Critical Operations Data System

62. A physically identifiable area (such as barriers or separation by distance) within an information technology equipment room, with dedicated power and cooling systems for the information technology equipment or systems defines:

- a. Remote Disconnect Control
- b. Information Technology Equipment Room
- c. Zone
- d. Critical Operations Data System

63. Installed supply circuits and interconnecting cables that are not terminated at equipment and not identified for future use with a tag defines:

- a. Sounding Apparatus
- b. Pipe Organ

- c. Modular Data Center
 - d. Electronic Organ
 - e. Abandoned Supply Circuits and Interconnecting Cables
64. A musical instrument that imitates the sound of a pipe organ by producing sound electronically defines:
- a. Sounding Apparatus
 - b. Pipe Organ
 - c. Modular Data Center
 - d. Electronic Organ
 - e. Abandoned Supply Circuits and Interconnecting Cables
65. A musical instrument that produces sound by driving pressurized air (called wind) through pipes selected via a keyboard defines:
- a. Sounding Apparatus
 - b. Pipe Organ
 - c. Modular Data Center
 - d. Electronic Organ
 - e. Abandoned Supply Circuits and Interconnecting Cables
66. The sound-producing part of a pipe organ, including, but not limited to, pipes, chimes, bells, the pressurized air (wind)-producing equipment (blower), associated controls, and power equipment defines:
- a. Sounding Apparatus
 - b. Pipe Organ
 - c. Modular Data Center
 - d. Electronic Organ
 - e. Abandoned Supply Circuits and Interconnecting Cables
67. Prefabricated units, rated 1000 volts or less, consisting of an outer enclosure housing multiple racks or cabinets of information technology equipment (ITE) (e.g., servers) and various support equipment, such as electrical service and distribution equipment, HVAC systems, and the like defines:
- a. Sounding Apparatus
 - b. Pipe Organ
 - c. Modular Data Center
 - d. Electronic Organ
 - e. Abandoned Supply Circuits and Interconnecting Cables

660.2 Definitions. X-Ray Equipment

Long-Time Rating. A rating based on an operating interval of 5 minutes or longer.

Mobile. X-ray equipment mounted on a permanent base with wheels and/or casters for moving while completely assembled.

Momentary Rating. A rating based on an operating interval that does not exceed 5 seconds.

Portable. X-ray equipment designed to be hand-carried.

Transportable. X-ray equipment that is to be installed in a vehicle or that may be readily disassembled for transport in a vehicle.

665.2 Definitions. Induction and Dielectric Heating Equipment

Applicator. The device used to transfer energy between the output circuit and the object or mass to be heated.

Converting Device. That part of the heating equipment that converts input mechanical or electrical energy to the voltage, current, and frequency used for the heating applicator. A converting device consists of equipment using line frequency, all static multipliers, oscillator-type units using vacuum tubes, inverters using solid-state devices, or motor-generator equipment.

Dielectric Heating. Heating of a nominally insulating material due to its own dielectric losses when the material is placed in a varying electric field.

Heating Equipment. As used in this article, any equipment that is used for heating purposes and whose heat is generated by induction or dielectric methods.

Induction Heating, Melting, and Welding. The heating, melting, or welding of a nominally conductive material due to its own I²R losses when the material is placed in a varying electromagnetic field.

668.2 Definitions. Electrolytic Cells

Cell Line. An assembly of electrically interconnected electrolytic cells supplied by a source of direct-current power.

Cell Line Attachments and Auxiliary Equipment. As applied to this article, a term that includes, but is not limited to, auxiliary tanks; process piping; ductwork; structural supports; exposed cell line conductors; conduits and other raceways; pumps, positioning equipment, and cell cutout or bypass electrical devices. Auxiliary equipment includes tools, welding machines, crucibles, and other portable equipment used for operation and maintenance within the electrolytic cell line working zone. In the cell line working zone, auxiliary equipment includes the exposed conductive surfaces of ungrounded cranes and crane-mounted cell-servicing equipment.

Electrically Connected. A connection capable of carrying current as distinguished from connection through electromagnetic induction.

Electrolytic Cell. A tank or vat in which electrochemical reactions are caused by applying electric energy for the purpose of refining or producing usable materials.

Electrolytic Cell Line Working Zone. The space envelope wherein operation or maintenance is normally performed on or in the vicinity of exposed energized surfaces of electrolytic cell lines or their attachments.

68. The device used to transfer energy between the output circuit and the object or mass to be heated defines:

- a. Converting Device
- b. Induction Heating, Melting, and Welding
- c. Dielectric Heating
- d. Applicator
- e. Heating Equipment

69. That part of the heating equipment that converts input mechanical or electrical energy to the voltage, current, and frequency used for the heating applicator. A converting device consists of equipment using line frequency, all static multipliers, oscillator-type units using vacuum tubes, inverters using solid-state devices, or motor-generator equipment defines:

- a. Converting Device
- b. Induction Heating, Melting, and Welding
- c. Dielectric Heating
- d. Applicator
- e. Heating Equipment

70. Heating of a nominally insulating material due to its own dielectric losses when the material is placed in a varying electric field defines:

- a. Converting Device
- b. Induction Heating, Melting, and Welding
- c. Dielectric Heating
- d. Applicator
- e. Heating Equipment

71. As used in this article, any equipment that is used for heating purposes and whose heat is generated by induction or dielectric methods defines:

- a. Converting Device
- b. Induction Heating, Melting, and Welding
- c. Dielectric Heating
- d. Applicator
- e. Heating Equipment

72. The heating, melting, or welding of a nominally conductive material due to its own I²R losses when the material is placed in a varying electromagnetic field defines:

- a. Converting Device
- b. Induction Heating, Melting, and Welding
- c. Dielectric Heating
- d. Applicator
- e. Heating Equipment

73. An assembly of electrically interconnected electrolytic cells supplied by a source of direct-current power defines:

- a. Cell Line Attachments and Auxiliary Equipment
- b. Cell Line
- c. Electrically Connected
- d. Electrolytic Cell
- e. Electrolytic Cell Line Working Zone

74. As applied to this article, a term that includes, but is not limited to, auxiliary tanks; process piping; ductwork; structural supports; exposed cell line conductors; conduits and other raceways; pumps, positioning equipment, and cell cutout or bypass electrical devices. Auxiliary equipment includes tools, welding machines, crucibles, and other portable equipment used for operation and maintenance within the electrolytic cell line working zone. In the cell line working zone, auxiliary equipment includes the exposed conductive surfaces of ungrounded cranes and crane-mounted cell-servicing equipment defines:

- a. Cell Line Attachments and Auxiliary Equipment
- b. Cell Line
- c. Electrically Connected
- d. Electrolytic Cell
- e. Electrolytic Cell Line Working Zone

75. A connection capable of carrying current as distinguished from connection through electromagnetic induction defines:

- a. Cell Line Attachments and Auxiliary Equipment
- b. Cell Line
- c. Electrically Connected
- d. Electrolytic Cell
- e. Electrolytic Cell Line Working Zone

76. A tank or vat in which electrochemical reactions are caused by applying electric energy for the purpose of refining or producing usable materials defines:

- a. Cell Line Attachments and Auxiliary Equipment
- b. Cell Line
- c. Electrically Connected
- d. Electrolytic Cell
- e. Electrolytic Cell Line Working Zone

77. The space envelope wherein operation or maintenance is normally performed on or in the vicinity of exposed energized surfaces of electrolytic cell lines or their attachments.

- a. Cell Line Attachments and Auxiliary Equipment
- b. Cell Line
- c. Electrically Connected
- d. Electrolytic Cell
- e. Electrolytic Cell Line Working Zone

78. A rating based on an operating interval of 5 minutes or longer defines:

- a. Momentary Rating
- b. Mobile
- c. Portable
- d. Transportable
- e. Long-Time Rating

79. X-ray equipment mounted on a permanent base with wheels and/or casters for moving while completely assembled defines:

- a. Momentary Rating
- b. Mobile
- c. Portable
- d. Transportable
- e. Long-Time Rating

80. A rating based on an operating interval that does not exceed 5 seconds defines:

- a. Momentary Rating

- b. Mobile
 - c. Portable
 - d. Transportable
 - e. Long-Time Rating
81. X-ray equipment designed to be hand-carried defines:
- a. Momentary Rating
 - b. Mobile
 - c. Portable
 - d. Transportable
 - e. Long-Time Rating
82. X-ray equipment that is to be installed in a vehicle or that may be readily disassembled for transport in a vehicle defines:
- a. Momentary Rating
 - b. Mobile
 - c. Portable
 - d. Transportable
 - e. Long-Time Rating

680.2 Definitions. Swimming Pools, Fountains, and Similar Installations

Cord-and-Plug-Connected Lighting Assembly. A lighting assembly consisting of a luminaire intended for installation in the wall of a spa, hot tub, or storable pool, and a cord-and-plug connected transformer.

Dry-Niche Luminaire. A luminaire intended for installation in the floor or wall of a pool, spa, or fountain in a niche that is sealed against the entry of water.

Electrically Powered Pool Lift. An electrically powered lift that provides accessibility to and from a pool or spa for people with disabilities.

Fixed (as applied to equipment). Equipment that is fastened or otherwise secured at a specific location.

Forming Shell. A structure designed to support a wet-niche luminaire assembly and intended for mounting in a pool or fountain structure.

Fountain. Fountains, ornamental pools, display pools, and reflection pools. The definition does not include drinking fountains.

Hydromassage Bathtub. A permanently installed bathtub equipped with a recirculating piping system, pump, and associated equipment. It is designed so it can accept, circulate, and discharge water upon each use.

Low Voltage Contact Limit. A voltage not exceeding the following values:

- (1) 15 volts (RMS) for sinusoidal ac
- (2) 21.2 volts peak for nonsinusoidal ac
- (3) 30 volts for continuous dc
- (4) 12.4 volts peak for dc that is interrupted at a rate of 10 to 200 Hz

Maximum Water Level. The highest level that water can reach before it spills out.

No-Niche Luminaire. A luminaire intended for installation above or below the water without a niche.

Packaged Spa or Hot Tub Equipment Assembly. A factory fabricated unit consisting of water-circulating, heating, and control equipment mounted on a common base, intended to operate a spa or hot tub. Equipment can include pumps, air blowers, heaters, lights, controls, sanitizer generators, and so forth.

Packaged Therapeutic Tub or Hydrotherapeutic Tank Equipment Assembly. A factory-fabricated unit consisting of water circulating, heating, and control equipment mounted on a common base, intended to operate a therapeutic tub or hydrotherapeutic tank. Equipment can include pumps, air blowers, heaters, lights, controls, sanitizer generators, and so forth.

Permanently Installed Decorative Fountains and Reflection Pools. Those that are constructed in the ground, on the ground, or in a building in such a manner that the fountain cannot be readily disassembled for storage, whether or not served by electrical circuits of any nature. These units are primarily constructed for their aesthetic value and are not intended for swimming or wading.

Permanently Installed Swimming, Wading, Immersion, and Therapeutic Pools. Those that are constructed in the ground or partially in the ground, and all others capable of holding water in a depth greater than 1.0 m (42

in.), and all pools installed inside of a building, regardless of water depth, whether or not served by electrical circuits of any nature.

Pool. Manufactured or field-constructed equipment designed to contain water on a permanent or semipermanent basis and used for swimming, wading, immersion, or therapeutic purposes.

Pool Cover, Electrically Operated. Motor-driven equipment designed to cover and uncover the water surface of a pool by means of a flexible sheet or rigid frame.

Portable (as applied to equipment). Equipment that is actually moved or can easily be moved from one place to another in normal use.

Self-Contained Spa or Hot Tub. Factory-fabricated unit consisting of a spa or hot tub vessel with all water-circulating, heating, and control equipment integral to the unit. Equipment can include pumps, air blowers, heaters, lights, controls, sanitizer generators, and so forth.

Self-Contained Therapeutic Tubs or Hydrotherapeutic Tanks. A factory-fabricated unit consisting of a therapeutic tub or hydrotherapeutic tank with all water-circulating, heating, and control equipment integral to the unit. Equipment may include pumps, air blowers, heaters, light controls, sanitizer generators, and so forth.

Spa or Hot Tub. A hydromassage pool, or tub for recreational or therapeutic use, not located in health care facilities, designed for immersion of users, and usually having a filter, heater, and motor-driven blower. It may be installed indoors or outdoors, on the ground or supporting structure, or in the ground or supporting structure. Generally, a spa or hot tub is not designed or intended to have its contents drained or discharged after each use.

Stationary (as applied to equipment). Equipment that is not moved from one place to another in normal use.

Storable Swimming, Wading, or Immersion Pools; or Storable/ Portable Spas and Hot Tubs. Swimming, wading, or immersion pools that are intended to be stored when not in use, constructed on or above the ground and are capable of holding water to a maximum depth of 1.0 m (42 in.), or a pool, spa, or hot tub constructed on or above the ground, with nonmetallic, molded polymeric walls or inflatable fabric walls regardless of dimension.

Through-Wall Lighting Assembly. A lighting assembly intended for installation above grade, on or through the wall of a pool, consisting of two interconnected groups of components separated by the pool wall.

Wet-Niche Luminaire. A luminaire intended for installation in a forming shell mounted in a pool or fountain structure where the luminaire will be completely surrounded by water.

83. Low Voltage Contact Limit. A voltage not exceeding the following values:

- a. 15 volts (RMS) for sinusoidal ac
- b. 21.2 volts peak for nonsinusoidal ac
- c. 15 volts (RMS) for sinusoidal dc
- d. both a & b

84. Low Voltage Contact Limit. A voltage not exceeding the following values:

- a. 30 volts for continuous ac
- b. 12.4 volts peak for ac that is interrupted at a rate of 100 to 200 Hz
- c. both a & b
- d. none of the above

85. A hydromassage pool, or tub for recreational or therapeutic use, not located in health care facilities, designed for immersion of users, and usually having a filter, heater, and motor-driven blower. It may be installed indoors or outdoors, on the ground or supporting structure, or in the ground or supporting structure. Generally, a spa or hot tub is not designed or intended to have its contents drained or discharged after each use defines:

- a. Storable Swimming, Wading, or Immersion Pools; or Storable/ Portable Spas and Hot Tubs
- b. Wet-Niche Luminaire
- c. Through-Wall Lighting Assembly
- d. Stationary
- e. Spa or Hot Tub

86. Equipment that is not moved from one place to another in normal use defines:

- a. Storable Swimming, Wading, or Immersion Pools; or Storable/ Portable Spas and Hot Tubs
- b. Wet-Niche Luminaire
- c. Through-Wall Lighting Assembly
- d. Stationary
- e. Spa or Hot Tub

87. Swimming, wading, or immersion pools that are intended to be stored when not in use, constructed on or above the ground and are capable of holding water to a maximum depth of 1.0 m (42 in.), or a pool, spa, or hot tub constructed on or above the ground, with nonmetallic, molded polymeric walls or inflatable fabric walls regardless of dimension defines:

- a. Storable Swimming, Wading, or Immersion Pools; or Storable/ Portable Spas and Hot Tubs
- b. Wet-Niche Luminaire
- c. Through-Wall Lighting Assembly
- d. Stationary
- e. Spa or Hot Tub

88. A lighting assembly intended for installation above grade, on or through the wall of a pool, consisting of two interconnected groups of components separated by the pool wall defines:

- a. Storable Swimming, Wading, or Immersion Pools; or Storable/ Portable Spas and Hot Tubs
- b. Wet-Niche Luminaire
- c. Through-Wall Lighting Assembly
- d. Stationary
- e. Spa or Hot Tub

89. A luminaire intended for installation in a forming shell mounted in a pool or fountain structure where the luminaire will be completely surrounded by water defines:

- a. Storable Swimming, Wading, or Immersion Pools; or Storable/ Portable Spas and Hot Tubs
- b. Wet-Niche Luminaire
- c. Through-Wall Lighting Assembly
- d. Stationary
- e. Spa or Hot Tub

90. Manufactured or field-constructed equipment designed to contain water on a permanent or semipermanent basis and used for swimming, wading, immersion, or therapeutic purposes defines:

- a. Self-Contained Spa or Hot Tub
- b. Portable
- c. Pool Cover, Electrically Operated
- d. Pool
- e. Self-Contained Therapeutic Tubs or Hydrotherapeutic Tanks

91. Motor-driven equipment designed to cover and uncover the water surface of a pool by means of a flexible sheet or rigid frame defines:

- a. Self-Contained Spa or Hot Tub
- b. Portable
- c. Pool Cover, Electrically Operated
- d. Pool
- e. Self-Contained Therapeutic Tubs or Hydrotherapeutic Tanks

92. Equipment that is actually moved or can easily be moved from one place to another in normal use defines:

- a. Self-Contained Spa or Hot Tub
- b. Portable
- c. Pool Cover, Electrically Operated
- d. Pool
- e. Self-Contained Therapeutic Tubs or Hydrotherapeutic Tanks

93. Factory-fabricated unit consisting of a spa or hot tub vessel with all water-circulating, heating, and control equipment integral to the unit. Equipment can include pumps, air blowers, heaters, lights, controls, sanitizer generators, and so forth defines:

- a. Self-Contained Spa or Hot Tub
- b. Portable
- c. Pool Cover, Electrically Operated
- d. Pool
- e. Self-Contained Therapeutic Tubs or Hydrotherapeutic Tanks

94. A factory-fabricated unit consisting of a therapeutic tub or hydrotherapeutic tank with all water-circulating, heating, and control equipment integral to the unit. Equipment may include pumps, air blowers, heaters, light controls, sanitizer generators, and so forth defines:

- a. Self-Contained Spa or Hot Tub
 - b. Portable
 - c. Pool Cover, Electrically Operated
 - d. Pool
 - e. Self-Contained Therapeutic Tubs or Hydrotherapeutic Tanks
95. A luminaire intended for installation above or below the water without a niche defines:
- a. No-Niche Luminaire
 - b. Packaged Spa or Hot Tub Equipment Assembly
 - c. Packaged Therapeutic Tub or Hydrotherapeutic Tank Equipment Assembly
 - d. Permanently Installed Decorative Fountains and Reflection Pools
 - e. Permanently Installed Swimming, Wading, Immersion, and Therapeutic Pools
96. A factory fabricated unit consisting of water-circulating, heating, and control equipment mounted on a common base, intended to operate a spa or hot tub. Equipment can include pumps, air blowers, heaters, lights, controls, sanitizer generators, and so forth defines:
- a. No-Niche Luminaire
 - b. Packaged Spa or Hot Tub Equipment Assembly
 - c. Packaged Therapeutic Tub or Hydrotherapeutic Tank Equipment Assembly
 - d. Permanently Installed Decorative Fountains and Reflection Pools
 - e. Permanently Installed Swimming, Wading, Immersion, and Therapeutic Pools
97. A factory-fabricated unit consisting of water circulating, heating, and control equipment mounted on a common base, intended to operate a therapeutic tub or hydrotherapeutic tank. Equipment can include pumps, air blowers, heaters, lights, controls, sanitizer generators, and so forth defines:
- a. No-Niche Luminaire
 - b. Packaged Spa or Hot Tub Equipment Assembly
 - c. Packaged Therapeutic Tub or Hydrotherapeutic Tank Equipment Assembly
 - d. Permanently Installed Decorative Fountains and Reflection Pools
 - e. Permanently Installed Swimming, Wading, Immersion, and Therapeutic Pools
98. Those that are constructed in the ground, on the ground, or in a building in such a manner that the fountain cannot be readily disassembled for storage, whether or not served by electrical circuits of any nature. These units are primarily constructed for their aesthetic value and are not intended for swimming or wading defines:
- a. No-Niche Luminaire
 - b. Packaged Spa or Hot Tub Equipment Assembly
 - c. Packaged Therapeutic Tub or Hydrotherapeutic Tank Equipment Assembly
 - d. Permanently Installed Decorative Fountains and Reflection Pools
 - e. Permanently Installed Swimming, Wading, Immersion, and Therapeutic Pools
99. Those that are constructed in the ground or partially in the ground, and all others capable of holding water in a depth greater than 1.0 m (42 in.), and all pools installed inside of a building, regardless of water depth, whether or not served by electrical circuits of any nature defines:
- a. No-Niche Luminaire
 - b. Packaged Spa or Hot Tub Equipment Assembly
 - c. Packaged Therapeutic Tub or Hydrotherapeutic Tank Equipment Assembly
 - d. Permanently Installed Decorative Fountains and Reflection Pools
 - e. Permanently Installed Swimming, Wading, Immersion, and Therapeutic Pools
100. The highest level that water can reach before it spills out defines:
- a. Dry-Niche Luminaire
 - b. Cord-and-Plug-Connected Lighting Assembly
 - c. Maximum Water Level
 - d. Electrically Powered Pool Lift
101. A lighting assembly consisting of a luminaire intended for installation in the wall of a spa, hot tub, or storable pool, and a cord-and-plug connected transformer defines:
- a. Dry-Niche Luminaire
 - b. Cord-and-Plug-Connected Lighting Assembly
 - c. Maximum Water Level
 - d. Electrically Powered Pool Lift

102. A luminaire intended for installation in the floor or wall of a pool, spa, or fountain in a niche that is sealed against the entry of water defines:
- Dry-Niche Luminaire
 - Cord-and-Plug-Connected Lighting Assembly
 - Maximum Water Level
 - Electrically Powered Pool Lift
103. An electrically powered lift that provides accessibility to and from a pool or spa for people with disabilities defines:
- Dry-Niche Luminaire
 - Cord-and-Plug-Connected Lighting Assembly
 - Maximum Water Level
 - Electrically Powered Pool Lift
104. Equipment that is fastened or otherwise secured at a specific location defines:
- Forming Shell
 - Fountain. Fountains, ornamental pools, display pools, and reflection pools
 - Hydromassage Bathtub
 - Fixed
105. A structure designed to support a wet-niche luminaire assembly and intended for mounting in a pool or fountain structure defines:
- Forming Shell
 - Fountain. Fountains, ornamental pools, display pools, and reflection pools
 - Hydromassage Bathtub
 - Fixed
106. The definition does not include drinking fountains defines:
- Forming Shell
 - Fountain. Fountains, ornamental pools, display pools, and reflection pools
 - Hydromassage Bathtub
 - Fixed
107. A permanently installed bathtub equipped with a recirculating piping system, pump, and associated equipment. It is designed so it can accept, circulate, and discharge water upon each use defines:
- Forming Shell
 - Fountain. Fountains, ornamental pools, display pools, and reflection pools
 - Hydromassage Bathtub
 - Fixed
108. A lighting assembly consisting of a luminaire intended for installation in the wall of a spa, hot tub, or storable pool, and a cord-and-plugconnected transformer defines:
- Cord-and-Plug-Connected Lighting Assembly
 - Electrically Powered Pool Lift
 - Dry-Niche Luminaire
109. A luminaire intended for installation in the floor or wall of a pool, spa, or fountain in a niche that is sealed against the entry of water defines:
- Cord-and-Plug-Connected Lighting Assembly
 - Electrically Powered Pool Lift
 - Dry-Niche Luminaire
110. An electrically powered lift that provides accessibility to and from a pool or spa for people with disabilities defines:
- Cord-and-Plug-Connected Lighting Assembly
 - Electrically Powered Pool Lift
 - Dry-Niche Luminaire

675.2 Definitions.

Center Pivot Irrigation Machine. A multimotored irrigation machine that revolves around a central pivot and employs alignment switches or similar devices to control individual motors.

Collector Rings. An assembly of slip rings for transferring electric energy from a stationary to a rotating member.

Irrigation Machine. An electrically driven or controlled machine, with one or more motors, not hand-portable, and used primarily to transport and distribute water for agricultural purposes.

682.2 Definitions. Natural and Artificially Made Bodies of Water

Artificially Made Bodies of Water. Bodies of water that have been constructed or modified to fit some decorative or commercial purpose such as, but not limited to, aeration ponds, fish farm ponds, storm retention basins, treatment ponds, and irrigation (channel) facilities. Water depths may vary seasonally or be controlled.

Electrical Datum Plane. The electrical datum plane as used in this article is defined as follows:

(1) In land areas subject to tidal fluctuation, the electrical datum plane is a horizontal plane 600 mm (2 ft) above the highest tide level for the area occurring under normal circumstances, that is, highest high tide.

(2) In land areas not subject to tidal fluctuation, the electrical datum plane is a horizontal plane 600 mm (2 ft) above the highest water level for the area occurring under normal circumstances.

(3) In land areas subject to flooding, the electrical datum plane based on (1) or (2) above is a horizontal plane 600 mm (2 ft) above the point identified as the prevailing high water mark or an equivalent benchmark based on seasonal or storm-driven flooding from the authority having jurisdiction.

(4) The electrical datum plane for floating structures and landing stages that are (a) installed to permit rise and fall response to water level, without lateral movement, and (b) that are so equipped that they can rise to the datum plane established for (1) or (2) above, is a horizontal plane 750 mm (30 in.) above the water level at the floating structure or landing stage and a minimum of 300 mm (12 in.) above the level of the deck.

Equipotential Plane. An area where wire mesh or other conductive elements are on, embedded in, or placed under the walk surface within 75 mm (3 in.), bonded to all metal structures and fixed nonelectrical equipment that may become energized, and connected to the electrical grounding system to prevent a difference in voltage from developing within the plane.

Natural Bodies of Water. Bodies of water such as lakes, streams, ponds, rivers, and other naturally occurring bodies of water, which may vary in depth throughout the year.

Shoreline. The farthest extent of standing water under the applicable conditions that determine the electrical datum plane for the specified body of water

111. Electrical Datum Plane. The electrical datum plane as used in this article is defined as follows: a. In land areas subject to tidal fluctuation, the electrical datum plane is a horizontal plane _____ above the highest tide level for the area occurring under normal circumstances, that is, highest high tide.

- a. 600 mm
- b. 2 ft
- c. 24"
- d. all of the above

112. Electrical Datum Plane. The electrical datum plane as used in this article is defined as follows: In land areas not subject to tidal fluctuation, the electrical datum plane is a horizontal plane 600 mm (2 ft) above the highest _____ level for the area occurring under normal circumstances.

- a. flood plain
- b. flood way
- c. flood fringe
- d. water

113. Electrical Datum Plane. The electrical datum plane as used in this article is defined as follows: In land areas subject to flooding, the electrical datum plane based on (1) or (2) above is a horizontal plane 600 mm (2 ft) above the point identified as the _____ from the authority having jurisdiction.

- a. prevailing high water mark
- b. an equivalent benchmark based on seasonal
- c. an equivalent storm-driven flooding
- d. all of the above

114. Electrical Datum Plane. The electrical datum plane as used in this article is defined as follows: The electrical datum plane for floating structures and landing stages that are (a) installed to permit rise and fall response to water level, without lateral movement, and (b) that are so equipped that they can rise to the datum

plane established for (1) or (2) above, is a horizontal plane 750 mm (30 in.) above the water level at the floating structure or landing stage and a minimum of _____ above the level of the deck.

- a. 600 mm
- b. 2 ft
- c. 24"
- d. none of the above

115. An area where wire mesh or other conductive elements are on, embedded in, or placed under the walk surface within 75 mm (3 in.), bonded to all metal structures and fixed nonelectrical equipment that may become energized, and connected to the electrical grounding system to prevent a difference in voltage from developing within the plane defines:

- a. Artificially Made Bodies of Water
- b. Natural Bodies of Water
- c. Shoreline
- d. Equipotential Plane

116. Bodies of water such as lakes, streams, ponds, rivers, and other naturally occurring bodies of water, which may vary in depth throughout the year defines:

- a. Artificially Made Bodies of Water
- b. Natural Bodies of Water
- c. Shoreline
- d. Equipotential Plane

117. The farthest extent of standing water under the applicable conditions that determine the electrical datum plane for the specified body of water defines:

- a. Artificially Made Bodies of Water
- b. Natural Bodies of Water
- c. Shoreline
- d. Equipotential Plane

118. Bodies of water that have been constructed or modified to fit some decorative or commercial purpose such as, but not limited to, aeration ponds, fish farm ponds, storm retention basins, treatment ponds, and irrigation (channel) facilities. Water depths may vary seasonally or be controlled defines:

- a. Artificially Made Bodies of Water
- b. Natural Bodies of Water
- c. Shoreline
- d. Equipotential Plane

119. A multimotored irrigation machine that revolves around a central pivot and employs alignment switches or similar devices to control individual motors defines:

- a. Collector Rings
- b. Center Pivot Irrigation Machine
- c. Irrigation Machine

120. An assembly of slip rings for transferring electric energy from a stationary to a rotating member defines:

- a. Collector Rings
- b. Center Pivot Irrigation Machine
- c. Irrigation Machine

121. An electrically driven or controlled machine, with one or more motors, not hand-portable, and used primarily to transport and distribute water for agricultural purposes defines:

- a. Collector Rings
- b. Center Pivot Irrigation Machine
- c. Irrigation Machine

690.2 Definitions. Solar Photovoltaic (PV) Systems (Part 1)

Alternating-Current (ac) Module (Alternating-Current Photovoltaic Module). A complete, environmentally protected unit consisting of solar cells, optics, inverter, and other components, exclusive of tracker, designed to generate ac power when exposed to sunlight.

Array. A mechanically integrated assembly of module(s) or panel(s) with a support structure and foundation, tracker, and other components, as required, to form a dc or ac power producing unit.

Bipolar Photovoltaic Array. A dc PV array that has two outputs, each having opposite polarity to a common reference point or center tap.

DC-to-DC Converter. A device installed in the PV source circuit or PV output circuit that can provide an output dc voltage and current at a higher or lower value than the input dc voltage and current.

DC-to-DC Converter Output Circuit. Circuit conductors between the dc-to-dc converter source circuit(s) and the inverter or dc utilization equipment.

DC-to-DC Converter Source Circuit. Circuits between dc-to-dc converters and from dc-to-dc converters to the common connection point(s) of the dc system.

Direct-Current (dc) Combiner. A device used in the PV source and PV output circuits to combine two or more dc circuit inputs and provide one dc circuit output.

Diversion Charge Controller. Equipment that regulates the charging process of a battery by diverting power from energy storage to direct-current or alternating-current loads or to an interconnected utility service.

Electrical Production and Distribution Network. A power production, distribution, and utilization system, such as a utility system and connected loads, that is external to and not controlled by the PV power system.

Functional Grounded PV System. A PV system that has an electrical reference to ground that is not solidly grounded.

Generating Capacity. The sum of parallel-connected inverter maximum continuous output power at 40°C in kilowatts.

Interactive System. A PV system that operates in parallel with and may deliver power to an electrical production and distribution network.

122. Circuit conductors between the dc-to-dc converter source circuit(s) and the inverter or dc utilization equipment defines:

- a. Direct-Current (dc) Combiner
- b. DC-to-DC Converter Source Circuit
- c. DC-to-DC Converter Output Circuit
- d. Diversion Charge Controller

123. Circuits between dc-to-dc converters and from dc-to-dc converters to the common connection point(s) of the dc system defines:

- a. Direct-Current (dc) Combiner
- b. DC-to-DC Converter Source Circuit
- c. DC-to-DC Converter Output Circuit
- d. Diversion Charge Controller

124. A device used in the PV source and PV output circuits to combine two or more dc circuit inputs and provide one dc circuit output defines:

- a. Direct-Current (dc) Combiner
- b. DC-to-DC Converter Source Circuit
- c. DC-to-DC Converter Output Circuit
- d. Diversion Charge Controller

125. Equipment that regulates the charging process of a battery by diverting power from energy storage to direct-current or alternating-current loads or to an interconnected utility service defines:

- a. Direct-Current (dc) Combiner
- b. DC-to-DC Converter Source Circuit
- c. DC-to-DC Converter Output Circuit
- d. Diversion Charge Controller

126. A power production, distribution, and utilization system, such as a utility system and connected loads, that is external to and not controlled by the PV power system.

- a. Interactive System
- b. Functional Grounded PV System
- c. Generating Capacity
- d. Electrical Production and Distribution Network

127. A PV system that has an electrical reference to ground that is not solidly grounded.

- a. Interactive System
 - b. Functional Grounded PV System
 - c. Generating Capacity
 - d. Electrical Production and Distribution Network
128. The sum of parallel-connected inverter maximum continuous output power at 40°C in kilowatts.
- a. Interactive System
 - b. Functional Grounded PV System
 - c. Generating Capacity
 - d. Electrical Production and Distribution Network
129. A PV system that operates in parallel with and may deliver power to an electrical production and distribution network.
- a. Interactive System
 - b. Functional Grounded PV System
 - c. Generating Capacity
 - d. Electrical Production and Distribution Network
130. A complete, environmentally protected unit consisting of solar cells, optics, inverter, and other components, exclusive of tracker, designed to generate ac power when exposed to sunlight defines:
- a. Bipolar Photovoltaic Array
 - b. Alternating-Current
 - c. Array
 - d. DC-to-DC Converter
131. A mechanically integrated assembly of module(s) or panel(s) with a support structure and foundation, tracker, and other components, as required, to form a dc or ac power producing unit defines:
- a. Bipolar Photovoltaic Array
 - b. Alternating-Current
 - c. Array
 - d. DC-to-DC Converter
132. A dc PV array that has two outputs, each having opposite polarity to a common reference point or center tap defines:
- a. Bipolar Photovoltaic Array
 - b. Alternating-Current
 - c. Array
 - d. DC-to-DC Converter
133. A device installed in the PV source circuit or PV output circuit that can provide an output dc voltage and current at a higher or lower value than the input dc voltage and current defines:
- a. Bipolar Photovoltaic Array
 - b. Alternating-Current
 - c. Array
 - d. DC-to-DC Converter

690.2 Definitions. Solar Photovoltaic (PV) Systems (Part 2)

Interactive Inverter Output Circuit. The conductors between the interactive inverter and the service equipment or another electrical power production and distribution network.

Inverter. Equipment that is used to change voltage level or waveform, or both, of electrical energy. Commonly, an inverter [also known as a power conditioning unit (PCU) or power conversion system (PCS)] is a device that changes dc input to an ac output. Inverters may also function as battery chargers that use alternating current from another source and convert it into direct current for charging batteries.

Inverter Input Circuit. Conductors connected to the dc input of an inverter.

Inverter Output Circuit. Conductors connected to the ac output of an inverter.

Module. A complete, environmentally protected unit consisting of solar cells, optics, and other components, exclusive of tracker, designed to generate dc power when exposed to sunlight.

Monopole Subarray. A PV subarray that has two conductors in the output circuit, one positive (+) and one negative (-). Two monopole PV subarrays are used to form a bipolar PV array.

Multimode Inverter. Equipment having the capabilities of both the interactive inverter and the stand-alone inverter.

Panel. A collection of modules mechanically fastened together, wired, and designed to provide a field-installable unit.

Photovoltaic Output Circuit. Circuit conductors between the PV source circuit(s) and the inverter or dc utilization equipment.

Photovoltaic Power Source. An array or aggregate of arrays that generates dc power at system voltage and current.

Photovoltaic Source Circuit. Circuits between modules and from modules to the common connection point(s) of the dc system.

Photovoltaic System DC Circuit. Any dc conductor supplied by a PV power source, including PV source circuits, PV output circuits, dc-to-dc converter source circuits, or dc-to-dc converter output circuits.

Solar Cell. The basic PV device that generates electricity when exposed to light.

Stand-Alone System. A solar PV system that supplies power independently of an electrical production and distribution network.

Subarray. An electrical subset of a PV array.

134. A PV subarray that has two conductors in the output circuit, one positive (+) and one negative (-). Two monopole PV subarrays are used to form a bipolar PV array defines:
- Photovoltaic Power Source
 - Panel
 - Photovoltaic Output Circuit
 - Multimode Inverter
 - Monopole Subarray
135. Within the definition of Monopole Subarray: Two monopole PV subarrays are used to form a bipolar PV array.
- true
 - false
136. Equipment having the capabilities of both the interactive inverter and the stand-alone inverter defines:
- Photovoltaic Power Source
 - Panel
 - Photovoltaic Output Circuit
 - Multimode Inverter
 - Monopole Subarray
137. A collection of modules mechanically fastened together, wired, and designed to provide a field-installable unit defines:
- Photovoltaic Power Source
 - Panel
 - Photovoltaic Output Circuit
 - Multimode Inverter
 - Monopole Subarray
138. Circuit conductors between the PV source circuit(s) and the inverter or dc utilization equipment defines:
- Photovoltaic Power Source
 - Panel
 - Photovoltaic Output Circuit
 - Multimode Inverter
 - Monopole Subarray
139. An array or aggregate of arrays that generates dc power at system voltage and current defines:
- Photovoltaic Power Source
 - Panel
 - Photovoltaic Output Circuit
 - Multimode Inverter
 - Monopole Subarray
140. Circuits between modules and from modules to the common connection point(s) of the dc system defines:
- Solar Cell

- b. Photovoltaic System DC Circuit
 - c. Photovoltaic Source Circuit
 - d. Stand-Alone System
 - e. Subarray
141. Any dc conductor supplied by a PV power source, including PV source circuits, PV output circuits, dc-to-dc converter source circuits, or dc-to-dc converter output circuits defines:
- a. Solar Cell
 - b. Photovoltaic System DC Circuit
 - c. Photovoltaic Source Circuit
 - d. Stand-Alone System
 - e. Subarray
142. The basic PV device that generates electricity when exposed to light defines:
- a. Solar Cell
 - b. Photovoltaic System DC Circuit
 - c. Photovoltaic Source Circuit
 - d. Stand-Alone System
 - e. Subarray
143. A solar PV system that supplies power independently of an electrical production and distribution network defines:
- a. Solar Cell
 - b. Photovoltaic System DC Circuit
 - c. Photovoltaic Source Circuit
 - d. Stand-Alone System
 - e. Subarray
144. An electrical subset of a PV array defines:
- a. Solar Cell
 - b. Photovoltaic System DC Circuit
 - c. Photovoltaic Source Circuit
 - d. Stand-Alone System
 - e. Subarray

691.2 Definitions. Large-Scale Photovoltaic (PV) Electric Power Production Facility

Electric Supply Stations. Locations containing the generating stations and substations, including their associated generator, storage battery, transformer, and switchgear areas.

Generating Capacity. The sum of the parallel-connected inverter rated maximum continuous output power at 40°C in kilowatts (kW).

Generating Station. A plant wherein electric energy is produced by conversion from some other form of energy (e.g., chemical, nuclear, solar, wind, mechanical, or hydraulic) by means of suitable apparatus.

692.2 Definitions. Fuel Cell Systems

Fuel Cell. An electrochemical system that consumes fuel to produce an electric current. In such cells, the main chemical reaction used for producing electric power is not combustion. However, there may be sources of combustion used within the overall cell system, such as reformers/fuel processors.

Fuel Cell System. The complete aggregate of equipment used to convert chemical fuel into usable electricity and typically consisting of a reformer, stack, power inverter, and auxiliary equipment.

Interactive System. A fuel cell system that operates in parallel with and may deliver power to an electrical production and distribution network. For the purpose of this definition, an energy storage subsystem of a fuel cell system, such as a battery, is not another electrical production source.

Maximum System Voltage. The highest fuel cell inverter output voltage between any ungrounded conductors present at accessible output terminals.

Output Circuit. The conductors used to connect the fuel cell system to its electrical point of delivery.

Point of Common Coupling. The point at which the power production and distribution network and the customer interface occurs in an interactive system. Typically, this is the load side of the power network meter.

Stand-Alone System. A fuel cell system that supplies power independently of an electrical production and distribution network.

145. Locations containing the generating stations and substations, including their associated generator, storage battery, transformer, and switchgear areas defines:

- a. Electric Supply Stations
- b. Generating Station
- c. Fuel Cell
- d. Fuel Cell System
- e. Interactive System

146. A plant wherein electric energy is produced by conversion from some other form of energy (e.g., chemical, nuclear, solar, wind, mechanical, or hydraulic) by means of suitable apparatus defines:

- a. Electric Supply Stations
- b. Generating Station
- c. Fuel Cell
- d. Fuel Cell System
- e. Interactive System

147. An electrochemical system that consumes fuel to produce an electric current. In such cells, the main chemical reaction used for producing electric power is not combustion. However, there may be sources of combustion used within the overall cell system, such as reformers/fuel processors defines:

- a. Electric Supply Stations
- b. Generating Station
- c. Fuel Cell
- d. Fuel Cell System
- e. Interactive System

148. The complete aggregate of equipment used to convert chemical fuel into usable electricity and typically consisting of a reformer, stack, power inverter, and auxiliary equipment defines:

- a. Electric Supply Stations
- b. Generating Station
- c. Fuel Cell
- d. Fuel Cell System
- e. Interactive System

149. A fuel cell system that operates in parallel with and may deliver power to an electrical production and distribution network. For the purpose of this definition, an energy storage subsystem of a fuel cell system, such as a battery, is not another electrical production source defines:

- a. Electric Supply Stations
- b. Generating Station
- c. Fuel Cell
- d. Fuel Cell System
- e. Interactive System

150. The highest fuel cell inverter output voltage between any ungrounded conductors present at accessible output terminals defines:

- a. Generating Capacity
- b. Stand-Alone System
- c. Point of Common Coupling
- d. Output Circuit
- e. Maximum System Voltage

151. The conductors used to connect the fuel cell system to its electrical point of delivery defines:

- a. Generating Capacity
- b. Stand-Alone System
- c. Point of Common Coupling
- d. Output Circuit
- e. Maximum System Voltage

152. The point at which the power production and distribution network and the customer interface occurs in an interactive system. Typically, this is the load side of the power network meter defines:

- a. Generating Capacity
- b. Stand-Alone System
- c. Point of Common Coupling
- d. Output Circuit
- e. Maximum System Voltage

153. A fuel cell system that supplies power independently of an electrical production and distribution network defines:

- a. Generating Capacity
- b. Stand-Alone System
- c. Point of Common Coupling
- d. Output Circuit
- e. Maximum System Voltage

154. The sum of the parallel-connected inverter rated maximum continuous output power at 40°C in kilowatts (kW) defines:

- a. Generating Capacity
- b. Stand-Alone System
- c. Point of Common Coupling
- d. Output Circuit
- e. Maximum System Voltage

692.4 Installation. Large-Scale Photovoltaic (PV) Electric Power Production Facility

(A) Fuel Cell System. A fuel cell system shall be permitted to supply a building or other structure in addition to any service(s) of another electricity supply system(s).

(B) Identification. A permanent plaque or directory, denoting all electric power sources on or in the premises, shall be installed at each service equipment location.

(C) System Installation. Fuel cell systems including all associated wiring and interconnections shall be installed by only qualified persons.

694.2 Definitions. Wind Electric Systems

Diversion Charge Controller. Equipment that regulates the charging process of a battery or other energy storage device by diverting power from energy storage to dc or ac loads, or to an interconnected utility service.

Diversion Load. A load connected to a diversion charge controller or diversion load controller, also known as a dump load.

Diversion Load Controller. Equipment that regulates the output of a wind generator by diverting power from the generator to dc or ac loads or to an interconnected utility service.

Inverter Output Circuit. The conductors between an inverter and an ac panelboard for stand-alone systems, or the conductors between an inverter and service equipment or another electric power production source, such as a utility, for an electrical production and distribution network.

Maximum Output Power. The maximum 1 minute average power output a wind turbine produces in normal steady-state operation (instantaneous power output can be higher).

Maximum Voltage. The maximum voltage the wind turbine produces in operation including open circuit conditions.

Nacelle. An enclosure housing the alternator and other parts of a wind turbine.

Rated Power. The output power of a wind turbine at its rated wind speed.

Tower (as applied to wind electric systems). A pole or other structure that supports a wind turbine.

Wind Turbine. A mechanical device that converts wind energy to electrical energy.

Wind Turbine Output Circuit. The circuit conductors between the internal components of a wind turbine (which might include an alternator, integrated rectifier, controller, and/or inverter) and other equipment.

155. Equipment that regulates the charging process of a battery or other energy storage device by diverting power from energy storage to dc or ac loads, or to an interconnected utility service defines:

- a. Maximum Output Power
 - b. Inverter Output Circuit
 - c. Diversion Load Controller
 - d. Diversion Load
 - e. Diversion Charge Controller
156. A load connected to a diversion charge controller or diversion load controller, also known as a dump load defines:
- a. Maximum Output Power
 - b. Inverter Output Circuit
 - c. Diversion Load Controller
 - d. Diversion Load
 - e. Diversion Charge Controller
157. Equipment that regulates the output of a wind generator by diverting power from the generator to dc or ac loads or to an interconnected utility service defines:
- a. Maximum Output Power
 - b. Inverter Output Circuit
 - c. Diversion Load Controller
 - d. Diversion Load
 - e. Diversion Charge Controller
158. The conductors between an inverter and an ac panelboard for stand-alone systems, or the conductors between an inverter and service equipment or another electric power production source, such as a utility, for an electrical production and distribution network defines:
- a. Maximum Output Power
 - b. Inverter Output Circuit
 - c. Diversion Load Controller
 - d. Diversion Load
 - e. Diversion Charge Controller
159. The maximum 1 minute average power output a wind turbine produces in normal steady-state operation (instantaneous power output can be higher) defines:
- a. Maximum Output Power
 - b. Inverter Output Circuit
 - c. Diversion Load Controller
 - d. Diversion Load
 - e. Diversion Charge Controller
160. An enclosure housing the alternator and other parts of a wind turbine defines:
- a. Wind Turbine Output Circuit
 - b. Wind Turbine
 - c. Tower
 - d. Rated Power
 - e. Nacelle
161. The output power of a wind turbine at its rated wind speed defines:
- a. Wind Turbine Output Circuit
 - b. Wind Turbine
 - c. Tower
 - d. Rated Power
 - e. Nacelle
162. A pole or other structure that supports a wind turbine defines:
- a. Wind Turbine Output Circuit
 - b. Wind Turbine
 - c. Tower
 - d. Rated Power
 - e. Nacelle
163. A mechanical device that converts wind energy to electrical energy defines:
- a. Wind Turbine Output Circuit

- b. Wind Turbine
- c. Tower
- d. Rated Power
- e. Nacelle

164. The circuit conductors between the internal components of a wind turbine (which might include an alternator, integrated rectifier, controller, and/or inverter) and other equipment defines:

- a. Wind Turbine Output Circuit
- b. Wind Turbine
- c. Tower
- d. Rated Power
- e. Nacelle

165. The maximum voltage the wind turbine produces in operation including open circuit conditions defines:

- a. System Installation
- b. Identification
- c. Fuel Cell System
- d. Maximum Voltage

166. A fuel cell system shall be permitted to supply a building or other structure in addition to any service(s) of another electricity supply system(s).

- a. System Installation
- b. Identification
- c. Fuel Cell System
- d. Maximum Voltage

167. A permanent plaque or directory, denoting all electric power sources on or in the premises, shall be installed at each service equipment location.

- a. System Installation
- b. Identification
- c. Fuel Cell System
- d. Maximum Voltage

168. Fuel cell systems including all associated wiring and interconnections shall be installed by only qualified persons.

- a. System Installation
- b. Identification
- c. Fuel Cell System
- d. Maximum Voltage

695.2 Definitions. Fire Pumps

Fault-Tolerant External Control Circuits. Those control circuits either entering or leaving the fire pump controller enclosure, which if broken, disconnected, or shorted will not prevent the controller from starting the fire pump from all other internal or external means and may cause the controller to start the pump under these conditions.

On-Site Power Production Facility. The normal supply of electric power for the site that is expected to be constantly producing power.

On-Site Standby Generator. A facility producing electric power on site as the alternate supply of electric power. It differs from an on-site power production facility, in that it is not constantly producing power.

700.2 Definitions. Emergency Systems

Branch Circuit Emergency Lighting Transfer Switch. A device connected on the load side of a branch circuit overcurrent protective device that transfers only emergency lighting loads from the normal supply to an emergency supply.

Emergency Systems. Those systems legally required and classed as emergency by municipal, state, federal, or other codes, or by any governmental agency having jurisdiction. These systems are intended to automatically supply illumination, power, or both, to designated areas and equipment in the event of failure of the normal

supply or in the event of accident to elements of a system intended to supply, distribute, and control power and illumination essential for safety to human life.

Luminaire, Directly Controlled. An emergency luminaire that has a control input for an integral dimming or switching function that drives the luminaire to full illumination upon loss of normal power.

Relay, Automatic Load Control. A device used to set normally dimmed or normally-off switched emergency lighting equipment to full power illumination levels in the event of a loss of the normal supply by bypassing the dimming/switching controls, and to return the emergency lighting equipment to normal status when the device senses the normal supply has been restored.

705.2 Definitions. Interconnected Electric Power Production Sources

Interactive Inverter Output Circuit. The conductors between the interactive inverter and the service equipment or another electric power production source, such as a utility, for electrical production and distribution network.

Microgrid Interconnect Device (MID). A device that allows a microgrid system to separate from and reconnect to a primary power source.

Microgrid System. A premises wiring system that has generation, energy storage, and load(s), or any combination thereof, that includes the ability to disconnect from and parallel with the primary source.

Multimode Inverter. Equipment having the capabilities of both the interactive inverter and the stand-alone inverter.

Power Production Equipment. The generating source, and all distribution equipment associated with it, that generates electricity from a source other than a utility supplied service.

169. A device connected on the load side of a branch circuit overcurrent protective device that transfers only emergency lighting loads from the normal supply to an emergency supply

- a. Relay, Automatic Load Control
- b. Luminaire, Directly Controlled
- c. Emergency Systems
- d. Branch Circuit Emergency Lighting Transfer Switch

170. Those systems legally required and classed as emergency by municipal, state, federal, or other codes, or by any governmental agency having jurisdiction. These systems are intended to automatically supply illumination, power, or both, to designated areas and equipment in the event of failure of the normal supply or in the event of accident to elements of a system intended to supply, distribute, and control power and illumination essential for safety to human life.

- a. Relay, Automatic Load Control
- b. Luminaire, Directly Controlled
- c. Emergency Systems
- d. Branch Circuit Emergency Lighting Transfer Switch

171. An emergency luminaire that has a control input for an integral dimming or switching function that drives the luminaire to full illumination upon loss of normal power.

- a. Relay, Automatic Load Control
- b. Luminaire, Directly Controlled
- c. Emergency Systems
- d. Branch Circuit Emergency Lighting Transfer Switch

172. A device used to set normally dimmed or normally-off switched emergency lighting equipment to full power illumination levels in the event of a loss of the normal supply by bypassing the dimming/switching controls, and to return the emergency lighting equipment to normal status when the device senses the normal supply has been restored.

- a. Relay, Automatic Load Control
- b. Luminaire, Directly Controlled
- c. Emergency Systems
- d. Branch Circuit Emergency Lighting Transfer Switch

173. The conductors between the interactive inverter and the service equipment or another electric power production source, such as a utility, for electrical production and distribution network defines:

- a. Interactive Inverter Output Circuit

- b. Microgrid Interconnect Device
 - c. Microgrid System
 - d. Multimode Inverter
174. A device that allows a microgrid system to separate from and reconnect to a primary power source defines:
- a. Interactive Inverter Output Circuit
 - b. Microgrid Interconnect Device
 - c. Microgrid System
 - d. Multimode Inverter
175. A premises wiring system that has generation, energy storage, and load(s), or any combination thereof, that includes the ability to disconnect from and parallel with the primary source defines:
- a. Interactive Inverter Output Circuit
 - b. Microgrid Interconnect Device
 - c. Microgrid System
 - d. Multimode Inverter
176. Equipment having the capabilities of both the interactive inverter and the stand-alone inverter defines:
- a. Interactive Inverter Output Circuit
 - b. Microgrid Interconnect Device
 - c. Microgrid System
 - d. Multimode Inverter
177. Those control circuits either entering or leaving the fire pump controller enclosure, which if broken, disconnected, or shorted will not prevent the controller from starting the fire pump from all other internal or external means and may cause the controller to start the pump under these conditions defines:
- a. Power Production Equipment
 - b. On-Site Standby Generator
 - c. On-Site Power Production Facility
 - d. Fault-Tolerant External Control Circuits
178. The normal supply of electric power for the site that is expected to be constantly producing power defines:
- a. Power Production Equipment
 - b. On-Site Standby Generator
 - c. On-Site Power Production Facility
 - d. Fault-Tolerant External Control Circuits
179. A facility producing electric power on site as the alternate supply of electric power. It differs from an on-site power production facility, in that it is not constantly producing power defines:
- a. Power Production Equipment
 - b. On-Site Standby Generator
 - c. On-Site Power Production Facility
 - d. Fault-Tolerant External Control Circuits
180. The generating source, and all distribution equipment associated with it, that generates electricity from a source other than a utility supplied service defines:
- a. Power Production Equipment
 - b. On-Site Standby Generator
 - c. On-Site Power Production Facility
 - d. Fault-Tolerant External Control Circuits

706.2 Definitions. Energy Storage Systems

Battery. Two or more cells connected together electrically in series, in parallel, or a combination of both to provide the required operating voltage and current levels.

Cell. The basic electrochemical unit, characterized by an anode and a cathode, used to receive, store, and deliver electrical energy.

Container. A vessel that holds the plates, electrolyte, and other elements of a single unit, comprised of one or more cells, in a battery. It can be referred to as a jar or case.

Diversion Charge Controller. Equipment that regulates the charging process of an ESS by diverting power from energy storage to direct-current or alternating-current loads or to an interconnected utility service.

Electrolyte. The medium that provides the ion transport mechanism between the positive and negative electrodes of a cell.

Energy Storage System (ESS). One or more components assembled together capable of storing energy for use at a future time. ESS(s) can include but is not limited to batteries, capacitors, and kinetic energy devices (e.g., flywheels and compressed air). These systems can have ac or dc output for utilization and can include inverters and converters to change stored energy into electrical energy. *Energy Storage System, Self-Contained.* Energy storage systems where the components such as cells, batteries, or modules and any necessary controls, ventilation, illumination, fire suppression, or alarm systems are assembled, installed, and packaged into a singular energy storage container or unit.

Energy Storage System, Pre-Engineered of Matched Components. Energy storage systems that are not self-contained systems but instead are pre-engineered and field-assembled using separate components supplied as a system by a singular entity that are matched and intended to be assembled as an energy storage system at the system installation site.

Energy Storage System, Other. Energy storage systems that are not self-contained or pre-engineered systems of matched components but instead are composed of individual components assembled as a system.

Flow Battery. An energy storage component similar to a fuel cell that stores its active materials in the form of two electrolytes external to the reactor interface. When in use, the electrolytes are transferred between reactor and storage tanks.

Intercell Connector. An electrically conductive bar or cable used to connect adjacent cells.

Intertier Connector. In a battery system, an electrical conductor used to connect two cells on different tiers of the same rack or different shelves of the same rack.

Inverter Input Circuit. Conductors between the inverter and the ESS in stand-alone and multimode inverter systems.

Inverter Output Circuit. Conductors between the inverter and another electric power production source, such as a utility for an electrical production and distribution network.

Inverter Utilization Output Circuit. Conductors between the multimode or standalone inverter and utilization equipment.

Nominal Voltage (Battery or Cell). The value assigned to a cell or battery of a given voltage class for the purpose of convenient designation. The operating voltage of the cell or battery may vary above or below this value.

Sealed Cell or Battery. A cell or battery that has no provision for the routine addition of water or electrolyte or for external measurement of electrolyte specific gravity.

Terminal. That part of a cell, container, or battery to which an external connection is made (commonly identified as a post, pillar, pole, or terminal post).

181. One or more components assembled together capable of storing energy for use at a future time. ESS(s) can include but is not limited to batteries, capacitors, and kinetic energy devices (e.g., flywheels and compressed air). These systems can have ac or dc output for utilization and can include inverters and converters to change stored energy into electrical energy. *Energy Storage System, Self-Contained.* Energy storage systems where the components such as cells, batteries, or modules and any necessary controls, ventilation, illumination, fire suppression, or alarm systems are assembled, installed, and packaged into a singular energy storage container or unit defines:

- a. Energy Storage System
- b. Energy Storage System, Pre-Engineered of Matched Components
- c. Energy Storage System, Other
- d. Flow Battery

182. Energy storage systems that are not self-contained systems but instead are pre-engineered and field-assembled using separate components supplied as a system by a singular entity that are matched and intended to be assembled as an energy storage system at the system installation site defines:

- a. Energy Storage System
- b. Energy Storage System, Pre-Engineered of Matched Components
- c. Energy Storage System, Other
- d. Flow Battery

183. Energy storage systems that are not self-contained or pre-engineered systems of matched components but instead are composed of individual components assembled as a system defines:
- Energy Storage System
 - Energy Storage System, Pre-Engineered of Matched Components
 - Energy Storage System, Other
 - Flow Battery
184. An energy storage component similar to a fuel cell that stores its active materials in the form of two electrolytes external to the reactor interface. When in use, the electrolytes are transferred between reactor and storage tanks defines:
- Energy Storage System
 - Energy Storage System, Pre-Engineered of Matched Components
 - Energy Storage System, Other
 - Flow Battery
185. Two or more cells connected together electrically in series, in parallel, or a combination of both to provide the required operating voltage and current levels defines:
- Battery
 - Cell
 - Container
 - Diversion Charge Controller
 - Electrolyte
186. The basic electrochemical unit, characterized by an anode and a cathode, used to receive, store, and deliver electrical energy defines:
- Battery
 - Cell
 - Container
 - Diversion Charge Controller
 - Electrolyte
187. A vessel that holds the plates, electrolyte, and other elements of a single unit, comprised of one or more cells, in a battery. It can be referred to as a jar or case defines:
- Battery
 - Cell
 - Container
 - Diversion Charge Controller
 - Electrolyte
188. Equipment that regulates the charging process of an ESS by diverting power from energy storage to direct-current or alternating-current loads or to an interconnected utility service defines:
- Battery
 - Cell
 - Container
 - Diversion Charge Controller
 - Electrolyte
189. The medium that provides the ion transport mechanism between the positive and negative electrodes of a cell defines:
- Battery
 - Cell
 - Container
 - Diversion Charge Controller
 - Electrolyte
190. An electrically conductive bar or cable used to connect adjacent cells defines:
- Intercell Connector
 - Intertier Connector
 - Inverter Input Circuit
 - Inverter Output Circuit

191. In a battery system, an electrical conductor used to connect two cells on different tiers of the same rack or different shelves of the same rack defines:
- Intercell Connector
 - Intertier Connector
 - Inverter Input Circuit
 - Inverter Output Circuit
192. Conductors between the inverter and the ESS in stand-alone and multimode inverter systems defines:
- Intercell Connector
 - Intertier Connector
 - Inverter Input Circuit
 - Inverter Output Circuit
193. Conductors between the inverter and another electric power production source, such as a utility for an electrical production and distribution network defines:
- Intercell Connector
 - Intertier Connector
 - Inverter Input Circuit
 - Inverter Output Circuit
194. That part of a cell, container, or battery to which an external connection is made (commonly identified as a post, pillar, pole, or terminal post) defines:
- Terminal
 - Sealed Cell or Battery
 - Nominal Voltage (Battery or Cell)
 - Inverter Utilization Output Circuit
195. A cell or battery that has no provision for the routine addition of water or electrolyte or for external measurement of electrolyte specific gravity defines:
- Terminal
 - Sealed Cell or Battery
 - Nominal Voltage (Battery or Cell)
 - Inverter Utilization Output Circuit
196. The value assigned to a cell or battery of a given voltage class for the purpose of convenient designation. The operating voltage of the cell or battery may vary above or below this value defines:
- Terminal
 - Sealed Cell or Battery
 - Nominal Voltage (Battery or Cell)
 - Inverter Utilization Output Circuit
197. Conductors between the multimode or standalone inverter and utilization equipment defines:
- Terminal
 - Sealed Cell or Battery
 - Nominal Voltage (Battery or Cell)
 - Inverter Utilization Output Circuit

708.2 Definitions. Critical Operations Power Systems

Commissioning. The acceptance testing, integrated system testing, operational tune-up, and start-up testing is the process by which baseline test results verify the proper operation and sequence of operation of electrical equipment, in addition to developing baseline criteria by which future trend analysis can identify equipment deterioration.

Critical Operations Power Systems (COPS). Power systems for facilities or parts of facilities that require continuous operation for the reasons of public safety, emergency management, national security, or business continuity.

Designated Critical Operations Areas (DCOA). Areas within a facility or site designated as requiring critical operations power. Supervisory Control and Data Acquisition (SCADA). An electronic system that provides monitoring and controls for the operation of the critical operations power system. This can

include the fire alarm system, security system, control of the HVAC, the start/stop/monitoring of the power supplies and electrical distribution system, annunciation and communications equipment to emergency personnel, facility occupants, and remote operators.

712.2 Definitions. Direct Current Microgrids

Direct Current Microgrid (DC Microgrid). A direct current microgrid is a power distribution system consisting of more than one interconnected dc power source, supplying dc-dc converter(s), dc load(s), and/or ac load(s) powered by dc-ac inverter(s). A dc microgrid is typically not directly connected to an ac primary source of electricity, but some dc microgrids interconnect via one or more dc-ac bidirectional converters or dc-ac inverters.

Grounded Two-Wire DC System. A system that has a solid connection or reference-ground between one of the current carrying conductors and the equipment grounding system.

Grounded Three-Wire DC System. A system with a solid connection or reference-ground between the center point of a bipolar dc power source and the equipment grounding system.

Nominal Voltage. A value assigned to a circuit or system for the purpose of conveniently designating its dc voltage class.

Reference-Grounded DC System. A system that is not solidly grounded but has a low-resistance electrical reference that maintains voltage to ground in normal operation.

Resistively Grounded. A system with a high-resistance connection between the current carrying conductors and the equipment grounding system.

Primary DC Source. A source that supplies the majority of the dc load in a dc microgrid.

198. A system that has a solid connection or reference-ground between one of the current carrying conductors and the equipment grounding system defines:

- a. Grounded Two-Wire DC System
- b. Direct Current Microgrid
- c. Designated Critical Operations Areas
- d. Critical Operations Power Systems
- e. Commissioning

199. A direct current microgrid is a power distribution system consisting of more than one interconnected dc power source, supplying dc-dc converter(s), dc load(s), and/or ac load(s) powered by dc-ac inverter(s). A dc microgrid is typically not directly connected to an ac primary source of electricity, but some dc microgrids interconnect via one or more dc-ac bidirectional converters or dc-ac inverters defines:

- a. Grounded Two-Wire DC System
- b. Direct Current Microgrid
- c. Designated Critical Operations Areas
- d. Critical Operations Power Systems
- e. Commissioning

200. Areas within a facility or site designated as requiring critical operations power. Supervisory Control and Data Acquisition (SCADA). An electronic system that provides monitoring and controls for the operation of the critical operations power system. This can include the fire alarm system, security system, control of the HVAC, the start/stop/monitoring of the power supplies and electrical distribution system, annunciation and communications equipment to emergency personnel, facility occupants, and remote operators defines:

- a. Grounded Two-Wire DC System
- b. Direct Current Microgrid
- c. Designated Critical Operations Areas
- d. Critical Operations Power Systems
- e. Commissioning

201. Power systems for facilities or parts of facilities that require continuous operation for the reasons of public safety, emergency management, national security, or business continuity defines:

- a. Grounded Two-Wire DC System
- b. Direct Current Microgrid
- c. Designated Critical Operations Areas

- d. Critical Operations Power Systems
- e. Commissioning

202. The acceptance testing, integrated system testing, operational tune-up, and start-up testing is the process by which baseline test results verify the proper operation and sequence of operation of electrical equipment, in addition to developing baseline criteria by which future trend analysis can identify equipment deterioration defines:

- a. Grounded Two-Wire DC System
- b. Direct Current Microgrid
- c. Designated Critical Operations Areas
- d. Critical Operations Power Systems
- e. Commissioning

203. A system with a solid connection or reference-ground between the center point of a bipolar dc power source and the equipment grounding system defines:

- a. Grounded Three-Wire DC System
- b. Nominal Voltage
- c. Reference-Grounded DC System
- d. Resistively Grounded
- e. Primary DC Source

204. A value assigned to a circuit or system for the purpose of conveniently designating its dc voltage class defines:

- a. Grounded Three-Wire DC System
- b. Nominal Voltage
- c. Reference-Grounded DC System
- d. Resistively Grounded
- e. Primary DC Source

205. A system that is not solidly grounded but has a low-resistance electrical reference that maintains voltage to ground in normal operation defines:

- a. Grounded Three-Wire DC System
- b. Nominal Voltage
- c. Reference-Grounded DC System
- d. Resistively Grounded
- e. Primary DC Source

206. A system with a high-resistance connection between the current carrying conductors and the equipment grounding system defines:

- a. Grounded Three-Wire DC System
- b. Nominal Voltage
- c. Reference-Grounded DC System
- d. Resistively Grounded
- e. Primary DC Source

207. A source that supplies the majority of the dc load in a dc microgrid defines:

- a. Grounded Three-Wire DC System
- b. Nominal Voltage
- c. Reference-Grounded DC System
- d. Resistively Grounded
- e. Primary DC Source

Ungrounded DC System. A system that has no direct or resistive connection between the current carrying conductors and the equipment grounding system.

725.2 Definitions. Class 1, Class 2, and Class 3 Remote-Control, Signaling, and Power-Limited Circuits Abandoned Class 2, Class 3, and PLTC Cable. Installed Class 2, Class 3, and PLTC cable that is not terminated at equipment and not identified for future use with a tag.

Circuit Integrity (CI) Cable. Cable(s) used for remote-control, signaling, or power-limited systems that supply critical circuits to ensure survivability for continued circuit operation for a specified time under fire conditions.

Class 1 Circuit. The portion of the wiring system between the load side of the overcurrent device or power-limited supply and the connected equipment.

Class 2 Circuit. The portion of the wiring system between the load side of a Class 2 power source and the connected equipment. Due to its power limitations, a Class 2 circuit considers safety from a fire initiation standpoint and provides acceptable protection from electric shock.

Class 3 Circuit. The portion of the wiring system between the load side of a Class 3 power source and the connected equipment. Due to its power limitations, a Class 3 circuit considers safety from a fire initiation standpoint. Since higher levels of voltage and current than for Class 2 are permitted, additional safeguards are specified to provide protection from an electric shock hazard that could be encountered.

Power-Limited Tray Cable (PLTC). A factory assembly of two or more insulated conductors rated at 300 V, with or without associated bare or insulated equipment grounding conductors, under a nonmetallic jacket.

750.2 Definitions. Energy Management Systems

Control. The predetermined process of connecting, disconnecting, increasing, or reducing electric power.

Energy Management System. A system consisting of any of the following: a monitor(s), communications equipment, a controller(s), a timer(s), or other device(s) that monitors and /or controls an electrical load or a power production or storage source.

Monitor. An electrical or electronic means to observe, record, or detect the operation or condition of the electric power system or apparatus.

760.2 Definitions. Fire Alarm Systems

Abandoned Fire Alarm Cable. Installed fire alarm cable that is not terminated at equipment other than a connector and not identified for future use with a tag.

Fire Alarm Circuit. The portion of the wiring system between the load side of the overcurrent device or the power-limited supply and the connected equipment of all circuits powered and controlled by the fire alarm system. Fire alarm circuits are classified as either non-power-limited or power-limited.

Fire Alarm Circuit Integrity (CI) Cable. Cable used in fire alarm systems to ensure continued operation of critical circuits during a specified time under fire conditions.

Non-Power-Limited Fire Alarm Circuit (NPLFA). A fire alarm circuit powered by a source that complies with 760.41 and 760.43.

Power-Limited Fire Alarm Circuit (PLFA). A fire alarm circuit powered by a source that complies with 760.121.

208. A factory assembly of two or more insulated conductors rated at 300 V, with or without associated bare or insulated equipment grounding conductors, under a nonmetallic jacket defines:

- a. Power-Limited Tray Cable
- b. Control
- c. Energy Management System
- d. Monitor
- e. Ungrounded DC System

209. The predetermined process of connecting, disconnecting, increasing, or reducing electric power defines:

- a. Power-Limited Tray Cable
- b. Control
- c. Energy Management System
- d. Monitor
- e. Ungrounded DC System

210. A system consisting of any of the following: a monitor(s), communications equipment, a controller(s), a timer(s), or other device(s) that monitors and /or controls an electrical load or a power production or storage source defines:

- a. Power-Limited Tray Cable
- b. Control
- c. Energy Management System
- d. Monitor
- e. Ungrounded DC System

211. An electrical or electronic means to observe, record, or detect the operation or condition of the electric power system or apparatus defines:
- Power-Limited Tray Cable
 - Control
 - Energy Management System
 - Monitor
 - Ungrounded DC System
212. A system that has no direct or resistive connection between the current carrying conductors and the equipment grounding system defines?
- Power-Limited Tray Cable
 - Control
 - Energy Management System
 - Monitor
 - Ungrounded DC System
213. The portion of the wiring system between the load side of a Class 3 power source and the connected equipment. Due to its power limitations, a Class 3 circuit considers safety from a fire initiation standpoint. Since higher levels of voltage and current than for Class 2 are permitted, additional safeguards are specified to provide protection from an electric shock hazard that could be encountered
- Class 3 Circuit
 - Class 2 Circuit
 - Class 1 Circuit
 - Circuit Integrity (CI) Cable
 - Abandoned Class 2, Class 3, and PLTC Cable
214. The portion of the wiring system between the load side of a Class 2 power source and the connected equipment. Due to its power limitations, a Class 2 circuit considers safety from a fire initiation standpoint and provides acceptable protection from electric shock defines:
- Class 3 Circuit
 - Class 2 Circuit
 - Class 1 Circuit
 - Circuit Integrity Cable
 - Abandoned Class 2, Class 3, and PLTC Cable
215. The portion of the wiring system between the load side of the overcurrent device or power-limited supply and the connected equipment defines:
- Class 3 Circuit
 - Class 2 Circuit
 - Class 1 Circuit
 - Circuit Integrity Cable
 - Abandoned Class 2, Class 3, and PLTC Cable
216. Cable(s) used for remote-control, signaling, or power-limited systems that supply critical circuits to ensure survivability for continued circuit operation for a specified time under fire conditions defines:
- Class 3 Circuit
 - Class 2 Circuit
 - Class 1 Circuit
 - Circuit Integrity Cable
 - Abandoned Class 2, Class 3, and PLTC Cable
217. Installed Class 2, Class 3, and PLTC cable that is not terminated at equipment and not identified for future use with a tag defines:
- Class 3 Circuit
 - Class 2 Circuit
 - Class 1 Circuit
 - Circuit Integrity Cable
 - Abandoned Class 2, Class 3, and PLTC Cable
218. Installed fire alarm cable that is not terminated at equipment other than a connector and not identified for future use with a tag defines:

- a. Abandoned Fire Alarm Cable
- b. Fire Alarm Circuit
- c. Fire Alarm Circuit Integrity (CI) Cable
- d. Non-Power-Limited Fire Alarm Circuit
- e. Power-Limited Fire Alarm Circuit

219. The portion of the wiring system between the load side of the overcurrent device or the power-limited supply and the connected equipment of all circuits powered and controlled by the fire alarm system. Fire alarm circuits are classified as either non-power-limited or power-limited defines:

- a. Abandoned Fire Alarm Cable
- b. Fire Alarm Circuit
- c. Fire Alarm Circuit Integrity (CI) Cable
- d. Non-Power-Limited Fire Alarm Circuit
- e. Power-Limited Fire Alarm Circuit

220. Cable used in fire alarm systems to ensure continued operation of critical circuits during a specified time under fire conditions defines:

- a. Abandoned Fire Alarm Cable
- b. Fire Alarm Circuit
- c. Fire Alarm Circuit Integrity (CI) Cable
- d. Non-Power-Limited Fire Alarm Circuit
- e. Power-Limited Fire Alarm Circuit

221. A fire alarm circuit powered by a source that complies with 760.41 and 760.43 defines:

- a. Abandoned Fire Alarm Cable
- b. Fire Alarm Circuit
- c. Fire Alarm Circuit Integrity (CI) Cable
- d. Non-Power-Limited Fire Alarm Circuit
- e. Power-Limited Fire Alarm Circuit

222. A fire alarm circuit powered by a source that complies with 760.121 defines:

- a. Abandoned Fire Alarm Cable
- b. Fire Alarm Circuit
- c. Fire Alarm Circuit Integrity (CI) Cable
- d. Non-Power-Limited Fire Alarm Circuit
- e. Power-Limited Fire Alarm Circuit

770.2 Definitions. Optical Fiber Cables

Abandoned Optical Fiber Cable. Installed optical fiber cable that is not terminated at equipment other than a connector and not identified for future use with a tag.

Cable Sheath. A covering over the optical fiber assembly that includes one or more jackets and may include one or more metallic members or strength members.

Exposed (to Accidental Contact). A conductive optical fiber cable in such a position that, in case of failure of supports or insulation, contact between the cable's non-current-carrying conductive members and an electrical circuit might result.

Point of Entrance. The point within a building at which the optical fiber cable emerges from an external wall or from a concrete floor slab.

800.2 Definitions. Communications Circuits

Abandoned Communications Cable. Installed communications cable that is not terminated at both ends at a connector or other equipment and not identified for future use with a tag.

Block. A square or portion of a city, town, or village enclosed by streets and including the alleys so enclosed, but not any street.

Cable. A factory assembly of two or more conductors having an overall covering.

Cable Sheath. A covering over the conductor assembly that may include one or more metallic members, strength members, or jackets.

Communications Circuit. The circuit that extends voice, audio, video, data, interactive services, telegraph (except radio), outside wiring for fire alarm and burglar alarm from the communications utility to the customer's communications equipment up to and including terminal equipment such as a telephone, fax machine, or answering machine.

Communications Circuit Integrity (CI) Cable. Cable used in communications systems to ensure continued operation of critical circuits during a specified time under fire conditions.

Exposed (to Accidental Contact). A circuit that is in such a position that, in case of failure of supports or insulation, contact with another circuit may result.

Point of Entrance. The point within a building at which the communications wire or cable emerges from an external wall or from a concrete floor slab.

Premises. The land and buildings of a user located on the user side of the utility-user network point of demarcation.

Wire. A factory assembly of one or more insulated conductors without an overall covering.

223. Installed communications cable that is not terminated at both ends at a connector or other equipment and not identified for future use with a tag defines:

- a. Abandoned Communications Cable
- b. Block
- c. Cable
- d. Cable Sheath
- e. Communications Circuit

224. A square or portion of a city, town, or village enclosed by streets and including the alleys so enclosed, but not any street defines:

- a. Abandoned Communications Cable
- b. Block
- c. Cable
- d. Cable Sheath
- e. Communications Circuit

225. A factory assembly of two or more conductors having an overall covering defines:

- a. Abandoned Communications Cable
- b. Block
- c. Cable
- d. Cable Sheath
- e. Communications Circuit

226. A covering over the conductor assembly that may include one or more metallic members, strength members, or jackets defines:

- a. Abandoned Communications Cable
- b. Block
- c. Cable
- d. Cable Sheath
- e. Communications Circuit

227. The circuit that extends voice, audio, video, data, interactive services, telegraph (except radio), outside wiring for fire alarm and burglar alarm from the communications utility to the customer's communications equipment up to and including terminal equipment such as a telephone, fax machine, or answering machine defines:

- a. Abandoned Communications Cable
- b. Block
- c. Cable
- d. Cable Sheath
- e. Communications Circuit

228. Cable used in communications systems to ensure continued operation of critical circuits during a specified time under fire conditions defines:

- a. Communications Circuit Integrity Cable
- b. Exposed
- c. Point of Entrance
- d. Premises
- e. Wire

229. A circuit that is in such a position that, in case of failure of supports or insulation, contact with another circuit may result defines:

- a. Communications Circuit Integrity Cable
- b. Exposed
- c. Point of Entrance
- d. Premises
- e. Wire

230. The point within a building at which the communications wire or cable emerges from an external wall or from a concrete floor slab defines:

- a. Communications Circuit Integrity Cable
- b. Exposed
- c. Point of Entrance
- d. Premises
- e. Wire

231. The land and buildings of a user located on the user side of the utility-user network point of demarcation defines:

- a. Communications Circuit Integrity Cable
- b. Exposed
- c. Point of Entrance
- d. Premises
- e. Wire

232. A factory assembly of one or more insulated conductors without an overall covering defines:

- a. Communications Circuit Integrity Cable
- b. Exposed
- c. Point of Entrance
- d. Premises
- e. Wire

233. The point within a building at which the optical fiber cable emerges from an external wall or from a concrete floor slab defines:

- a. Point of Entrance
- b. Exposed
- c. Cable Sheath
- d. Abandoned Optical Fiber Cable

234. A conductive optical fiber cable in such a position that, in case of failure of supports or insulation, contact between the cable's non-current-carrying conductive members and an electrical circuit might result defines:

- a. Point of Entrance
- b. Exposed
- c. Cable Sheath
- d. Abandoned Optical Fiber Cable

235. A covering over the optical fiber assembly that includes one or more jackets and may include one or more metallic members or strength members defines:

- a. Point of Entrance
- b. Exposed
- c. Cable Sheath
- d. Abandoned Optical Fiber Cable

236. Installed optical fiber cable that is not terminated at equipment other than a connector and not identified for future use with a tag defines:

- a. Point of Entrance
- b. Exposed
- c. Cable Sheath
- d. Abandoned Optical Fiber Cable

820.2 Definitions. Community Antenna Television and Radio Distribution Systems

Abandoned Coaxial Cable. Installed coaxial cable that is not terminated at equipment other than a coaxial connector and not identified for future use with a tag.

Exposed (to Accidental Contact). A circuit in such a position that, in case of failure of supports and or insulation, contact with another circuit may result.

Point of Entrance. The point within a building at which the coaxial cable emerges from an external wall or from a concrete floor slab.

Premises. The land and buildings of a user located on the user side of utility-user network point of demarcation.

830.2 Definitions. Network-Powered Broadband Communications Systems

Abandoned Network-Powered Broadband Communications Cable. Installed network-powered broadband communications cable that is not terminated at equipment other than a connector and not identified for future use with a tag.

Block. A square or portion of a city, town, or village enclosed by streets, including the alleys so enclosed but not any street.

Exposed (to Accidental Contact). A circuit in such a position that, in case of failure of supports or insulation, contact with another circuit may result.

Fault Protection Device. An electronic device that is intended for the protection of personnel and functions under fault conditions, such as network-powered broadband communications cable short or open circuit, to limit the current or voltage, or both, for a low-power network-powered broadband communications circuit and provide acceptable protection from electric shock.

Network Interface Unit (NIU). A device that converts a broadband signal into component voice, audio, video, data, and interactive services signals and provides isolation between the network power and the premises signal circuits. These devices often contain primary and secondary protectors.

Network-Powered Broadband Communications Circuit. The circuit extending from the communications utility's serving terminal or tap up to and including the NIU.

Point of Entrance. The point within a building at which the network-powered broadband communications cable emerges from an external wall, from a concrete floor slab, from rigid metal conduit (RMC), or from intermediate metal conduit (IMC).

840.2 Definitions. Premises-Powered Broadband Communications Systems

Network Terminal. A device that converts network-provided signals (optical, electrical, or wireless) into component signals, including voice, audio, video, data, wireless, optical, and interactive services, and is considered a network device on the premises that is connected to a communications service provider and is powered at the premises.

Premises Communications Circuit. The circuit that extends voice, audio, video, data, interactive services, telegraph (except radio), and outside wiring for fire alarm and burglar alarm from the service provider's network terminal to the customer's communications equipment up to and including terminal equipment, such as a telephone, a fax machine, or an answering machine.

Premises Community Antenna Television (CATV) Circuit. The circuit that extends community antenna television (CATV) systems for audio, video, data, and interactive services from the service provider's network terminal to the appropriate customer equipment.

237. A device that converts a broadband signal into component voice, audio, video, data, and interactive services signals and provides isolation between the network power and the premises signal circuits. These devices often contain primary and secondary protectors defines:

- a. Abandoned Network-Powered Broadband Communications Cable.
- b. Block
- c. Fault Protection Device
- d. Exposed
- e. Network Interface Unit

238. An electronic device that is intended for the protection of personnel and functions under fault conditions, such as network-powered broadband communications cable short or open circuit, to limit the current or voltage, or both, for a low-power network-powered broadband communications circuit and provide acceptable protection from electric shock defines:

- a. Abandoned Network-Powered Broadband Communications Cable.
- b. Block
- c. Fault Protection Device
- d. Exposed
- e. Network Interface Unit

239. A circuit in such a position that, in case of failure of supports or insulation, contact with another circuit may result defines:

- a. Abandoned Network-Powered Broadband Communications Cable.
- b. Block
- c. Fault Protection Device
- d. Exposed
- e. Network Interface Unit

240. A square or portion of a city, town, or village enclosed by streets, including the alleys so enclosed but not any street defines:

- a. Abandoned Network-Powered Broadband Communications Cable.
- b. Block
- c. Fault Protection Device
- d. Exposed
- e. Network Interface Unit

2017 NEC Article's Definition Quiz Part 2 Answer Sheet

1	a b c d e	41	a b c d e	81	a b c d e
2	a b c d e	42	a b c d e	82	a b c d e
3	a b c d e	43	a b c d e	83	a b c d e
4	a b c d e	44	a b c d e	84	a b c d e
5	a b c d e	45	a b c d e	85	a b c d e
6	a b c d e	46	a b c d e	86	a b c d e
7	a b c d e	47	a b c d e	87	a b c d e
8	a b c d e	48	a b c d e	88	a b c d e
9	a b c d e	49	a b c d e	89	a b c d e
10	a b c d e	50	a b c d e	90	a b c d e
11	a b c d e	51	a b c d e	91	a b c d e
12	a b c d e	52	a b c d e	92	a b c d e
13	a b c d e	53	a b c d e	93	a b c d e
14	a b c d e	54	a b c d e	94	a b c d e
15	a b c d e	55	a b c d e	95	a b c d e
16	a b c d e	56	a b c d e	96	a b c d e
17	a b c d e	57	a b c d e	97	a b c d e
18	a b c d e	58	a b c d e	98	a b c d e
19	a b c d e	59	a b c d e	99	a b c d e
20	a b c d e	60	a b c d e	100	a b c d e
21	a b c d e	61	a b c d e	101	a b c d e
22	a b c d e	62	a b c d e	102	a b c d e
23	a b c d e	63	a b c d e	103	a b c d e
24	a b c d e	64	a b c d e	104	a b c d e
25	a b c d e	65	a b c d e	105	a b c d e
26	a b c d e	66	a b c d e	106	a b c d e
27	a b c d e	67	a b c d e	107	a b c d e
28	a b c d e	68	a b c d e	108	a b c d e
29	a b c d e	69	a b c d e	109	a b c d e
30	a b c d e	70	a b c d e	110	a b c d e
31	a b c d e	71	a b c d e	111	a b c d e
32	a b c d e	72	a b c d e	112	a b c d e
33	a b c d e	73	a b c d e	113	a b c d e
34	a b c d e	74	a b c d e	114	a b c d e
35	a b c d e	75	a b c d e	115	a b c d e
36	a b c d e	76	a b c d e	116	a b c d e
37	a b c d e	77	a b c d e	117	a b c d e
38	a b c d e	78	a b c d e	118	a b c d e
39	a b c d e	79	a b c d e	119	a b c d e
40	a b c d e	80	a b c d e	120	a b c d e

2017 NEC Article's Definition Quiz Part 2 Answer Sheet Continued

121	a b c d e	161	a b c d e	201	a b c d e
122	a b c d e	162	a b c d e	202	a b c d e
123	a b c d e	163	a b c d e	203	a b c d e
124	a b c d e	164	a b c d e	204	a b c d e
125	a b c d e	165	a b c d e	205	a b c d e
126	a b c d e	166	a b c d e	206	a b c d e
127	a b c d e	167	a b c d e	207	a b c d e
128	a b c d e	168	a b c d e	208	a b c d e
129	a b c d e	169	a b c d e	209	a b c d e
130	a b c d e	170	a b c d e	210	a b c d e
131	a b c d e	171	a b c d e	211	a b c d e
132	a b c d e	172	a b c d e	212	a b c d e
133	a b c d e	173	a b c d e	213	a b c d e
134	a b c d e	174	a b c d e	214	a b c d e
135	a b c d e	175	a b c d e	215	a b c d e
136	a b c d e	176	a b c d e	216	a b c d e
137	a b c d e	177	a b c d e	217	a b c d e
138	a b c d e	178	a b c d e	218	a b c d e
139	a b c d e	179	a b c d e	219	a b c d e
140	a b c d e	180	a b c d e	220	a b c d e
141	a b c d e	181	a b c d e	221	a b c d e
142	a b c d e	182	a b c d e	222	a b c d e
143	a b c d e	183	a b c d e	223	a b c d e
144	a b c d e	184	a b c d e	224	a b c d e
145	a b c d e	185	a b c d e	225	a b c d e
146	a b c d e	186	a b c d e	226	a b c d e
147	a b c d e	187	a b c d e	227	a b c d e
148	a b c d e	188	a b c d e	228	a b c d e
149	a b c d e	189	a b c d e	229	a b c d e
150	a b c d e	190	a b c d e	230	a b c d e
151	a b c d e	191	a b c d e	231	a b c d e
152	a b c d e	192	a b c d e	232	a b c d e
153	a b c d e	193	a b c d e	233	a b c d e
154	a b c d e	194	a b c d e	234	a b c d e
155	a b c d e	195	a b c d e	235	a b c d e
156	a b c d e	196	a b c d e	236	a b c d e
157	a b c d e	197	a b c d e	237	a b c d e
158	a b c d e	198	a b c d e	238	a b c d e
159	a b c d e	199	a b c d e	239	a b c d e
160	a b c d e	200	a b c d e	240	a b c d e

Course Fees \$ 75

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1. Print out first.
2. Fill in all fields applicable.
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-----Educational Course Attendance Verification Form -----

Attendee's name _____ Date _____

Address _____

Credential Numbers _____ Phone# _____

Course Title and Name 2017 NEC Article's Definition Quiz Part 2 Course ID# 961750

List the name of each credential held by attendee _____

Email address _____

Fax# _____

8 hrs. for BE, CEI, IJE, JE, ME, RJE, RME for \$75.00 and 2.5 hrs. for UEI for \$20.00

To be completed by GaryKlinka.com

Attendee passed the course with a greater than 70% score on date _____

Instructor's signature _____