Fiscal Note for
2014 NC Electrical Code including Residential Changes

Agency: NC Building Code Council

Statute: G.S. 143-136; 143-138

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Impact:

Federal Government:	No
State Government:	No
Local Government:	No (minimal)
Substantial Impact:	Yes

Purpose:
The 2014 edition of National Fire Protection Association (NFPA) 70, *National Electrical Code* (NEC) is a model code that regulates minimum electrical construction requirements for new buildings and installations. The *North Carolina Electrical Code* (NCEC) is based on the NEC with North Carolina administrative and technical amendments. The NCEC addresses minimum construction requirements for all aspects of electrical installations in both commercial and residential buildings.

The NC Building Code Council (BCC) has voted to adopt the NEC as the new NCEC with some changes. The proposed NC amendments to the 2014 NEC that the BCC plans to adopt are listed in Appendix A and the 2014 changes in the NEC are presented in Appendix B. Appendix C includes a list of the members of the 2014 NCEC Ad Hoc Committee who voted on the amendments to the 2014 NEC.

The purpose of the NCEC is the practical safeguarding of persons and property from hazards arising from the use of electricity. The NCEC is intended for use by code officials, contractors, and designers. The NCEC is not intended as a design specification or an instruction manual for untrained persons. The NCEC is organized by major content into nine chapters: General, Wiring and Protection, Wiring Methods and Materials, Equipment for General Use, Special Occupancies, Special Equipment, Special Conditions, Communications Systems, and Tables.

For example, before one constructs a building, the designer and contractor must determine the minimum electrical requirements for the building. Depending on whether the project includes AC current or DC current; low-voltage or high-voltage equipment; residential use or commercial use; hazardous locations; the NCEC sets forth minimum requirements for safe electrical power distribution.

Impact:

***Federal Government*:** The US General Services Administration has adopted the technical requirements of the latest edition of the nationally recognized codes, including the current accumulative supplements, in effect at the time of design contract award. The 2014 NEC is the latest edition for electrical installations. Therefore, the 2014 NCEC adoption would have no additional impact on federal buildings.

State Government: The North Carolina Legislature has dictated that all facilities constructed or renovated for the State, 20,000 GSF in area or larger, shall be designed on the basis of life-cycle cost. The goal of this legislation is to ensure that designers maximize the long-term benefits to the State, within the confines of a specific capital appropriation, since it is obvious that the cost imposed on the State over the life of a building far exceeds the initial construction investment. The 2014 NCEC adoption would have negligible impact.

Local Government: The impact to local government would be minimal and due to the purchase of the 2014 NEC for code enforcement. The major proposed changes noted below under "Business" are not likely to affect local government.

Business:
The proposed changes would have an impact (some costs and some savings) on developers. Developers may pass the additional cost on to their customers or the end property user. The increased safety and efficiency as a result of the code change would be of benefit to the end-user of the building.

Below are descriptions of the major proposed changes to the code that would result in an impact and their potential benefits:

- GFCI protection is expanded to be required within 6-feet of the outside edge of a bathtub or shower stall. The number of accidental electrocutions in the USA has been reduced by half since GFCIs were introduced even though electricity use has doubled. Added protection would further reduce deaths. Although there is no available data on non-occupational electrocutions in North Carolina to estimate the possible number of additional deaths averted as a result of this proposed change, it is worth to note that the value of a statistical life that federal agencies use is about $9 million. So, if one death in NC is averted as a result of the proposed change, the benefits would be significant.

- A receptacle outlet is required at each car parking space in a dwelling unit garage. The circuit that supplies this outlet cannot supply outside receptacles. An increasing number of receptacles are being installed in garages to charge electric and hybrid vehicles. The consumer would have those additional outlet installations safe from electrical overload.

- The threshold is raised from 600-volts to 1000-volts for low-voltage systems. This is a coordinated effort throughout the NEC to recognize that commonly used alternative

energy systems operate at over 600-volts. An increasing number of photovoltaic (PV) systems are being installed for power generation. The owner will benefit from lower initial cost of equipment. This decrease may be passed on to the consumer, or reduce the need for an electrical energy price increase as more systems could come online and contribute energy to the power grid.

- Solar PV System requirements are amended to accommodate this growing industry. The low-voltage threshold increase, in conjunction with the PV system amendments, would provide an overall 10% cost savings for commercial installations. This is primarily due to wiring cost savings and increased efficiency of the system. Large solar farm installations will benefit most from this change.

There are additional changes noted in Appendix A that indicate negligible change in cost, and whether it is a decrease, increase, or an unquantifiable change. The discussion below, by code article, addresses most of these changes. Note, not all changes highlighted in Appendix B are proposed to be included in the NCEC as the BCC's 2014 NEC Ad Hoc Committee voted against including some changes from the 2014 NEC into the new version of the NCEC.

Impact Analysis:

110.26(E)(2)(a) and (b)

- 2014 NEC Change: Revised to include requirements for outdoor installations and dedicated space requirements. This requirement is for exterior installations to clarify that the same access is required as for interior installations.
- Proposed NCEC Change: There was concern about limited wall space available; therefore, the BCC 2014 NEC Ad Hoc Committee voted to not include item (b) from the 2014 NEC and retain language from 2011 NEC (i.e. current code language) instead.
- Estimated Impact: No change, so therefore there would be no cost.

210.8(A)(7)

- 2014 NEC Change: Revised to require GFCI protection of 125-volt, 15- and 20-ampere receptacles installed within 6 feet of a kitchen sink that are not covered by the countertop rule in 210.8(A)(6).
- Proposed NCEC Change: There was concern about impact to appliances that are within 6 feet of sink. Therefore, the Committee voted to amend the NEC language to match 2011 NEC language.
- Estimated Impact: No change, so therefore there would be no cost.

210.8(A)(9)

- 2014 NEC Change: New requirement for GFCI protection of 125-volt, 15- and 20-ampere receptacles installed within 6 feet of the outside edge of a bathtub or shower stall.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This requirement is to address receptacles that are beyond the lavatory countertop, but are within 6 feet of a shower or tub, and may be used for small countertop appliances. An increasing number of median to high-end dwellings are built with larger

bathrooms with additional receptacles that are not on the lavatory countertop, but present the same hazard when adjacent to showers and tubs. There was concern about impact to appliances that are within 6 feet of sink.

- Estimated Impact: Likely to impact few receptacles. Most tubs and showers in bathrooms and already covered, so the impact would be a negligible cost increase. There would be a safety benefit to the consumers, who would now have these installations safe from electrical shock.

210.8(A)(10)

- 2014 NEC Change: New requirement for GFCI protection of 125 volt, 15- and 20-ampere receptacles installed in laundry areas.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This requirement is to address laundry area receptacles that are installed in locations where they may be shared with other small appliances. There is an increasing number of median to high-end dwellings are built with larger laundry rooms with shared receptacles and countertops adjacent to washers.
- Estimated Impact: $20/house, which is the current market cost differential for one 15A GFCI receptacle increase over other receptacles. This change would also impact washer receptacle replacement. There would however be a benefit of added protection. The consumer will have these installations safe from electrical shock. This increase would be borne by the contractor who may pass it along to the consumer.

210.8(D)

- 2014 NEC Change: New requirement for GFCI protection of outlets that supply dishwashers installed in dwelling units. This requirement is to coordinate with manufacturer requirements and industry standards, which ensure that there is no leakage current problems at the end of an appliance's life-cycle.
- Proposed NCEC Change: The Committee was concerned about breaker cost for hard-wired. Therefore, the Committee voted to amend the NEC language to match 2011 NEC language.
- Estimated Impact: No change, so therefore there would be no cost.

210.12(A)

- 2014 NEC Change: Revised to expand the AFCI protection requirement to kitchens and laundry areas, and to specify that AFCI protection is required for branch circuits supplying outlets and devices.
- Proposed NCEC Change: The Committee voted to amend the 2014 NEC language from "readily accessible" to "accessible" and to remove kitchens and laundry areas, as well as to amend Residential Code requirements to match since it allows more options for protection.
- Necessity: This requirement is to address access to the AFCI device and eliminate the requirement in kitchens and laundry areas. The function of the AFCI is to protect the branch circuit wiring from dangerous arcing faults that could initiate an electrical fire.
- Estimated Impact: Negligible cost decrease. However, the consumer would have installations that would not detect dangerous electrical arcs.

210.12(A)

- 2014 NEC Change: Revised to identify six permitted methods of providing AFCI protection for branch circuits, and to provide specific requirements covering the use of supplemental and outlet branch-circuit–type AFCIs.
- Proposed NCEC Change: BCC is adopting the 2014 NEC Items 1-6 to allow more options for protection.
- Necessity: This requirement provides 6 options for AFCI protection. A variety of options has become available for this relatively new technology. The change is just explaining what general practice has become and does not impose any limits on what options are currently available.
- Estimated Impact: Negligible cost decrease as the consumer would have more installations safe from dangerous electrical arcs.

210.12(C)

- 2014 NEC Change: New requirement for AFCI protection of outlets supplied by 120 volt, 15- and 20-ampere branch circuits that are installed in certain rooms of a dormitory.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This requirement is to provide AFCI protection in dormitory units where small appliances cords are commons. The function of the AFCI is to protect the branch circuit wiring from dangerous arcing faults that could initiate an electrical fire.
- Estimated Impact: Negligible cost increase, however there would be the benefit of the consumer having more installations safe from dangerous electrical arcs.

210.17

- 2014 NEC Change: New requirement specifying that branch circuits supplying electric vehicle charging equipment are to be dedicated to the EV charging equipment and are not permitted to supply any other outlets or equipment.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This requirement is to provide dedicated circuits for electric vehicle charging. An increasing number of EV charging stations are being installed to serve the electric and hybrid vehicle market.
- Estimated Impact: Negligible cost increase, but there would be the added benefit to the consumer or having installations safe from electrical overload.

210.52(G)(1)

- 2014 NEC Change: Revised to require at least one receptacle outlet at each car parking space in a dwelling unit garage. Cannot supply outside receptacle.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This requirement is to provide dedicated circuits for electric vehicle charging. An increasing number of receptacles are being installed to charge electric and hybrid vehicles.
- Estimated Impact: $20/house to add a 15A receptacle, 15’ wire, and one additional breaker for the garage circuit, based on current market prices for these items. There

would be the added benefit to consumer from having installations safe from electrical overload.

310.104

- 2014 NEC Change: Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the NEC to recognize that commonly used alternative energy systems operate at over 600 volts.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This change is to raise the low voltage threshold to 1000 volts to allow more photovoltaic installations. An increasing number of PV systems are being installed for power generation in mostly larger, commercial or industrial, projects.
- Estimated Impact: Unquantifiable cost decrease. Based on staff best professional knowledge it may be about a 10% reduction in cost, but there is not enough data to estimate this. The rule would allow installers to use less restrictive protection due to raising the low voltage threshold, without really affecting safety. The developer would benefit from lower initial cost of equipment. This decrease may be passed on to the consumer, or reduce the need for an electrical energy price increase.

406.9(B)

- 2014 NEC Change: Revised to require receptacle outlet box covers to be listed for "extra duty" regardless of how the box is mounted. The requirement now applies to all occupancy types.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This requirement is to maintain the durability of exterior receptacles as less durable devices are entering the marketplace.
- Estimated Impact: Negligible cost difference for an "extra duty" receptacle cover, given that there 2 outdoor receptacles on a typical house and that it is the standard practice for most contractors. The consumer would have the continued benefit of having these installations durable and safe from electrical shock and fire hazard.

422.23

- 2014 NEC Change: New requirement for GFCI protection of publically accessed tire inflation and vacuum machines.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This requirement is to provide ground fault circuit interrupter protection for these exposed installations at gas stations where water may be present. A GFCI is a device that shuts off an electric power circuit when it detects that current is flowing along an unintended path, such as through water or a person.
- Estimated Impact: No quantity numbers available, but there may be the added cost for a 15A GFCI breaker or GFCI switch in the worst case scenario, which could be about $15-20 per piece. In actuality there may not be a significant impact as most gas stations are already complying with this requirement. Where the stations would have to incur the cost of compliance, there would be the added benefit that they would have these installations safe from electrical shock.

422.51

- 2014 NEC Change: Revised to also include GFCI protection for vending machines that are not cord-and plug-connected.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This requirement is to provide ground fault circuit interrupter protection for these exposed installations where water may be present. This provides the same protection for hard-wired and cord-and plug-connected vending machines.
- Estimated Impact: The impact would be limited due to most machines being cord and plug connected, and having dead front GFCI or GFCI breaker. There is no information of the additional machines that would need to come into compliance, but for those that do, the consumer would have the added benefit of these installations being safe from electrical shock.

517.16

- 2014 NEC Change: Revised to clarify that isolated ground receptacles are only prohibited in the patient care vicinity, to correlate with NFPA 99, Health Care Facilities Code.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This is to coordinate NFPA 70 and 99 requirements and update the code to meet the NFPA 99-2012 standard.
- Estimated Impact: The requirement is less restrictive and could lead to cost savings without affecting the safety of installations in health care facilities.

517.30(G)

- 2014 NEC Change: New requirement for overcurrent protective devices serving the essential electrical system to be selectively coordinated for the period of time that a fault's duration extends beyond 0.1 second. Two exceptions to the rule address the arrangement between transformer primary and secondary protective devices and overcurrent protective devices of the same ampere rating connected in series.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This is to coordinate NFPA 70 and 99 requirements and update the code to meet the NFPA 99-2012 standard.
- Estimated Impact: Possible cost savings resulting from selective coordination at 0.1 rather than full range (instantaneous). The consumer would have safe installations in health care facilities.

517.30(F)

- 2014 NEC Change: New provision permitting feeders supplied from an alternate power source to supply the essential electrical system to the point at which the life safety, critical, and equipment branches are separated. Installation of the transfer equipment is permitted at other than the location of the alternate power source.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This is to coordinate NFPA 70 and 99 requirements and update the code to meet the NFPA 99-2012 standard.

- Estimated Impact: Possible cost savings due to potential to eliminate an additional ATS, without sacrificing safety of installations in health care facilities.

690.7(C)

- 2014 NEC Change: Revised the threshold voltage for other than one and two family dwellings from 600 to 1000 volts in conjunction with a coordinated effort throughout the NEC to recognize that commonly used alternative energy systems operate at over 600 volts.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This change is to raise the low voltage threshold to 1000 volts to allow more photovoltaic installations. An increasing number of PV systems are being installed for power generation.
- Estimated Impact: About 10% savings for commercial installations. The owner will benefit from lower initial cost of equipment. This decrease may be passed on to the consumer, or reduce the need for an electrical energy price increase.

Article 690 Part IX

- 2014 NEC Change: Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the NEC to recognize that commonly used alternative energy systems operate at over 600 volts.
- Proposed NCEC Change: Adopt the 2014 NEC language.
- Necessity: This change is to raise the low voltage threshold to 1000 volts to allow more photovoltaic installations. An increasing number of PV systems are being installed for power generation.
- Estimated Impact: Included in 10% overall savings for voltage change from 600V – 1000V mentioned above. The owner will benefit from lower initial cost of equipment. This decrease may be passed on to the consumer, or reduce the need for an electrical energy price increase.

There are no proposed individual changes that increase the cost of residential housing by $80/Dwelling. However, based on the number of housing completions forecasted (see Table 1) and the two changes described above that would each increase the cost per house by $20, the totality of the NCEC changes would meet the $1 million threshold for the change to be identified as Substantial Economic Impact rule change.

Table 1. Forecasted Number of Housing Completions and Estimated Added Cost

Year	**2016**	**2017**	**2018**	**2019**	**2020**	**5-year NPV**
Forecasted Housing Completions, Total (Thousands)[1]	55.79	66.10	71.42	73.35	75.47	
210.8(A)(10) GFCI laundry receptacle per house	$20	$20	$20	$20	$20	
210.52(G)(1) Garage receptacle per house	$20	$20	$20	$20	$20	
Total Cost per House	***$40***	***$40***	***$40***	***$40***	***$40***	
Total Estimated Cost ($M)	**$2.2**	**$2.6**	**$2.9**	**$2.9**	**$3.0**	**$11.1**

[1] Forecast data is from the IHS Connect Regional Database.

***Risks*:**
There are several uncertainties related to this analysis, and most of them deal with assumptions made or lack of available data. First, the estimates of the total costs in the table above use the housing completions forecast. However, the changes to the Code would apply to any new installation, regardless of whether it is in an existing or new building. As a result, these numbers may be underestimating the potential cost.

Second, the BCC expects that several of the proposed changes to the Code would results in negligible costs or savings, and therefore did not quantify them. However, given that those changes could impact a significant number of installations, in aggregate they may have a significant positive or negative impact.

Third, given the lack of data, benefits are hard to estimate, therefore this analysis does not present the full impact of the changes. While some of the proposed changes would prevent fire hazards, there is no reliable source for recent fires in North Carolina, or nationally, that could be attributed to an issue that the proposed changes would address. As a result, estimation of avoided fires and damages are difficult to estimate. Also, as there are clear benefits to PV system, those types of installations are new and their number or their cost is highly subject to fluctuation.

Alternatives:
The options available are to:

(1) remain at the current level of protection provided by the 2011 NCEC,
(2) adopt the 2014 NEC without amendments, or
(3) adopt the 2014 NEC with North Carolina amendments.

The NEC is amended and published every 3-years through a consensus process. The 2011 NEC, with amendments, is the current NCEC. The risk in retaining the 2011 NCEC is that industry changes, such as to PV systems, would not be recognized and NC would not be able to take full advantage of these changes, as other states that adopt the NEC might. Further life-safety changes, such as AFCI and GFCI expansions, would not be implemented.

The 2014 NEC is the latest edition published by NFPA. The BCC 2014 NCEC Ad Hoc Committee was concerned with some of the impacts from adopting the 2014 NEC as the NCEC, such as certain changes related to AFCI and GFCI causing cost increases to some buildings.

The preferred option is to adopt the 2014 NEC with the Appendix A amendments. This option captures the national industry and life-safety updates, while allowing input from interested groups represented by Ad Hoc Committee members listed in Appendix C.

Appendix A:
Proposed North Carolina Amendments to 2014 NEC
Prepared by Electrical Adhoc Committee – August 31, 2014

Item 1: Retain language from 2011 NEC for 110.26 (E) (2) – No Cost Impact

(2) Outdoor. ~~Outdoor installations shall comply with 110.26(E)(2)(a) and (b).~~
~~(a) *Installation Requirements.*~~ Outdoor electrical equipment shall be installed in suitable enclosures and shall be protected from accidental contact by unauthorized personnel, or by vehicular traffic, or by accidental spillage or leakage from piping systems. The working clearance space shall include the zone described in 110.26(A). No architectural appurtenance or other equipment shall be located in this zone.
~~(b) *Dedicated Equipment Space.* The space equal to the width and depth of the equipment, and extending from grade to a height of 1.8 m (6 ft) above the equipment, shall be dedicated to the electrical installation. No piping or other equipment foreign to the electrical installation shall be located in this zone.~~

Item 2: Retain Existing NC Electrical Code Amendment to 210.8(A) (3) – No Cost Impact

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

Exception No. 2 to (3): A single outlet receptacle supplied by a dedicated branch circuit which is located and identified for specific use by a sewage lift pump.

Item 3: Retain language from 2011 NEC for 210.8(A) (7) – No Cost Impact

210.8(A) (7) Sinks — located in areas other than kitchens where receptacles are installed within 1.8 m (6 ft) of the outside edge of the sink.

Item 4: Remove GFCI requirement for kitchen dishwasher branch circuit. This was not a requirement in the 2011 NEC. – No Cost Impact

~~**210.8 (D) Kitchen Dishwasher Branch Circuit.** GFCI protection shall be provided for outlets that supply dishwashers installed in dwelling unit locations.~~

Item 5: Retain location requirements from 2011 NEC for AFCI Protection and remove term "readily". – No Cost Impact

210.12 Arc-Fault Circuit-Interrupter Protection. Arc-fault circuit-interrupter protection shall be provided as required in 210.12(A) (B), and (C). The arc-fault circuit interrupter shall be installed in an ~~readily~~ accessible location.
(A) Dwelling Units. All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in dwelling unit ~~kitchens,~~ family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, ~~laundry areas,~~ or similar rooms or areas shall be protected by any of the means described in 210.12(A)(1) through (6):

(1) A listed combination-type arc-fault circuit interrupter, installed to provide protection of the entire branch circuit

(2) A listed branch/feeder-type AFCI installed at the origin of the branch-circuit in combination with a listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet box on the branch circuit. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.

(3) A listed supplemental arc protection circuit breaker installed at the origin of the branch circuit in combination with a listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet box on the branch circuit where all of the following conditions are met:
a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.
b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor.
c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.

(4) A listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet on the branch circuit in combination with a listed branch-circuit overcurrent protective device where all of the following conditions are met:
a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.
b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor.
c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.
d. The combination of the branch-circuit overcurrent device and outlet branch-circuit AFCI shall be identified as meeting the requirements for a system combination–type AFCI and shall be listed as such.

(5) If RMC, IMC, EMT, Type MC, or steel-armored Type AC cables meeting the requirements of 250.118, metal wireways, metal auxiliary gutters, and metal outlet and junction boxes are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.

(6) Where a listed metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 50 mm (2 in.) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.

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

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

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

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

Item 6: Remove exception for 6' extension at 210.12 (B). – No Cost Impact

(B) Branch Circuit Extensions or Modifications — Dwelling Units. In any of the areas specified in 210.12(A), where branch-circuit wiring is modified, replaced, or extended, the branch circuit shall be protected by one of the following:

(1) A listed combination-type AFCI located at the origin of the branch circuit

(2) A listed outlet branch-circuit type AFCI located at the first receptacle outlet of the existing branch circuit
~~*Exception: AFCI protection shall not be required where the extension of the existing conductors is not more than 1.8 m (6 ft) and does not include any additional outlets or devices.*~~

Item 7: Revise to reflect NC Electrical Code Amendment with January 1, 2015 effective date. - No Cost Impact

210.52 (I) Foyers. Foyers that are not part of a hallway in accordance with 210.52(H) and that have an area that is greater than 5.6 m^2 (60 ft^2) shall have at least one receptacle~~(s) located in each wall space 900 mm (3 ft) or more in width. Doorways, door-side windows that extend to the floor, and similar openings shall not be considered wall space~~.

Item 8: Retain Existing NC Electrical Code Amendment to 250.50 – No Cost Impact

250.50 Grounding Electrode System. All grounding electrodes as described in 250.52(A)(1) through (A)(7) that are available ~~present~~ at each building or structure served shall be bonded together to form the grounding electrode system. Where none of these grounding electrodes exist, one or more of the grounding electrodes specified in 250.52(A)(4) through (A)(8) shall be installed and used.

Item 9: Modify 250.53 (A) (2) to match D-1 Agenda Item – No Cost Impact

250.53 (A) (2)
Exception No. 1: If a single, rod, pipe, or plate grounding electrode has a resistance to earth of 25 ohms or less, the supplemental electrode shall not be required.

Exception No. 2: The supplemental ground electrode shall not be required at temporary electrical service installation (saw service pole) at construction site for one and two-family residences, provided the temporary electrical service does not exceed 150 volts to ground or 100A.

Item 10: Retain Table and Language of 2011 NEC related to sizing of Dwelling Services and Feeders – No Cost Impact

310.15 (B) (7) 120/240-Volt, Single-Phase Dwelling Services and Feeders.
~~For one-family dwellings and the individual dwelling units of two-family and multifamily dwellings, service and feeder conductors supplied by a single-phase,
120/240-volt system shall be permitted be sized in accordance with 310.15(B)(7)(1) through (4).
(1) For a service rated 100 through 400 A, the service conductors supplying the entire load associated with a one-family dwelling, or the service conductors supplying the entire load associated with an individual dwelling unit in a two-family or multifamily dwelling, shall be permitted to have an ampacity not less than 83 percent of the service rating.
(2) For a feeder rated 100 through 400 A, the feeder conductors supplying the entire load associated with a one-family dwelling, or the feeder conductors supplying the entire load associated with an individual dwelling, unit~~

~~in a two-family or multifamily dwelling, shall be permitted to have an ampacity not less than 83 percent of the feeder rating.~~
~~(3) In no case shall a feeder for an individual dwelling unit be required to have an ampacity greater than that specified in 310.15(B)(7)(1) or (2).~~
~~(4) Grounded conductors shall be permitted to be sized smaller than the ungrounded conductors, provided that the requirements of 220.61 and 230.42 for service conductors or the requirements of 215.2 and 220.61 for feeder conductors are met.~~
~~Informational Note No. 1: The conductor ampacity may require other correction or adjustment factors applicable to the conductor installation.~~
~~Informational Note No. 2: See Example D7 in Annex D.~~

Delete Example D7 in 2014 NEC

Replace with 2011 NEC text & table:

310.15 (B) (7) 120/240-Volt, 3-Wire, Single-Phase Dwelling Services and Feeders. For individual dwelling units of one-family, two-family, and multifamily dwellings, conductors, as listed in Table 310.15(B)(7), shall be permitted as
120/240-volt, 3-wire, single-phase service-entrance conductors, service-lateral conductors, and feeder conductors that serve as the main power feeder to each dwelling unit and are installed in raceway or cable with or without an equipment grounding conductor. For application of this section, the main power feeder shall be the feeder between the main disconnect and the panelboard that supplies, either by branch circuits or by feeders, or both, all loads that are part or associated with the dwelling unit. The feeder conductors to a dwelling unit shall not be required to have an allowable ampacity rating greater than their service-entrance conductors. The grounded conductor shall be permitted to be smaller than the ungrounded conductors, provided the requirements of 215.2, 220.61, and 230.42 are met.

Table 310.15(B)(7) Conductor Types and Sizes for 120/240-Volt, 3-Wire, Single-Phase Dwelling Services and Feeders. Conductor Types RHH, RHW, RHW-2, THHN, THHW, THW, THW-2, THWN, THWN-2, XHHW, XHHW-2, SE, USE, USE-2

	Conductor (AWG or kcmil)	
Service or Feeder Rating (Amperes)	Copper	Aluminum or Copper-Clad Aluminum
100	4	2
110	3	1
125	2	1/0
150	1	2/0
175	1/0	3/0
200	2/0	4/0
225	3/0	250
250	4/0	300
300	250	350
350	350	500
400	400	600

Item 11: Retain Existing NC Electrical Code Amendment to 334.15 (C) – No Cost Impact

334.15 (C) In Unfinished Basements ~~and Crawl Spaces~~. Where cable is run at angles with joists in unfinished basements, ~~and crawl spaces,~~ it shall be permissible to secure cables not smaller than two 6 AWG or three 8 AWG conductors directly to the lower edges of the joists. Smaller cables shall be run either through bored holes in joists or on running boards. Nonmetallic-sheathed cable installed on the wall of an unfinished basement shall be permitted to be installed in a listed conduit or tubing or shall be protected in accordance with 300.4. Conduit or tubing shall be provided with a suitable insulating bushing or adapter at the point the cable enters the raceway. The sheath of the nonmetallic-sheathed cable shall extend through the conduit or tubing and into the outlet or device box not less than 6 mm (¼ in.). The cable shall be secured within 300 mm (12 in.) of the point where the cable enters the conduit or tubing. Metal conduit, tubing, and metal outlet boxes shall be connected to an equipment grounding conductor complying with the provisions of 250.86 and 250.148.

Item 12: Revise to reflect NC Electrical Code Amendment with January 1, 2015 effective date. – No Cost Impact

Article 404.2(C)
(8) Where installed in residential one- and two- family dwellings

Item 13: Remove term "readily" from 406.4 (D) and add new exception – No Cost Impact

406.4 (D) Replacements. Replacement of receptacles shall comply with 406.4(D)(1) through (D)(6), as applicable. Arc-fault circuit-interrupter type and ground-fault circuit-interrupter type receptacles shall be installed in an ~~readily~~ accessible location.
(1) Grounding-Type Receptacles. Where a grounding means exists in the receptacle enclosure or an equipment grounding conductor is installed in accordance with 250.130(C), grounding-type receptacles shall be used and shall be connected to the equipment grounding conductor in accordance with 406.4(C) or 250.130(C).

(2) Non–Grounding-Type Receptacles. Where attachment to an equipment grounding conductor does not exist in the receptacle enclosure, the installation shall comply with (D)(2)(a), (D)(2)(b), or (D)(2)(c).
(a) A non–grounding-type receptacle(s) shall be permitted to be replaced with another non–grounding-type receptacle(s).
(b) A non–grounding-type receptacle(s) shall be permitted to be replaced with a ground-fault circuit interrupter type of receptacle(s). These receptacles shall be marked "No Equipment Ground." An equipment grounding conductor shall not be connected from the ground-fault circuit-interrupter-type receptacle to any outlet supplied from the ground-fault circuit-interrupter receptacle.
(c) A non–grounding-type receptacle(s) shall be permitted to be replaced with a grounding-type receptacle(s) where supplied through a ground-fault circuit interrupter. Grounding-type receptacles supplied through the ground-fault circuit interrupter shall be marked "GFCI Protected" and "No Equipment Ground." An equipment grounding conductor shall not be connected between the grounding type receptacles.

(3) Ground-Fault Circuit Interrupters. Ground-fault circuit-interrupter protected receptacles shall be provided where replacements are made at receptacle outlets that are required to be so protected elsewhere in this *Code*.
Exception: Where replacement of the receptacle type is impracticable, such as where the outlet box size will not permit the installation of the GFCI receptacle, the receptacle shall be permitted to be replaced with a new receptacle of the existing type, where GFCI protection is provided and the receptacle is marked "GFCI protected" and "no equipment ground," in accordance with 406.4(D)(2) (a), (b), or (c).

(4) Arc-Fault Circuit-Interrupter Protection. Where a receptacle outlet is supplied by a branch circuit that requires arc-fault circuit-interrupter protection as specified elsewhere in this *Code*, a replacement receptacle at this outlet shall be one of the following:
(1) A listed outlet branch-circuit type arc-fault circuit-interrupter receptacle
(2) A receptacle protected by a listed outlet branch-circuit type arc-fault circuit-interrupter type receptacle
(3) A receptacle protected by a listed combination type arc-fault circuit-interrupter type circuit breaker

This requirement becomes effective January 1, 2014.
Exception: Non-grounding type receptacles.

(5) Tamper-Resistant Receptacles. Listed tamper-resistant receptacles shall be provided where replacements are made at receptacle outlets that are required to be tamper-resistant elsewhere in this *Code*.

(6) Weather-Resistant Receptacles. Weather-resistant receptacles shall be provided where replacements are made at receptacle outlets that are required to be so protected elsewhere in this *Code*.

Item 14: For one- and two-family residences, remove term "readily" from 422.5 – No Cost Impact

422.5 Ground-Fault Circuit-Interrupter (GFCI) Protection. The device providing GFCI protection required in this article shall be readily accessible.
Exception: For one- and two-family residences, the device providing the GFCI protection required in this article shall be accessible.

Item 15: Retain Existing NC Electrical Code Amendment, Article 10. - No Cost Impact
(PLEASE NOTE I HAVE HIGHLIGHTED LANGUAGE THAT WILL NEED TO BE EDITED)

Article 10 - ADMINISTRATIVE SECTION

10.1 TITLE
These Administrative Regulations along with the requirements included in the 2014 Edition of the National Electrical Code (NFPA-70 - 2014) as adopted by the North Carolina Building Code Council on (DATE TO BE DETERMINED), to be effective (DATE TO BE DETERMINED), with the following amendments:
PROVIDE LIST OF ALL NC AMENDMENTS
shall be known as the North Carolina Electrical Code, and may be cited as such or as the State Electrical Code; and will be referred to herein as "the code" or "this code".

10.2 SCOPE
Article 80 Administration and Enforcement of the code is hereby not adopted and does not apply for this code. For Scope and Exceptions to Applicability of Technical Codes, refer to the North Carolina Administrative Code and Policies.

10.3 PURPOSE
The purpose of the code is to provide minimum standards, provisions and requirements of safe and stable design, methods of construction and uses of materials in buildings or structures hereafter erected, constructed, enlarged, altered, repaired, moved, converted to other uses of demolished and to regulate the electrical systems, equipment, maintenance, use and occupancy of all buildings or structures. All regulations contained in this code have a reasonable and substantial connection with the public health, safety, morals, or general welfare, and their provisions shall be construed liberally to those ends.

10.4 ADMINISTRATION
For administrative regulations pertaining to inspection (rough-ins and finals), permits and Certificates of Electrical Compliance, see local ordinances and the North Carolina Administrative Code and Policies. When the provisions of other codes are determined to be contrary to the requirements of this code, this code shall prevail.

10.5 DEFINITION
Unless the context indicates otherwise, whenever the word "building" is used in this chapter, it shall be deemed to include the word "structure" and all installations such as plumbing systems, heating systems, cooling systems, electrical systems, elevators and other installations which are parts of, or permanently affixed to, the building or structure.

10.6 APPLICATION OF CODE TO EXISTING BUILDINGS
For requirements of existing structures, refer to the North Carolina Administrative Code and Policies.

10.7 SERVICE UTILITIES
10.7.1 Connection of Service Utilities – No person shall make connections from a utility, source of energy, fuel or power to any building or system which is regulated by the technical codes until approved by the Inspection Department and a Certificate of Compliance is issued (General Statute 143-143.2)
10.7.2 Authority to disconnect Service Utilities – The Inspection Department shall have the authority to require disconnecting a utility service to the building, structure or system regulated by the technical codes, in case of emergency or where necessary to eliminate an imminent hazard to life or property. The Inspection Department shall have the authority to disconnect a utility service when a building has been occupied prior to Certificate of Compliance or entry into the building for purposes of making inspections cannot be readily granted. The Inspection Department shall notify the serving utility, and whenever possible the owner or occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner or occupant shall be notified in writing within eight (8) working hours (General Statutes 143-143.2, 153A-365, 153A-366, 160A-425 and 160A-426). **NORTH CAROLINA ELECTRICAL CODE, 2014 EDITION**

10.8 TEMPORARY POWER

10.8.1 Scope. The provisions of this section apply to the utilization of portions of the wiring system within a building to facilitate construction.
10.8.2 Provisions for Temporary Power. The Code enforcement official shall give permission and issue a permit to energize the electrical service when the provisions of 10.8 and the following requirements have been met:
1) The service wiring and equipment, including the meter socket enclosure, shall be installed, the service wiring terminated, and the service equipment covers installed.
2) The portions of the electrical system that are to be energized shall be complete and physically protected.
3) The grounding electrode system shall be complete.
4) The grounding and the grounded conductors shall be terminated in the service equipment.
5) At least one receptacle outlet with ground fault circuit interrupter protection for personnel shall be installed with the circuit wiring terminated.
6) The applicable requirements of the North Carolina Electrical Code apply.
10.8.3 Uses Prohibited. In no case shall any portion of the permanent wiring be energized until the portions have been inspected and approved by an electrical Code Enforcement Official. Failure to comply with this section may result in disconnection of power or revocation of permit.
10.8.4 Application for Temporary Power. Application for temporary power shall be made by and in the name of the applicant. The application shall explicitly state the port portions of the energized electrical system, mechanical system, or plumbing system for which application is made, its intended use and duration.
10.8.5 Security and Notification. The applicant shall maintain the energized electrical system or that portion of the building containing the energized electrical system in a secured and locked manner or under constant supervision to exclude unauthorized personnel. The applicant shall alert personnel working in the vicinity of the energized electrical system to its presence.

10.9 Requirements of Other State Agencies, Occupational Licensing Boards, or Commissions
The North Carolina State Building Codes do not include all additional requirements for buildings and structures that may be imposed by other State agencies, occupational licensing boards, and commissions. It shall be the responsibility of a permit holder, design professional, contractor, or occupational license holder to determine whether any additional requirements exist.

Appendix B:
2014 NEC Summary of Changes[1]

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Section	**ROP/ROC**	**Synopsis of Change**			
90.1(A)	ROC 1-1	Revised to include "This *Code* is not intended as a design specification or an instruction manual for untrained persons" under the scope of the *Code*.			
90.2(C)	ROP 1-15	Revised to clearly specify that installations qualify under this provision where the service equipment is either installed outside a building or structure or terminates inside at a readily accessible location.			
90.8(B)	ROP 1-19	Revised by deleting "in one circuit" to enhance usability and understanding of the requirement of this section.			
Chapter 1 Summary of Changes in 2014 NEC®					
Article 100					
Section	**ROP/ROC**	**Synopsis of Change**			
100 Scope and Part II	ROC 1-10	Revised the second sentence of the second paragraph of the Scope of Article 100 by adding "articles and" to precede "parts of articles." Revised the opening statement of Part II of Article 100 to clarify Part II is applicable to equipment and installations over 600 volts.			
Accessible, Readily (Readily Accessible)	ROC 1-13	Revised by adding the words "to actions such as; to use tools" to clarify the need to use a tool would add another level of action that would impede or delay access.			
Adjustable-Speed Drive	ROP 11-75	Revised to specify the function as power conversion equipment that adjusts the speed of a motor. Relocated to Article 100 because the term is used in Articles 100, 110, and 430.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Adjustable-Speed Drive System	ROP 11-3, ROP 11-75	Revised to clarify the equipment that comprises the adjustable speed drive system. Relocated to Article 100 because the term is used in Articles 100, 110, and 430.			
Alternate Power Source	ROP 15-3	Relocated to Article 100 because the term is used in Articles 517, 551, 695, 700, 701, 702, & 708.			
Askarel	ROC 9-1	Revised by removing explanatory material and relocating it to a new Informational Note.			
Battery System	ROP 13-3	Relocated to Article 100 because the term is used in Articles 480, 517, 690, 694, 700, and 701.			
Cable Routing Assembly	ROC 16-5	Revised to include “power-limited fire alarm cables” and relocated to Article 100 because the term is used in Articles 725, 760, 770, 800, 820, and 830.			
Charge Controller	ROP 4-4	Relocated to Article 100 because the term is used in Articles 690 and 694.			
Communications Equipment	ROP 16-6	Revised to include “and conductors dedicated solely for the operation of the equipment” to specify the conductors that are associated with the mentioned equipment.			
Communications Raceway	ROC 16-3	Relocated to Article 100 because the term is used in Articles 770, 800, 820, 830, and 840.			
Concealed	ROP 1-31	Revised by removing explanatory material and relocating to a new Informational Note.			
Control Circuit	ROP 11-5, ROP 11-8	Relocated to Article 100 because the term is used in Articles 225, 230, 240, 250, 300, 392, 409, 430, 440, 490, 517, 522, 604, 610, 620, 668, 685, 708, and 727.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Coordination (Selective)	ROC 10-2	Revised by deleting the word “choice” and adding “selection and installation” to improve clarity. Added the phrase “and for the full range of overcurrent protective device opening times associated with those overcurrents” to clarify the definition.			
Copper-Clad Aluminum Conductor	ROP 6-4	Revised to clearly describe the percentage of copper that comprises each solid conductor or conductor strand.			
Device	ROP 1-31a	Revised by adding “other than a conductor” to clearly state a device does not include a conductor.			
Effective Ground-Fault Current Path	ROP 5-6	Relocated to Article 100 because the term is used in Articles 250, 404, and 517.			
Electric-Discharge Lighting	ROP 18-3	Relocated to Article 100 because the term is used in Articles 100, 210, 225, 300, 310, 410, 450, 501, 502, 530, 600, and 604.			
Electronically Actuated Fuse	ROC 10-4	Revised by removing explanatory material and relocating to a new Informational Note: “Electronically actuated fuses may or may not operate in a current-limiting fashion, depending on the type of control selected.”			
Exposed	ROP 1-49	Revised by removing explanatory material and relocating to a new Informational Note: “It is applied to parts that are not suitably guarded, isolated, or insulated.”			
Exposed Conductive Services	ROP 15-4	Relocated to Article 100 because the term is used in Articles 314, 517, and 668.			
Ground-Fault Current Path	ROP 5-13, ROP 5-14	Relocated to Article 100 because the term is used in Articles 100, 250, 610, and 690.			
Grounding Conductor, Equipment (EGC)	ROP 5-14a	Revised to clearly describe the ground-fault current path function of the EGC.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Hermetic Refrigerant Motor-compressor	ROP 11-6	Relocated to Article 100 because the term is used in Articles 220, 422, 424, 430, and 440.			
Industrial Control Panel	ROP 11-7	Relocated to Article 100 because the term is used in Articles 110, 409, 440, 670, 500, 505, 520, 620, 665, 675, 680, and 760.			
Intersystem Bonding Termination	ROP 5-16	Revised to clarify that the bonding conductors connected to this equipment are only those required by 250.94 for intersystem bonding.			
Lighting Track (Track Lighting)	ROP 18-5	Relocated to Article 100 because the term is used in Articles 220 and 410.			
Location, Damp	ROP 1-52	Revised by removing explanatory material and relocating to a new Informational Note.			
Overcurrent Protective Device, Branch-Circuit	ROC 10-5	Revised by removing explanatory material and relocating to a new Informational Note.			
Photovoltaic (PV) System	ROP 4-8a, ROP 4-154, ROC 4-1	Revised by removing “solar” from the defined term. Relocated to Article 100 because the term is used in Articles 100, 200, 220, 225, 230, 240, 250, 300, 340, 625, 690, and 705.			
Premises Wiring (System)	ROP 1-61	New Informational Note: “Power sources include, but are not limited to, interconnected or stand-alone batteries, solar photovoltaic systems, other distributed generation systems, or generators.”			
Informational Note					
Raceway	ROP 8-24	Revised by removing examples of raceways and providing an Informational Note indicating that the use of a particular wiring method as a raceway is defined in the Chapter 3 article covering that wiring method.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Retrofit Kit	ROP 18-9	New definition for a type of equipment associated with luminaires and electric signs that is covered by requirements in Articles 410 and 600.			
Sealable Equipment	ROP 1-63	Revised by removing explanatory material and relocating to a new Informational Note: "The equipment may or may not be operable without opening the enclosure."			
Separately Derived System	ROC 5-6	Revised for simplicity and to clearly describe the types of electrical supply systems that are subject to the requirements in Article 250 covering separately derived systems.			
Substation	ROP 4-10, ROP 9-8a	Relocated to Article 100 because the term is used in Articles 90, 110, 225, 240, 250, 490, and 530. Revised to describe that this equipment is used for the distribution of, in addition to switching and changing the characteristic(s) of, electric energy.			
Switchboard	ROC 9-8	Revised by removing explanatory material and relocating to a new Informational Note: "Switchboards are generally accessible from the rear as well as from the front and are not intended to be installed in cabinets."			
Switchgear	ROC 1-14	Revised the definition title *Metal-Enclosed Power Switchgear* to *Switchgear*. Added a new Informational Note: "All switchgear subject to *NEC* requirements is metal enclosed. Switchgear rated below 600 (or 1000) volts may be identified as "Low-Voltage Power Circuit Breaker Switchgear." Switchgear rated over 1000 volts may be identified as "Metal-Enclosed Switchgear" or "Metal-Clad Switchgear." Switchgear is available in non-arc-resistant or arc-resistant constructions."			
Voltage, Nominal	ROP 1-68	Revised by removing explanatory material and relocating to a new Informational Note: "The actual voltage at which a circuit operates can vary from the nominal within a range that permits satisfactory operation of equipment."			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 110					
Section	**ROP/ROC**	**Synopsis of Change**			
110.9	ROP 1-85a, ROC 1-36	Revised for clarity and usability.	N	N	
110.12 Informational Note	ROP 1-90	Revised by updating the title and edition year of the standard referenced.	N	N	
110.14 Informational Note	ROP 1-93	Revised the Informational Note to recognize that terminations and equipment may be identified by tightening torque in the installation instructions provided.	N	N	
110.14(B)	ROP 1-96	Revised by including the term "identified" and deleting "identified for the purpose" to provide consistency with the definition of *identified* in Article 100.	N	N	
110.16	ROC 1-47	Revised by adding the term "switchgear" and providing provisions for durability requirements for labels.	N	N	
110.16	ROP 1-102	Revised to require marking to meet requirements in new Section 110.21(B).	N	N	
110.16	ROP 1-105, ROP 1-107	Revised to include "factory" to the rule, to allow label application to be either field or factory applied.	N	N	
110.16 Informational Note 1	ROP 1-109	Revised by updating reference to latest edition of NFPA 70E.	N	N	
110.21(A) and (B) Informational Note	ROC 1-61	Revised to include requirements for hazard marking where caution, warning, or danger signs or labels are required by the *Code*. Marking shall adequately warn of the hazard using effective words and/or colors and/or symbols. A new Informational Note refers to ANSI Z535.4-2011, Product Safety Signs and Labels, for guidelines.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
110.22(B) and (C)	ROP 1-117	Revised to require marking to meet requirements in new Section 110.21(B).	N	N	
110.24 Informational Note	ROC 1-64	New Informational Note: "The available fault current marking(s) addressed in 110.24 are related to required short-circuit current ratings of equipment. NFPA 70E-2012, *Standard for Electrical Safety in the Workplace,* provides assistance in determining severity of potential exposure, planning safe work practices, and selecting personal protective equipment."	N	N	
110.25	ROC 1-76	New section that provides consistent requirements for *Code* rules that require a lockable disconnecting means. The new section includes an exception for cord and plug connection, in that locking provisions are not required to remain in place.	N	N	
				N	
110.26(A)(1)	ROP 9-14b	Revised to include switchgear as equipment exempt from working space in the back or sides, where all connections and renewable or adjustable parts are accessible from other than the back or sides.	N	N	
110.26(C)(3)	ROP 1-143a	Revised personnel door requirements by reducing the 1200-ampere threshold to 800 amperes.	N	N	
110.26(C)(3)	ROP 1-145	Revised to require "listed panic hardware" and to remove the phrase "simple pressure plates."	N	N	
110.26(D)	ROP 9-14c	Revised to include switchgear as equipment requiring illumination.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
110.26(E)	ROP 9-14d	Revised to include switchgear as equipment required to be located in dedicated space and protected from damage.	N	N	
110.26(E)(2)(a) and (b)	ROP 1-154, ROP 1-155	Revised to include requirements for outdoor installations dedicated space requirements.	N	Y, concern about limited wall space available	Terry-M, Tim-S, Amend to delete item (b), retain language from 2011, 6-Y, 3-N
110.27(A)(4)	ROC 1-94	Revised to reflect elevation requirements for voltage thresholds.	N	N	
110.27(C)	ROP 1-159	Revised to require marking to meet requirements in new Section 110.21(B).	N	N	
110.28	ROP 9-14e	Revised to include switchgear as equipment required to be marked with an enclosure-type number as shown in Table 110.28.	N	N	
110.31(A)(3)(1)	ROP 9-14g	Revised by replacing the term “switchboard” with “switchgear,” to correlate with the revised defined term in Article 100.	N	N	
110.31(A)(5)	ROP 1-163, ROC 1-99	Revised by updating the edition of the ASTM Standard, and deleted reference to NFPA 251.	N	N	
110.33(A)(3)	ROP 1-169a	Revised to require “listed panic hardware” and to remove the terms “simple pressure plates.”	N	N	
110.31(B)(1)	ROP 9-14f	Revised the term “metal-enclosed switchgear” to “switchgear” for correlation with the revision made to the defined term in Article 100.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
110.34(A) Exception	ROP 9-14h	Revised by replacing the term "dead-front switchboards" with "switchgear" to correlate with the revised defined term in Article 100.	N	N	
110.34(C)	ROP 1-175	Revised to require marking to meet requirements in new Section 110.21(B).	N	N	
110.34(F)	ROP 9-14i	Revised by replacing the term "switchboard" with "switchgear" to correlate with the revised defined term in Article 100.	N	N	
110.36	ROP 1-178	Revised by adding Type MC to the description for metal clad cable.	N	N	
Chapter 2 Summary of Changes in 2014 NEC®					
Article 200					
Section	**ROP/ROC**	**Synopsis of Change**			
200.2(A)	ROP 5-28	Revised the phrase "circuits of less than 1000 volts" to "systems of 1000 volts and less" for correlation with other standards and with Part X of Article 250.	N	N	
200.4(B)	ROP 5-29	New requirement for grouping of circuit conductor sets where the grounded conductors of different circuits are installed in the same enclosure.	N	N	
200.6(A)(3),(B)(3), 200.6(E), 200.7, 200.7(A)(2), 200.7 (B), 200.7(C)(1) and (C)(2)	ROP 5-31, ROP 5-33, ROP 5-34, ROP 5-35, ROP 5-36, ROP 5-38, ROP 5-40, ROP 5-41	Revised to permit three continuous gray stripes on conductor insulation as a means to identify the grounded conductor of a circuit.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 210					
Section	**ROP/ROC**	**Synopsis of Change**			
210.4(D) Exception	ROP 2-19	Revised to permit "numbered" tags at conductor terminations as a means of identifying the ungrounded and grounded conductors associated with a specific multiwire branch circuit.	N	N	Y
210.5(C)(2)	ROP 2-23	New requirement for 6 AWG and smaller and for 4 AWG and larger conductors that provides specific color or marking identification means for the positive and negative branch circuit conductors where supplied by a dc system operating at greater than 50 volts.	N	N	Terry-M, Ron-S, Amend residential code to include, 9-Y
210.8(A)(7)	ROC 2-20	Revised to require GFCI protection of 125-volt, 15- and 20-ampere receptacles installed within 6 ft of a kitchen sink that are not covered by the countertop rule in 210.8(A)(6).	? – Likely to impact few receptacles	Y, concern about impact to appliances that are within 6' vs sink	Eric-M, Tim F-S, amend to match 2011 language, Y-7, N-2
210.8(A)(9)	ROP 2-46	New requirement for GFCI protection of 125-volt, 15- and 20-ampere receptacles installed within 6 ft of the outside edge of a bathtub or shower stall.	? – Likely to impact few receptacles. Most tubs and showers in bathrooms and already covered	Y	Terry-M, Tim F-S, Amend Residential to include this language, Y-9
210.8(A)(10)	ROP 2-47	New requirement for GFCI protection of 125 volt, 15- and 20-ampere receptacles installed in laundry areas.	$ _____/house Cost of one 15A GFCI receptacle increase over other receptacle, also impacts washer receptacle replacements, benefit protection	Y	Wade-M, Cindy-S, Amend Residential to include this languageY-8, N-1

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
210.8(B)(3) Exception No. 1	ROP 2-52	Revised to specify that receptacles installed on a rooftop are only required to be readily accessible from the rooftop level.	N	N	
210.8(B)(8)	ROP 2-49, ROP 2-50, ROC 2-27	Revised to require GFCI protection of all 125-volt, 15- and 20-ampere receptacles installed in garages located at other than dwelling units. The requirement does not apply to receptacles installed in showroom or exhibition areas.	N	N	
210.8(D)	ROC 2-29	New requirement for GFCI protection of outlets that supply dishwashers installed in dwelling units.	Breaker cost? Are most plug or hard-wired	Y	Tim F-M, Eric-S, Amend to remove Item D, 6-Y, 3-N
210.11(C)(3)	ROC 2-35	Revised to specify the voltage rating (120 volts) for the required 20-ampere branch circuit(s) supplying dwelling unit bathrooms.	N	N	
210.12(A)	ROP 2-80, ROP 2-82a, ROP 2-85,	Revised to expand the AFCI protection requirement to kitchens and laundry areas, and to specify that AFCI protection is required for branch circuits supplying outlets and devices.	Y	Y	M-Terry, S-Julian -Amend to Change language from “readily accessible” to “accessible” and to remove kitchens and laundry areas. Amend Residential Code to match since it allows more options for protection, Y-7, N-2

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
210.12(A)	ROC 2-52	Revised to identify six permitted methods of providing AFCI protection for branch circuits, and to provide specific requirements covering the use of supplemental and outlet branch-circuit–type AFCIs.	Y – are there any items in List 1-6 that allow more and better options	Y	See above
210.12(B)	ROP 2-115	New exception permitting branch circuit conductors to be extended 6 ft or less, provided no new outlets or devices are supplied by those conductors.	N	Y	Terry-M, Tim F-S, Amend to remove the Exception. DOI Interpretation for moving panelboard to remain., Y-7
210.12(C)	ROC 2-37	New requirement for AFCI protection of outlets supplied by 120 volt, 15- and 20-ampere branch circuits that are installed in certain rooms of a dormitory.	Y	Y	Terry-M, Ron-S, Motion to adopt, N-1, Y-7
210.13	ROP 2-125	New requirement for ground-fault protection of equipment where a branch-circuit disconnecting means is rated 1000 amperes or more and is supplied from a solidly-grounded, wye-connected system operating over 150 volts to ground, but not more than 600 volts phase to phase.	Probably limited, would only impact large equipment supplied by branch circuit	N	
210.17	ROP 2-128a	New requirement specifying that branch circuits supplying electric vehicle charging equipment are to be dedicated to the EV charging equipment and are not permitted to supply any other outlets or equipment.	Y	?, I would not think so	Terry-M, Tim M-S, Amend Residential Code to include, 8-Y

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
210.19(A)(1)	ROP 2-131	Revised to clarify that it is only required to increase ampacity of branch-circuit conductors for ampacity correction/adjustment or for supplying a continuous load, but not for both. Conductor selection is to be based on whichever calculation yields the highest ampacity.	N	N	
210.21(B)(3) Exceptions No. 1 and No. 2	ROP 2-137	Revised exceptions for language, to be consistent with the same exceptions in 210.21(B)(1).	N	N	
210.22	ROP 2-139	New section that relocates existing provisions into a separate requirement covering loads permitted to be supplied by an individual branch circuit.	N	N	
210.23	ROP 2-141	Revised to cover only loads permitted to be supplied by a multioutlet branch circuit or a branch circuit with more than one receptacle.	N	N	
210.50 Informational Note	ROP 2-143a	New Informational Note referencing Annex J for information contained in Americans with Disabilities Act (ADA) design documents relating to wiring device location.	N	N	
210.52(D)	ROP 2-166	Revised to provide a minimum height requirement for all locations (wall, cabinet, or other) for a receptacle outlet(s) installed to serve a bathroom basin(s).	N	?	Tim F-M, Eric-S, Amend to include in residential code, 7-Y

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
210.52(E)	ROP 2-169	Revised for consistency between requirements covering accessibility of outdoor receptacle outlets at one- and two-family dwellings and at multifamily dwellings. This revision also permits the receptacle outlet required for porches, balconies, and decks to be outside the perimeter of the structure, provided it is accessible from the porch, balcony, or deck.	N, provides more options Could be savings of one outdoor receptacle and cover –Eliminate 1	N	Terry-M, Tim M-S, Amend Residential code to include E (1) & (3). Y-8
210.52(F)	ROP 2-177	Revised to provide specific location and purpose of the laundry receptacle outlet.	N	Y	Terry –M, Julian-S, Amend Residential, Y-8
210.52(G)(1)	ROC 2-82	Revised to require at least one receptacle outlet at each car parking space in a dwelling unit garage. Cannot supply outside receptacle	$ _____/house Add 15A receptacle, 15' wire, one additional breaker for the garage circuit	Y	Terry-M, Tim F, Amend R Code to include,Y-8
210.52(I)	ROP 2-185	Revised to clarify that the space occupied by door side windows or "lights" that extend to the floor are not required to be included in the measurement of a foyer's wall space.	N		Retain current NC amendment
210.62	ROP 2-187	Revised to specify that the required outlets are for the installation of 125-volt, 15- or 20-ampere receptacles.	N	N	
210.64	ROP 2-191	New requirement specifying the installation of at least one 125-volt, 15- or 20-ampere receptacle outlet within 50 ft of electrical service equipment for all buildings other than one- and two-family dwelling units.	N	N	
Article 215					

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
215.2(A)(1)	ROP 2-201	Revised to clarify that it is only required to increase ampacity of feeder conductors for ampacity correction and/or adjustment or for supplying a continuous load, but not for both. Conductor selection is to be based on whichever calculation yields the highest ampacity.	N	N	
215.2(A)(4)	ROP 2-204b	Deleted this provision because the determination of feeder conductor ampacity for dwelling units and mobile homes is adequately covered by the requirements of Article 310, including the provisions specified in 310.15(B)(7).	N	N	
215.3 Exception No. 2	ROC 2-98	Revised to specify that overcurrent protection for feeder circuits rated over 1000 volts is to comply with Part IX of Article 240, and that overcurrent protection for feeder circuits rated from 600 volts to 1000 volts is to comply with Parts I through VII of Article 240. This action correlates 215.3 Exception No. 2 with 240.1.	N	N	
215.12(C)	ROP 2-217	New requirement for 6 AWG and smaller and for 4 AWG and larger conductors that provides specific color or marking identification means for the positive and negative feeder conductors where supplied by a dc system operating at greater than 50 volts. This requirement corresponds with the new requirement in 210.5(C) that resulted from CMP-2 action on Proposal 2-23.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 220					
220.12 Exception	ROP 2-228	New exception to permit calculation of the general lighting load to be performed per locally adopted energy codes, provided the feeder demand factors permitted by the *Code* are not applied to the general lighting load. The general lighting load is required to be continually monitored by equipment with an alerting feature that activates when the load determined through energy code calculation is exceeded.	N	N	
220.14(B)	ROP 2-232	Revised the title of this section to identify that this load calculation is also permitted to be used to determine the load of household ranges used in instructional programs as specified in Note 5 to Table 220.55.	N	N	
220.14(C)	ROP 2-233	Revised to clarify that this calculation is to be used for sizing the branch circuit supplying a motor outlet, and to distinguish that this calculated value is not the actual load that the motor imposes on the electrical supply system.	N	N	
Article 225					
225.1 Informational Note	ROP 4-11	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
225.8	ROP 4-18	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
225.10	ROP 4-19	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
225.11	ROP 4-27	Revised to clarify requirements for outdoor feeder and branch circuit conductors that enter, exit, and/or are attached to buildings or structures.	N	N	
225.14	ROP 4-29	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
225.17	ROP 4-30	Revised for usability and to prohibit overhead conductors from being attached between the weatherhead or end of the conduit and a coupling that has been installed above the last point at which a conduit has been secured to a building or structure.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
225.18	ROP 4-31	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
225.19	ROP 4-32	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
225.21	ROP 4-35	Revised to also apply to installations of outside branch circuits and feeders on *structures*.	N	N	
225.25(2)	ROP 4-37	Revised for correlation with new general requirement for lockable disconnecting means in 110.25.	N	N	
225.27	ROP 4-38	Revised to require raceway sealants to be compatible with insulated single conductors, bare conductors, and cable shields.	N	N	
225.30(C)	ROP 4-46	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
225.33	ROP 9-14j	Revised to include switchgear as equipment in which an outside feeder or branch-circuit disconnecting means can be located or installed.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
225.36	ROP 4-55	Revised by requiring that the feeder or branch-circuit disconnecting means be suitable for use as service equipment only where the feeder grounded conductor is also used as the return path for ground-fault current per 250.32(B)(1) Exceptions No. 1 and No. 2. The exception permitting a three- or four-way snap switch to be used as a disconnecting means for an outside branch circuit or feeder has been deleted.	N	N, should be less restrictive	Ron-M, Cindy-S, Y-8, Amend R Code to include 2014 language
225.38	ROP 4-63	Revised by deleting the exception permitting a three- or four-way snap switch to be used as a disconnecting means for an outside branch circuit or feeder (for correlation with the same action taken in 225.36).	Also eliminates use of snap switch? 225.36 retains use of snap switch but not 3-way or 4-way.	?	Ron-M, Cindy-S, Y-8, Amend R Code to include 2014 language
225.38(C)	ROP 9-14k	Revised to include switchgear as equipment covered by the provision for disconnecting the grounded feeder or branch-circuit conductor.	N	N	
225.50	ROP 4-67	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
225.51 Exception	ROP 9-14l	Revised the term “metal-enclosed switchgear” to “switchgear” for correlation with the revision made to the defined term in Article 100.	N	N	
225.52(B) Exception	ROP 4-72	Revised to provide the specific warning message to be displayed on the sign required adjacent to the fused cutouts.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
225.52(C)	ROP 4-73, ROP 4-74	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.	N	N	
225.56(A)	ROP 4-81	Revised to provide more detail on the electrical system design information that must be provided to the AHJ upon request, and to specify that adjustments are to be made in accordance with the electrical system design.	N	N	
225.56(A)(6)	ROP 4-83	Revised the undefined term *station* to the defined term *substation.*	N	N	
Article 230					
Figure 230.1, Part VIII	ROP 4-96	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230.2(C)(1)	ROP 4-98	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230.6(5)	ROP 4-103	Revised to restrict service masts running through the eave of a building to rigid metal conduit and intermediate metal conduit.	N	N	Amend R Code to include 2014 language
230.7 Exception No. 1	ROP 4-105	Revised to use grounding and bonding terms that are defined in the current edition of the *NEC*.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
230.24	ROP 4-108	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230.24 Exception No. 4	ROP 4-109	Revised to extend application of the exception to overhead service conductors that are attached to the side of a building.	N	N	
230.24(B)(1)	ROP 4-111	Revised for correlation with the definitions of *service drop* and *overhead service conductors*.	N	N	
230.26	ROP 4-112	Revised for correlation with the definitions of *service drop* and *overhead service conductors.*	N	N	
230.28	ROP 4-114	Revised for usability, and to prohibit overhead service or service-drop conductors from being attached between the weatherhead or end of the conduit and a coupling that has been installed above the last point where a conduit has been secured to a building or structure. Also revised to extend application of the service mast requirements to overhead service conductors.	N	N	Amend R Code
230.30	ROP 4-115	Revised to list the specific wiring methods permitted for underground service conductor installations.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
230.43	ROP 4-121	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230.44	ROP 4-133	Revised to provide specific intervals for marking of cable trays containing service-entrance conductors.	N	N	
230.44(5)	ROP 4-134, ROP 4-135	Revised to permit the use of single conductors with thermoplastic insulation or with thermoset insulation as service-entrance conductors in cable trays.	N	N	
Table 230.51(C)	ROP 4-136	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230.66	ROP 4-141	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230.71(A)	ROP 9-14m	Revised to include switchgear as equipment in which service disconnecting means can be located or installed.	N	N	
230.75	ROP 9-14n	Revised to include switchgear as equipment covered by the provision for disconnecting the grounded service conductor.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
230.82(2) and (3)	ROP 4-154	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230.82(3)	ROC 4-64	Revised to require specific marking for meter disconnecting means.	N	N	
230.95	ROP 4-158	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230 Part VIII	ROP 4-160	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230.200	ROP 4-162a	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230.204(A) Exception	ROP 9-14o	Revised the term *metal-enclosed switchgear* to *switchgear* for correlation with the revision made to the defined term in Article 100.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
230.208(B)	ROP 4-164	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
230.211	ROP 9-14p	Revised the term *metal-enclosed switchgear* to *switchgear* for correlation with the revision made to the defined term in Article 100.	N	N	
230.212	ROP 9-14q	Revised the term *metal-enclosed switchgear* to *switchgear* for correlation with the revision made to the defined term in Article 100.	N	N	
Article 240					
240.1	ROP 10-16	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
Table 240.4(G)	ROP 10-20	Revised by adding "Part II" of Article 430 for specific conductor applications referenced in the Table.	N	N	
240.13	ROC 10-12	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
240.21(B)(1)b Exception	ROP 10-32	Revised by adding “equipment containing an overcurrent” to clarify the device is intended to be an overcurrent device. New exception to address the installation of surge protective device(s) (SPD).	N	N	
240.21(B)(1)(2 and 3)	ROP 9-14r	Revised to include switchgear as equipment for feeder tap conductor requirements.	N	N	
240.21(B)(5)	ROP 10-36	Revised by adding the word "tap" before "conductors" in all subsections to provide specific language that will clarify which conductors are being referred to.	N	N	
240.21(C)(2)(1)(b)	ROC 10-16	Revised by adding “equipment containing an overcurrent” to clearly specify the device is intended to be an overcurrent device. Added a new exception to address the installation of surge protective device(s) (SPD).	N	N	
240.21(C)(2) (2 and 3)	ROP 9-14s	Revised to include switchgear as equipment for transformer secondary tap conductor requirements.	N	N	
240.21(C)(3)	ROC 10-17	Revised by adding the words “the supply of switchgear or switchboards in” to clearly specify the applicability of this section.	N	N	
240.61	ROP 10-50	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
240.83	ROP 10-51	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
240.87	ROC 10-24	Revised by limiting the application of this requirement to a circuit breaker that is rated or can be adjusted to 1200 amperes or higher. Also to provide additional clarification for the acceptable arc flash mitigation methods prescribed by this section.	N	N	
240.92(C)(2)(2)	ROP 9-15a	Revised to include switchgear as equipment for transformer secondary conductor requirements in supervised industrial installations.	N	N	
240.92(D)(2)	ROP 9-15b	Revised to include switchgear as equipment for outside feeder tap conductor requirements in supervised industrial installations.	N	N	
240, Part IX	ROP 10-60	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
Article 250					
Figure 250.1	ROP 5-45	Revised the phrase “systems and circuits of 1 kV and over” to “systems and circuits over 1000 volts” ” for correlation with other standards and with Part X of Article 250.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
250.8(A)	ROP 5-53	Revised to clarify that a combination of connection methods prescribed by this section is permitted.	N	N	
250.10	ROP 5-55	Revised for simplicity to clarify the requirements used where wiring and equipment is exposed to physical damage	N	N	
250.20(B)	ROP 5-58	Revised “systems 50 volts to less than 1000 volts” to “systems 50 volts to 1000 volts” for correlation with other standards and with Part X of Article 250.	N	N	
250.20(C)	ROP 5-60	Revised “1 kV and over” to “Over 1000 volts” for correlation with other standards and with Part X of Article 250.	N	N	
250.21(A)	ROP 5-61	Revised “systems 50 volts to less than 1000 volts” to “systems 50 volts to 1000 volts” for correlation with other standards and with Part X of Article 250.	N	N	
250.21(A)(3)	ROP 5-62	Revised “voltage rating less than 1000 volts” to “voltage rating 1000 volts or less” for correlation with other standards and with Part X of Article 250.	N	N	
250.21(B)(1)	ROP 5-63	Revised “not less than 120 volts and not exceeding 1000 volts” to “not less than 120 volts and 1000 volts or less” for correlation with other standards and with Part X of Article 250.	N	N	
250.21(C)	ROP 5-66	Revised to correlate with the marking requirements prescribed 408.3(F)(2).	N	N	
250.24(A)(1)	ROP 5-68	Revised to include “overhead service conductors” and “underground service conductors” for proper application of the requirements.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
250.24(C)	ROP 5-73	Revised "operating at less than 1000 volts" to "operating at 1000 volts or less" for correlation with other standards and with Part X of Article 250.	N	N	
250.24(E)	ROP 5-75	Revised to include "overhead service conductors" and "underground service conductors" for proper application of the requirements.	N	N	
250.26	ROP 5-77	Revised to correlate with the definition of *neutral conductor* in Article 100.	N	N	
250.30	ROP 5-80a	New requirement specifying that separately derived systems that are operating in parallel must comply with 250.30.	N	N	
250.30	ROP 5-82	Revised to clearly state that compliance requirements for this section are based on the type of ac system employed.	N	N	
250.30(A)(1) Exception No. 2	ROP 5-85	Revised to describe conditions where it is permitted to install a system bonding jumper at the source of a separately derived system and at the building or structure being supplied.	N	N	
250.30(A)(2) Exception	ROP 5-88	New exception to correlate with 250.30(A)(1), Exception No. 2.	N	N	
250.30(A)(5) Exception No. 2	ROP 5-90	Revised to clearly specify that the separately derived system must be located within equipment listed and identified *suitable for use as service equipment* in order to effect this exception.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
250.30(A)(6)(b) Exception	ROP 5-91	Revised to clearly specify that the separately derived system must be located within equipment listed and identified *suitable for use as service equipment* in order to effect this exception.	N	N	
250.32(B) Exception No. 2	ROP 5-244c	New exception to provide requirements for the grounded conductor in a building or structure served by a feeder from an outdoor transformer separately derived system installed in accordance with 250.30(A)(1) Exception No. 2.	N	N	
250.36(C) Informational Note	ROP 5-98a	Revised to update to the current edition of the referenced standard.	N	N	
250.36(F)	ROP 5-99	Revised to clarify the grounding electrode conductor connection location for services or separately derived systems.	N	N	
250.64(B)	ROC 3-13	Revised by adding "Grounding electrode conductors and grounding electrode bonding jumpers shall not be required to comply with 300.5" after the last sentence.	N	N	
250.64(D)(1)(3)	ROP 5-120	Revised to clarify that the busbar must be of sufficient length to accommodate the number of terminations necessary for the installation.	N	N	
250.64(D)(1)	ROP 5-121	Revised to include “overhead service conductors” and “underground service conductors” for proper application of the requirements.	N	N	
250.64(D)	ROC 5-44	Revised to include feeders under the requirements of this section.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
250.64(E)	ROP 5-124	Revised for usability by restructuring the existing paragraph into a list format.	N	N	
250.62	ROC 5-45	Revised to clarify that metallic water pipe and structural metal are permitted grounding electrode conductor materials, under the conditions in 250.68(C).	N	N	
Table 250.66 Note 1	ROP 5-128	Revised to clarify the method for calculating the size of a grounding electrode conductor when multiple sets of service conductors are installed.	N	N	
250.66(A)	ROP 5-131	Revised to clarify the intent of the term “sole connection” as used in this section, since it clearly is related to the type of electrodes addressed and not the quantity of electrodes.	N	N	
250.66(B)	ROP 5-135	Revised to clarify the intent of the term "sole connection” as used in this section, since it clearly is related to the type of electrodes addressed and not the quantity of electrodes.	N	N	
250.68(C)(3)	ROP 5-138	Added a new subsection to permit a concrete encased electrode of the conductor type, reinforcing rod, or bar to extend from its location within the concrete to an accessible location above the concrete.	N	N	
250.68(C)(2)	ROC 5-49	Revised to clarify that the structural metal frame of a building can serve as a conductor to interconnect electrodes that are part of the grounding electrode system, or as a grounding electrode conductor.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
250.118(9)	ROP 5-144	Revised by adding "Type MI" to the description for mineral insulated cable.	N	N	
250.100	ROP 5-160	Revised by adding references to 505.5 and 506.5 to include zone classifications for required bonding requirements in accordance with one of the specific methods in 250.92(B)(2).	N	N	
250.102(C)	ROP 5-42, ROC 5-56	New table to provide minimum sizes for other than grounding electrode conductors. References to this table have been inserted into appropriate sections throughout the *Code.*	N	N	
250.104	ROP 5-164, ROP 9-15c	Revised by changing the term "steel" to "metal" to correlate with 250.104(C) and (D)(2).	N	N	
250.104(A)(2)	ROC 5-57	Revised for correlation of the definition of *switchgear*.	N	N	
250.104(A)(3)	ROP 5-168	Revised by adding "or structure" to clarify that the requirements of this section apply to structures not classed as a building.	N	N	
250.104(B)	ROC 5-59	Revised for usability by restructuring the existing paragraph into a list format.	N	N	
250.104(B) Informational Note 2	ROP 5-172a	Revised to update to the current edition of the referenced standard.	N	N	
250.104(B) Informational Note 2	ROP 5-182	Revised by changing the parenthetical statement "(or other structures)" to "or structures" to provide consistency with where this is used elsewhere in the code.	N	N	
250.112(A)	ROP 9-15d	Revised to include switchgear as equipment required to be connected to an equipment grounding conductor.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
250.118 Informational Note	ROP 5-184a	Revised by including a reference to Article 100.	N	N	
250.119 Exception No. 2	ROC 5-66	New Exception to permit flexible cords having an integral insulation and jacket without an equipment grounding conductor to have a continuous outer finish that is green.	N	N	
250.119(A)	ROP 5-189	Revised by changing the phrase "larger than 6 AWG" to 4 AWG and larger" to correlate with 200.6.	N	N	
250.121	ROC 5-	Revised to permit a "wire-type" equipment grounding conductor to also be used as a grounding electrode conductor.	N	N	
250.122(B)	ROP 5-199	Revised to clarify that the increase in size is from the minimum conductor size required for the load served.	N	N	
250.122(F)	ROP 5-201a, ROC 5-79	Revised to clarify that equipment grounding conductors installed with paralleled conductors are not required to be larger than the largest ungrounded conductor in each cable or raceway of the parallel set.	N	N	
250.126(3)	ROP 5-207	Revised by adding the word "equipment" in front of "grounding conductor" to provide consistency in the use of *NEC* defined grounding and bonding terms.	N	N	
250.130(C)	ROP 5-209	New list item permitting connection to an equipment grounding conductor that is part of another branch circuit that originates from the enclosure where the branch circuit for the receptacle or branch circuit originates.	N	N	Ron-M, Cindy-S, Amend R Code, Y-6

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
250.142(B) Exception No. 4	ROP 5-212	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
250.146(B)	ROC 5-87	Revised by adding "equipment bonding" to clarify that an effective ground fault path must be established when relying on contact devices or yokes as the equipment bonding jumpers.	N	N	
250.146(D)	ROP 5-215	Revised by adding "Ground" to the title to correlate with terminology in other sections of the *Code.*	N	N	
250.162(A) Exception No. 1	ROP 5-221	Revised by increasing the lower voltage threshold from 50 volts to 60 volts to correlate with Chapter 9, Table 11(B) and 110.26(A)(1)(b). Revised the exception to require that the ground detection system be installed adjacent to or integral with the source of supply.	N	N	
250.166	ROP 5-222	Revised to clarify that the maximum size required for grounding electrode conductors installed for dc systems must comply with 250.166 and is not required to exceed the values in Table 250.66.	N	N	
250.167	ROP 5-223	New section that requires ground fault detection for dc systems.	N	N	
250.170	ROP 9-15e, ROC 5-91	Revised for correlation with the definition of *switchgear.*	N	N	
250.170 Exception No. 1	ROP 5-225	Revised "less than 1000 volts" to "1000 volts or less" for correlation with other standards and with Part X of Article 250.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
250.174	ROP 5-226	Revised “less than 1000 volts” to “1000 volts or less” for correlation with other standards and with Part X of Article 250.	N	N	
250.174(B)	ROC 5-95	Revised for correlation of the definition of *switchgear.*	N	N	
250.176	ROP 5-228	Revised “1 kV” to “1000 volts” for correlation with other standards and with Part X of Article 250.	N	N	
250.178	ROC 5-96	Revised for correlation of the definition of *switchgear*.	N	N	
250.230	ROP 5-230	Revised “1 kV” to “1000 volts” for correlation with other standards and with Part X of Article 250.	N	N	
250 Part X	ROP 5-231	Revised “1 kV” to “1000 volts” for correlation with other standards and with other sections of the *Code.*	N	N	
250.184(A)(1) Exception No. 1(2)	ROP 5-233	Revised by including “underground service conductors” for proper application of the requirements.	N	N	
250.186	ROC 5-101	Revised to include requirements that a grounded conductor to be brought to each service disconnecting means for systems over 1000 volts.	N	N	
250.188	ROP 5-235	Revised “1 kV” to “1000 volts” for correlation with other standards and with other sections of the *Code.*	N	N	
250.188(A)	ROP 5-236	Revised “1 kV” to “1000 volts” for correlation with other standards and with other sections of the *Code.*	N	N	
250.188(D)	ROP 5-237	Revised “1 kV” to “1000 volts” for correlation with other standards and with other sections of the *Code.*	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
250.188(F)	ROP 5-238	Revised "1 kV" to "1000 volts" for correlation with other standards and with other sections of the *Code*.	N	N	
250.192	ROP 5-241	Added a new section that includes requirements for bonding and grounding fences and other metal structures around substations.	N	N	
Article 280					
280 (Title)	ROP 5-241a	Revised "1 kV" to "1000 volts" for correlation with other standards and with Part X of Article 250.	N	N	
280.1	ROP 5-241b	Revised "1 kV" to "1000 volts" for correlation with other standards and with Part X of Article 250.	N	N	
280.4(B) Informational Note No. 1	ROP 5-242a	Revised to update to the current edition of the referenced standard.	N	N	
Article 285					N
285	ROP 5-243a	Revised "1 kV" to "1000 volts" for correlation with other standards and with Part X of Article 250.	N	N	
285.1	ROP 5-243b	Revised "1 kV" to "1000 volts" for correlation with other standards and with Part X of Article 250.	N	N	
285.3	ROP 5-244a	Revised "exceeding 1 kV" to "over 1000 Volts" for correlation with other standards and with Part X of Article 250.	N	N	
285.13	ROP 5-244b	New section that clarifies that Type 4 and other component-type SPDs are only intended for factory installation and must not be installed in the field.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Chapter 3 Summary of Changes in 2014 NEC®					
Article 300					
Section	**ROP/ROC**	**Synopsis of Change**			
Article 300 Title	ROP 3-8	Revised by adding “General Requirements for” to better reflect what is covered by Article 300.			
300.1	ROP 3-9	Revised by adding “General Requirements.” Also revised by inserting the words "and materials" after "methods," and by adding "in Chapter 3" after the word "articles" to more clearly state that the general requirements provided in Article 300 for the wiring methods and materials in Chapter 3 apply, unless modified by Chapters 5 through 7.			
300.2	ROP 3-10	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
300.3	ROP 3-12	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
300.3(C)(2)(d)	ROP 3-15a	Revised by adding “switchboards” to cover all of the types of equipment that can have these different voltages contained within the same enclosures.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
300.5	ROP 3-36	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
300.5(B)	ROP 3-40	Revised by removing the phrase “shall be listed for use in wet locations and” to correlate with Section 310.10(C).			
300.5(C)	ROP 3-42	Revised by adding “and conductors” to the title and section text, to clarify that the requirement applies to both conductors and cables.			
300.5(D)(4)	ROP 3-97	Revised by adding “RTRC-XW” to the types of raceways specified in this section.			
300.6(A) Informational Note	ROC 3-17	New Informational Note to clarify that field-cut threads are those not cut in the factory where the product is manufactured and listed.			
300.7(B)	ROP 3-58	Revised by replacing “rigid conduit" with "rigid metal conduit" to correlate with terminology used elsewhere in the *Code.*			
300.11 Informational Note No. 1	ROC 3-19	Revised by replacing NFPA 251 with ANSI/ ASTM E119-2012a, *Method for Fire Tests of Building Construction and Materials,* as the referenced standard.			
300.11(B)(1)	ROP 3-65	Revised by replacing “identified for the purpose” with “identified as a means of support” to clarify that identified as required by this section pertains to “means of support.”			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
300.22(B)	ROP 3-81	Revised by adding "without an overall nonmetallic covering" after "MI Cable" to correlate with listing requirements.			
300.22(B)	ROP 3-83	Revised by moving the last two sentences of the existing text into a new first paragraph and changing the word “wiring” to “wiring methods specified in this section” to provide clarity for proper application of this section.			
300.22(C)(1)	ROP 3-84	Revised by adding "without an overall nonmetallic covering" after "MI Cable" to correlate with listing requirements.			
300.22(C)(1)	ROP 3-86	Revised by adding language requiring that cable ties used in “other spaces for environmental air” be listed as having adequate fire-resistant and low smoke-producing characteristics. The Informational Note and mandatory text were also edited to conform with text throughout the *NEC* where dealing with low smoke and fire resistance characteristics.			
Article 300 Part II	ROP 3-89	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
300.38	ROC 3-30	New section to specify that the interior of raceways shall be considered to be a wet location where the raceways are installed in wet locations above grade, and to require conductors to comply with 310.10(C) for wet locations.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Table 300.50	ROC 3-28	Revised the first row in the table to read: "Over 1000V through 22 kV" to correlate with the revised threshold from 600 to 1000 volts.			
300.50(A)(2)	ROP 3-96	Revised by changing the title of (A)(2) to "Industrial Establishments," and recognizes the use of non shielded single conductor cables with insulation types up to 2000 volts that are listed for direct burial. This revision requires that the installation must be performed by qualified persons. Existing (A)(2) has been changed to (A)(3).			
Article 310					
310.2 and 310.60	ROP 6-5	Revised by removing explanatory material and relocating it to new Informational Note: "Thermal resistivity is the reciprocal of thermal conductivity and is designated Rho, which is expressed in the units °C-cm/W." Deleted the *thermal resistivity* definition within the text in 310.60(A).			
310.10 Informational Note	ROP 6-8	Revised by deleting the Informational Note which has been relocated to Section 310.104 via ROP 6-71.			
310.10(F)	ROP 6-14	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
310.10(H)(6)	ROP 6-17	Revised by adding "or supply side bonding jumpers" to correlate with Section 250.102.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
310.15(B)(3)(b)	ROC 6-14	Revised to clarify that spacing between raceways must be maintained.			
Table 310.15(B)(3)(c)	ROP 6-26	Revised by changing “conduit” to “circular raceway” to correlate with the title of the table.			
310.15(B)(3(c) and Table 310.15(B)(3)(c)	ROP 3-31	Revised by adding “cables” to the temperature adjustment factors required for rooftops and changing “conduit” to “raceway” to correlate with the table title.			
Table 310.15(B)(3)(a)	ROP 3-40	Revised by adding “including spare conductors” and clarified that conductors subject to noncoincident loading are not subject to the adjustment factors prescribed by this table.			
310.15(B)(3)(c) Exception	ROC 6-37	New exception that exempts conductors with thermoset insulation rated at 90°C or higherfrom this ampacity adjustment.			
310.15(B)(3)(a)	ROC 6-33	Revised the section title to correlate with the section text that ampacity adjustment is required for conductors not installed in raceways.			
Table 310.15(B)(3)(c) Informational Note	ROP 6-46	Revised to clarify the temperature “adders” are the measured temperature rise above the local climatic ambient temperatures due to sunlight heating.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
310.15(B)(7)	ROC 6-52	Revised by deleting the table and replacing it with a provision for a .83 reduction in ampacity for dwelling services and feeder conductors. The reduction is the same as that permitted by former Table 310.15(B)(7), but presented in a user-friendly format. A new example is included in Annex D to describe how to apply the revised rule.			
310.15(C)	ROC 6-61	Revised by adding the units “one foot” and “micro ohms” to provide values necessary for performing the calculation prescribed by this section.			
310.60(C)(1) Informational Note	ROC 6-62	New informational note: “Tables other than those listed contain the ampacity of cables with shields grounded at multiple points.”			
310.104	ROP 6-70	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	Decrease		
Table 310.104(A)	ROP 9-15h	Revised to include “switchgear” in the “application provisions” for both Type SIS and Type TBS building wire			
310.2 and 310.60	ROP 6-5	Revised by removing explanatory material and relocating it to a new Informational Note: “Thermal resistivity is the reciprocal of thermal conductivity and is designated Rho, which is expressed in the units °C-cm/W.” Deleted the "thermal resistivity" definition within the text in 310.60(A).			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 312					
312.5(C) Exception (g)	ROC 9-22	Revised to clarify that this condition does not imply that the cable sleeve covered in the exception is a complete system.			
312.8(3)	ROP 9-26	Revised to require warning labels to meet requirements in new Section 110.21(B).			
312.11(3)(A)	ROP 9-27	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Article 314					
314 Part IV Title	ROP 9-28	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
314.15	ROP 9-33	Revised by including outlet box hoods to be listed for use in wet locations.			
314.15	ROC 9-26	Revised by including provisions for approved field installed drainage openings not larger than 6 mm (¼ in.).			
314.16(B)(2)	ROP 9-37	Revised to provide a limitation that a clamp assembly be listed and marked for use with a specific nonmetallic box, and to provide guidance on box fill requirements that apply to such listed assemblies.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
314.23(D)(2)	ROP 9-45	Revised by including the term "identified" and deleting "identified for the purpose" to provide consistency with the definition of *identified* in Article 100.			
314.23(E)	ROP 9-47	Revised by including the term "identified" and deleting "identified for the purpose" to provide consistency with the definition of *identified* in Article 100.			
314.23(F)	ROP 9-49	Revised by including the term "identified" and deleting "identified for the purpose" to provide consistency with the definition of *identified* in Article 100.			
314.23(F) Exception No. 2 (f)	ROP 9-53	Revised by including the term "identified" and deleting "identified for the purpose" to provide consistency with the definition of *identified* in Article 100.			
314.23(H)(2)	ROP 9-54	Revised by including the term "identified" and deleting "identified for the purpose" to provide consistency with the definition of *identified* in Article 100.			
314.25	ROP 9-55	Revised to clarify that drywall screws are not permitted for use on box covers or other equipment fastened to the box and fastened either with machine screws or in accordance with manufacturer's instructions.			
314.25(B)	ROP 9-55a	Revised to correlate with revised Section 410.23, which establishes a 180-square inch limit below which protection is not required.			
314.25(C)	ROP 9-56	Revised by including the term "identified" and deleting "designed for the purpose" to provide consistency with the definition of *identified* in Article 100.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
314.27(A)(2)	ROP 9-62	Revised to require that the luminaire weight to be supported must be marked on the interior of the box.			
314.27(C)	ROP 9-63	Revised to include two family dwellings under the scope of this requirement.			
314.28(A)(3)	ROC 9-32	Revised to clarify the conductor fill requirement for boxes and conduit bodies, and to specify that marking applies in all cases of conduit bodies having smaller dimensions.			
314.30(A)	ROP 9-68	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
314.70(A)	ROP 9-70	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
314.70(B)	ROP 9-71	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
314.70(C)	ROP 9-72	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Article 324					
324.2	ROC 7-3	New Informational Note supporting the definition of *FCC System* that describes the various components used in a typical system installation.			
324.41	ROP 7-23	Revised the requirement on maximum carpet square size to recognize standard SI unit measurement of 1.0 m^2 in addition to carpet squares sized 36 $in.^2$.			
Article 326					
326.10(3)	ROP 7-26	Revised for consistency with terms associated with underground service conductors that are within the scope of the *Code*.			
Article 330					
330.10(A)(11)	ROP 7-26a, ROP 7-27	Revised for consistency with MC cable product standards, and to extend the requirement for a corrosion-resistant jacket over the metal covering to all conditions where MC cable is used in wet locations.			
330.30(D)(3)	ROP 7-31	New condition permitting an unsupported 3-foot length of interlocking armor Type MC cable, to provide a flexible connection to accommodate equipment vibration or movement.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
330.12	ROP 7-34	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Article 334					
334.10	ROP 7-37	Revised to clearly identify that all permitted uses for Type NM cable are acceptable unless specifically prohibited under any of the conditions specified in 334.12.			
334.40(B)	ROP 7-49, ROP 7-50, ROP 7-51	Revised to specify that concealed interconnection devices are permitted only for repair of an existing installation of Type NM cable. The term “tap” has been revised to “interconnector” to clearly reflect the splicing function of these listed devices.			
Article 338					
338.10(B)(4)(b)	ROC 7-12	Revised so that the ampacity selection for Type USE cable used as an underground feeder need not be limited to the 60°C column in the applicable table from Article 310.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 393	ROP 18-10a	New article covering an electrical distribution system that employs a traditional suspended ceiling support system with an integrated electrical power distribution busbar to supply equipment supported by or located above the ceiling system. These electrical distribution systems are limited to 30 volts ac or 60 volts dc and are limited to the output of a Class 2 power supply, and they are required to be listed.			
Article 342					
344.2	ROP 8-47	Revised the definition of *rigid metal conduit* (RMC) by removing the permitted construction materials and relocating them to new Section 344.100.			
344.30	ROP 8-49	Revised for usability by restructuring the existing paragraph into a list format.			
344.100	ROP 8-52a, ROC 8-9	New section for permitted construction materials for rigid metallic conduit.			
Article 348					
Table 348.22	ROP 8-53	Revised by adding "FMC" to the description for flexible metal conduit.			
348.30(A) Exception No. 4	ROP 8-54	Revised to clarify that flexible metal conduit fittings are permitted as a support means for the purpose of applying the exception.			
Article 350					
350.30(A) Exception No. 4	ROP 8-57	Revised to clarify that liquidtight flexible metal conduit fittings are permitted as a support means for the purpose of applying the exception.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
350.42	ROP 8-58	Revised to permit straight LFMC fittings for direct burial where marked.			
350.42	ROC 8-13	Revised to specify that only fittings listed for the use with LFMC can be used, and to permit straight LFMC fittings for direct burial where marked.			
350.68	ROP 8-60	Revised to require an equipment grounding conductor per 250.118(1) within the raceway where air-conditioning or refrigerating equipment is installed outdoors. The new exception permits LFMC to be used as an equipment grounding conductor when installed in accordance with 250.118(6) and where conditions of maintenance and supervision are present.			
Article 352					
352.2	ROP 8-63	Revised by replacing the term “conduit” with “raceway” to correlate with the definition of *raceway* in Article 100.			
352.24	ROP 8-69	Revised by including the term “identified” and deleting “identified for the purpose” to provide consistency with the definition of *identified* in Article 100.			
Article 354					
354.2	ROP 8-73	Revised by replacing the term “conduit” with “raceway” to correlate with the definition of *raceway* in Article 100.			
Article 355					
355.2	ROP 8-75	Revised by replacing the term “conduit” with “raceway” to correlate with the definition of *raceway* in Article 100.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
355.24	ROP 8-77	Revised by including the term "identified" and deleting "identified for the purpose" to provide consistency with the definition of *identified* in Article 100.			
Article 356					
356.2	ROP 8-80	Revised by replacing the term "conduit" with "raceway" to correlate with the definition of *raceway* in Article 100.			
356.12(4)	ROP 8-81a	Revised by removing the restriction on the use of LFNC for over 600-volt installations.			
356.30(4)	ROP8-83a	Revised to clarify that LFNC-B fittings are permitted as a support means for the purpose of applying the exception.			
356.60	ROP 8-84	Revised to harmonize with the vibration criteria language in 348.60 and 350.60.			
Article 358					
358.60	ROP 8-90	Revised to require an equipment grounding conductor per 250.118(1) within the raceway where air-conditioning or refrigerating equipment is installed outdoors. The new exception permits EMT to be used as an equipment grounding conductor and where conditions of maintenance and supervision are present.			
Article 366					
366.1, 366.10, 366.22, 366.23, 366.30, and 366.60	ROP 8-96	Revised by replacing "sheet metal auxiliary gutter" with "metallic auxiliary gutter" to correlate with the definition in 366.2.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
366.2	ROC 8-28a	Revised the term "metal-enclosed switchgear" to "switchgear" for correlation with the revision made to the defined term in Article 100.			
Article 368					
368.2	ROP 8-105	Revised by including the term "raceway" to clarify that a busway is a raceway, and to correlate with the definition of *raceway* in Article 100.			
368.12(E)	ROP 8-106	Revised by including the term "identified" and deleting "identified for the purpose" to provide consistency with the definition of *identified* in Article 100.			
Article 370					
Article 370	ROP 8-109a	Revised by reformatting the entire article in accordance with the revised Chapter 3 format. Section 370.2 has been revised to clarify that cablebus is a support system and is not to be considered a raceway system.			
Article 374					
374.2	ROP 8-119	Revised by replacing the term "enclosures" with "enclosed channel" to clearly describe a cellular metal floor raceway.			
374.11	ROC 8-41	Revised to clarify the types of "nonmetallic conduit" by including rigid polyvinyl chloride conduit and reinforced thermosetting resin conduit.			
Article 376					
376.2	ROP 8-132	Revised by replacing the term "wireway" with "raceway" to correlate with the definition of *raceway* in Article 100.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
376.22(B)	ROP 8-137	Revised to clarify that the 30 conductor maximum before application of correction factors applies at any cross section of the wireway.			
376.56(B)(1)	ROC 8-43	Revised to require that power distribution blocks installed on the line side of the service equipment be listed for the purpose.			
376.56(B)(5)	ROC 8-42	New requirement for dressing conductors in a wireway order to to provide unobstructed access to power distribution blocks; correlates with 314.28(E)(5)			
Article 378					
378.2	ROP 8-144	Revised by replacing the term "wireway" with "raceway" to correlate with the definition of *raceway* in Article 100.			
Article 380					
380.22	ROP 8-145	Revised by adding the phrase "as applicable," allowing the user to apply either "(A)" or "(B)" or both, since both may be applicable.			
Article 384					
384.30(B)	ROP 8-148	Revised by adding "identified" and deleting "approved appropriate" and "designed for the purpose," to provide consistency with the definition of *identified* in Article 100.			
Article 386					
386.30	ROP 8-153	Revised to specify that associated fittings must be supported in accordance with the manufacturer's installation instructions.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
386.120	ROP 8-154	New section requiring each length of surface metal raceway to be identified and marked according to 110.21 (manufacturer's marking requirements).			
Article 388					
388.3	ROP 8-156	Revised to specify that associated fittings must be supported in accordance with the manufacturer's installation instructions.			
388.12	ROP 8-157	New section requiring each length of surface nonmetallic raceways to be identified and marked according to 110.21 (manufacturer's marking requirements).			
Article 392					
Table 392.10(A)	ROP 8-158a	Revised table to clarify the acceptable wiring methods used in a cable tray.			
392.18(H)	ROP 8-180	Revised to require that danger marking(s) or labels meet requirements in new Section 110.21(B).			
392.18(H), Exception	ROP 8-182	New exception for industrial establishments. The exception applies to cable trays that are "not accessible (as applied to equipment)"and requires markings to be applied where necessary to assure safe maintenance and operation.			
392.20(A) and (B)	ROC 8-53	Revised by changing "cables rated" to "cables operating at" to clarify that the application of this requirement is based on the operating voltage of circuits and not on the insulation rating of cables.			
Article 399					

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 399 Title	ROP 7-82	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
399.1	ROP 7-84	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
399.2	ROP 7-85	Revised to indicate that the conductors covered in Article 399 are installed in *free air* on support structures (such as poles) in a manner similar to those employed by electric utility companies.			
399.10	ROP 7-86	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
399.10(1)	ROP 7-87	Revised to indicate that the conductors covered in Article 399 are installed in *free air* on support structures (such as poles) in a manner similar to those employed by electric utility companies.			
399.30(B)	ROP 7-90	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Chapter 4 Summary of Changes in 2014 NEC®					
Article 400					
Table 400.4	ROP 6-77	Revised by adding 15 AWG to various cord types in Table 400.4.	N	N	
Table 400.4	ROP 6-78	Revised by changing Types SPT-1, SPT-1W, SPT-2, SPT-2W, and SPT-3 to "All thermoplastic parallel cord" to make the format of the names consistent.	N	N	
Table 400.4	ROP 6-79	Revised by specifying Types EV, EVJ, EVE, EVJE, EVT, and EVJT outer covering material be oil resistant.	N	N	
Table 400.4	ROP 6-81	Revised by specifying flexible stage and lighting power cable Type SC insulation material to be "thermoset."	N	N	
Table 400.4	ROP 6-84	Revised to clearly specify that types SO and SOW are available in sizes greater than 16 AWG, and that types SOO and SOOW are available is sizes less than 14 AWG.	N	N	
Table 400.4 and Table 400.5(A)(1)	ROP 6-85	Revised by adding types HSJOW and HSJOOW to Table 400.4 and Table 400.5(A)(1).	N	N	
Table 400.4	ROP 6-86	Revised to allow cords and cables other than those listed in Table 400.4, but only by special permission.	N	N	
Table 400.4	ROP 6-89	Revised by changing AWG sizes to accurately reflect conductor sizes for flexible cords used in the industry.	N	N	
Table 400.4 Note 3	ROP 6-91	Revised by adding types SPT-1W and SPT-2W to clarify that these types do not have individual conductors twisted together.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Table 400.4 Note 10	ROP 6-93	Revised by adding types SEW, SEOW, SEOOW, SOW, SOOW, STW, STOW, and STOOW to the list.	N	N	
400.5(A)	ROP 6-93a	Revised by adding a reference to Table 400.5(A)(1) and a requirement to use the 90°C column of Table 310.15(B)(2)(a) for temperature correction factors for 105°C cords and cables.	N	N	
Table 400.5(A)(1)	ROP 6-96	Revised by adding conductor sizes 9, 11, and 13 AWG.	N	N	
400.6(A)	ROP 6-100	Revised by requiring markings on tags, cords, and cables to include the maximum operating temperature of the flexible cord or cable.	N	N	
400.7(A)(11)	ROC 6-71	New list item permitting flexible cords and cables between an existing receptacle outlet and an inlet, where the inlet provides power to an additional single receptacle outlet. The wiring interconnecting the inlet to the single receptacle outlet must be a Chapter 3 wiring method. The inlet, receptacle outlet, and Chapter 3 wiring method, including the flexible cord and fittings, must be a listed assembly specific for this application.	N	N, would likely be very useful for connection of flat screen TVs	
400.10 Informational Note	ROP 6-104	Revised by changing “fittings designed for the purpose” to “using support or strain relief fittings” to clarify the intended purpose.	N	N	
400.23	ROP 6-105	Revised to permit cords or cables consisting of integral insulation and jacket without a non-integral grounding conductor to be green.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
400.30	ROP 6-106	Revised to specify that Part III is applicable to single and multiconductor cable.	N	N	
400.31(B)	ROC 6-76	Revised to specify that equipment grounding conductor(s) are required in cables with three or more conductors.	N	N	
Article 404					
404.1	ROP 9-74	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
404.2(C)	ROC 9-44	Revised into a list format to clearly state the conditions where a grounded conductor is not required to be provided at a switch location.	N	N	
404.6(C) Exception	ROP 9-94	Revised to require a warning sign or label to meet the requirements of new Section 110.21(B).	N	N	
404.8(C)	ROC 9-47	Revised to clarify that a multipole snap switch is not permitted to be fed from more than a single circuit unless it is listed and marked as a two-circuit or three-circuit switch.	N	N	
404.10(B)	ROC 9-52	Revised to clarify that drywall screws are not permitted to be used to fasten snap switches to boxes.	N	N	
404.13	ROP 9-99	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
404.16	ROP 9-103	Revised by changing the title to read "Knife Switches Rated 600 to 1000 Volts" and changing 600 volts to "600 to 1000 volts" in the text, to correlate with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
Article 406					
406.3(E)	ROP 18-15	New requirement for field marking of 125 volt, 15- and 20-ampere receptacles that are controlled by an energy management system, timer, or some other automatic means. This marking must be made using the standard symbol shown in Figure 406.3(E).	N	N	
406.4(D)	ROP 18-18	Revised to require ready access to GFCI and AFCI receptacles that are installed to replace existing receptacles.	N	Y	
406.4(D)(3)	ROC 18-15	Revised with a new exception clarifying that GFCI protection afforded by an upstream device is permitted for replacement receptacle(s).	N	N	
406.5	ROP 18-28, ROP 18-30, ROP 18-31	Revised to specify the acceptable screws that can be used as the means to attach a receptacle to an outlet box, and by replacing the term “designed for the purpose” with “identified.”	N	N	
406.5(E)	ROP 18-32, ROP 18-34	Revised to apply to receptacles installed in countertops, regardless of the occupancy type.	N no cost	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
406.5(F)	ROP 18-34	New requirement providing the conditions under which receptacles are permitted to be installed in seating areas and similar horizontal surfaces.	N	N	
406.9(B)	ROP 18-37, ROP 18-38	Revised to require receptacle outlet box covers to be listed for "extra duty" regardless of how the box is mounted. The requirement now applies to all occupancy types.	?cost difference, 2 outdoor receptacles on house	?	
406.12	ROP 18-41a	Revised to include all occupancy types where tamper-resistant receptacles are required. The exception is no longer limited to only dwelling unit receptacles.	N	N	
406.15	ROP 18-53	New requirement prohibiting control of receptacles with a dimmer switch unless the receptacle and dimmer combination meets specific listing and configuration provisions.	N, no cost	?	
Article 408					
408.2 and 408.3	ROP 103a, ROC 9-55	Revised to include switchgear in Section 408.2, requiring compliance with Article 408 and other Articles as applicable. Revised 408.3(E) by placing bus arrangements in a list format and incorporating a requirement for field-marking the bus arrangements for dc systems.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
408.1	ROP 9-104a	Revised by including "switchboards" to the title and scope of Article 408, and revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
408.3(F)(1)(7) (2)	ROP 9-112	Revised to require a warning sign or label to meet the requirements of new Section 110.21(B).	N	N	
408.4(B)	ROP 9-116	Revised to recognize that switchboards and panelboards may have multiple sources of power, so they must be marked to indicate where the power originates.	N	N	
408.38	ROP 9-125	Revised by including the term "identified" and deleting "designed for the purpose" to provide consistency with the definition of *identified* in Article 100.	N	N	
408.55	ROP 9-130	New subsection to provide requirements for back-wire bending space.	N, no cost	N	
Table 408.56	ROP 9-132	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
Table 408.56	ROP 9-133	Revised the leftmost column heading, the text "ac or dc" is added to the original, "voltage" to clarify the table is applicable to both ac or dc voltages.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
408.58	ROP 9-134	Revised by adding "ac phases or dc buses" to clarify the marking requirements for panelboards.	N	N	
Article 409					
409.1	ROP 11-10	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N	N	
409.1 & 409.110(4) Informational Note	ROP 11-11	Revised by updating the edition of the referenced standard.	N	N	
409.20	ROP 11-13	Revised by removing the term "resistance," the result is that induction heating loads will be required to be included when calculating the ampacity of conductors.	N	N	
Article 410					
410.6	ROP 18-59	Revised to include *retrofit kits* in the listing requirement.	?	?	
410.10(F)	ROP 18-66	New requirement providing the minimum clearance between the top of luminaires and the bottom surface of metal-corrugated sheet roof decking.	N	N	
410.23	ROP 18-69	Revised to establish a specific threshold at which a combustible wall or ceiling surface behind a luminaire is required to be covered with a noncombustible material.	N, no cost	N	
410.130(G)(1) Exception No. 4	ROC 18-31	Deleted the exception permitting luminaires installed within industrial occupancies to be installed without an individual disconnecting means.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
410.141(B)	ROP 18-83	Revised for correlation with new 110.25 covering requirements for lockable disconnecting means.	N	N	
410.151(B)	ROC 18-38	Revised to state that the load calculation in 220.43 is for determining feeder and service loads and does not limit the amount of lighting track supplied by a branch circuit, nor does it limit the number of luminaires connected to a single track.	N	N	
Article 411					
411.1	ROP 18-85	Revised to recognize ac and dc Class 2 power source limitations specified in Chapter 9, Tables 11(A) and 11(B).	N	N	
411.3	ROC 18-39	Revised to recognize ac and dc Class 2 power source limitations specified in Chapter 9, Tables 11(A) and 11(B).	N	N	
411.6	ROP 18-35	Revised to recognize ac and dc Class 2 power source limitations specified in Chapter 9, Tables 11(A) and 11(B).	N	N	
Article 422					
422.5	ROP 17-19	New requirement for accessibility to devices providing GFCI protection where such protection is specified by an Article 422 requirement.	N	Y	
422.11(F)(3)	ROP 17-21	Revised to expand the types of water heating equipment covered by the requirement.	N	N	
422.16(B)(1)	ROP 17-23	Revised to expand the use of cord- and plug-connected “in-sink” waste disposers; no longer restricted to only those areas covered by the definition of *kitchen.*	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
422.19	ROC 17-10	New requirement covering the minimum conductor volume of outlet boxes and canopies at outlets supplying ceiling-suspended (paddle) fans.	N, no cost	N	
422.20	ROP 17-30	New requirement on protecting exposed combustible material between the edge of an outlet box and the edge of a ceiling-suspended (paddle) fan canopy.	N, no cost	N	
422.23	ROP 17-31	New requirement for GFCI protection of publically accessed tire inflation and vacuum machines.	Y, no quantity numbers available, 15A GFCI breaker or GFCI switch, worse case, between	?	
422.31(B)	ROP 17-33	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.	N	N	
422.31(C)	ROC 17-12	Revised to require a disconnecting means within sight of all appliances with motors rated more than 1/8 hp unless the appliance has a unit switch complying with 422.34.	? impact to residential?No change	?	
422.49	ROC 17-14	Revised to require GFCI protection for high-pressure spray washing equipment supplied by three-phase, 208Y/120-volt circuits rated 60 amperes or less.	Manufacturer change	?	
422.51	ROP 17-38	Revised to also include vending machines that are not cord-and plug-connected.	Limited due to most machines likely cord and plug connected, Deadfront GFCI or GFCI breaker, no quantities known	?	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 424					
424.19	ROP 17-49	Revised to apply the requirement for grouping and marking of supply circuit disconnecting means to electric space heating equipment supplied by more than one feeder or branch circuit.	N	N	
424.19(A)(1)(2)	ROP 17-48	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.	N	N	
424.19(B)(1)	ROP 17-50	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.	N	N	
424.44(D)	ROC 17-18	Revised to specify that the sheath of the metal-clad heating cable is grounded.	N	N	
424.66	ROC 17-19	New requirement covering minimum working space for enclosures associated with electric duct heaters located in the space above a ceiling that is accessed through a ceiling panel or an access panel.	N	N	
424.86(5)	ROP 17-57	Revised to require field applied markings and labels to comply with new provisions in 110.21 covering field marking of equipment.	N	N	
Article 426					
426.50	ROC 17-21	Revised to specify that the disconnecting means is to be “capable of being locked” in the open (off) position.	N	N	
426.51(A)	ROP 17-70	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.	N	N	

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
426.51(D)(3)	ROP 17-71	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.	N	N	
Article 427					
427.55(A)	ROC 17-24, ROP 17-25	Revised to specify that the disconnecting means is to be "capable of being locked" in the open (off) position and for correlation with new general requirement for *lockable disconnecting means* in 110.25.	N	N	
Article 430					
Article 430, Parts I through X	ROP 11-20	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Table 430.5	ROP 11-26	Revised by adding a reference to Article 506 for Zone 20, 21, and 22 locations.			
430.22(G)	ROP 11-29a	Revised to include Class 10A overload relays and to clarify that conductor selection is based on the full-load current rating of the motor, as determined by 430.6(A)(1).			
430.21, 430.31, 430.40, 430.51, 430.71, 430.101, 430.102(B)(2), 430.120, 430.126(A), and 430.245(A)	ROP 11-29b	Revised to remove, modify or move several Informational Notes in Article 430. The Informational Notes removed were determined to be no longer necessary. Several notes were moved so that they immediately follow the text to which they pertain.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
430.32(C) Informational Note	ROP 11-33a	Revised to include Class 10A overload relays to clarify that overload relays certified as Class 10A are also in conformity with the content of the Informational Note.			
430.52(C)(5)	ROP 11-35a	Revised to clarify that the fuses addressed in this section are "semiconductor fuses" intended to protect bypass contactors, isolation contactors, and conductors in a solid-state motor control system.			
430.53(C)(4)	ROP 11-36a	Revised by replacing “supply” with “branch circuit” to clearly indicate which specific conductors are being referenced.			
430.53(D)	ROP 11-36b	Revised to include “from the point of the tap” to clarify where the tap measurement is referenced.			
430.102 Exception No. 1	ROP 11-45	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.			
430.102(A) Exception No. 3(b)	ROP 11-48	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.			
430.102(B) Exception to (1) and (2)	ROP 11-49	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.			
430.113 Exception No. 1	ROP 11-54	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.			
430.130 and 430.131	ROC 11-21	New sections to address special requirements of the adjustable speed drive controller overcurrent protection functions.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
430, Part XI	ROP 11-61	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
430.227	ROP 11-64	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.			
430.233	ROP 11-68	Revised to lower the voltage threshold from 150 volts to 50 volts, which will enhance worker safety.	No cost impact		
Article 440					
Table 440.3(D)	ROP 11-77	Revised by adding a reference to Article 506 for Zone 20, 21, and 22 locations.	N	N	
440.14 Exception No. 1	ROP 11-86	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.	N	N	
Article 445					
445.11	ROP 13-10	Revised to require marking of generators to indicate whether the neutral conductor is bonded to the frame of the generator.			
445.11	ROC 13-2	Revised to specify that additional markings are required on stationary and portable generators rated more than 15 kW.			
445.16	ROP 13-13	Revised to specify that the requirement applies only to field-installed generator conductors.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
445.17	ROP 13-14	Revised by adding a new exception to exclude terminal housings for generators rated over 600 volts from the sizing requirements.			
445.18	ROC 13-18a	Revised to exclude cord- and plug-connected portable generators from the disconnecting means requirement and to specify the conditions under which engine shut-down can be used in lieu of an electrical disconnecting means.			
445.20	ROC 13-16	New provision requiring portable generators rated 15 kW or less either provide GFCI protection of 15- and 20-ampere, 125-volt receptacles integral to the generator or, if not GFCI protected, that these receptacles be disabled while the generator's 125/250-volt locking-type receptacle is in use.	Manufacturer change		
Article 450					
Article 450	ROP 9-135	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Table 450.3(A) Note 1	ROP 9-138	Revised to allow the next standard ampere rating or setting that a manufacturer provides as a product offering for fuses or circuit breakers over 1000 volts.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
450.5	ROC 9-72	New exception to allow an autotransformer to be installed on the load side of a system grounding connection provided it has a wye configuration on its line side and a zigzag configuration on its load side that does not permit neutral or ground-fault current to return over the line connection. The exception does not apply to a connection made from a high-resistance grounded system applied in accordance with 250.36.			
450.10(A)	ROP 9-144	New provision incorporating specific requirements for installing an equipment grounding terminal bar in transformer enclosures but not on the vent screen portion.			
450.11	ROP 9-145	Revised into a list format. List item (5) now requires marking for transformers that can be reverse wired.			
450.14	ROP 9-146	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.			
450.21 Informational Note	ROP 9-150	Revised by updating the edition of the ASTM Standard and deleting the reference to NFPA 251.			
450.42 Informational Note	ROP 9-152	Revised by updating the edition of the ASTM Standard and deleting the reference to NFPA 251.			
450.45(E) Informational Note	ROP 9-152a	Revised by updating the edition of the referenced standard.			
Article 480					

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
480.1 Informational Note	ROP 13-24	New Informational Note that lists standards related to the design, installation, maintenance, and use of stationary batteries.			
480.2 Cell	ROP 13-26	New definition for term used in Article 480.			
480.2 Container	ROP 13-27	New definition for term used in Article 480. “Container replaces the term “jar” in 480.7(B) & (C).			
480.2 Electrolyte	ROP 13-28	New definition for this term used in Article 480.			
480.2 Intercell Connector	ROP 13-29	New definition for this term used in Article 480.			
480.2 Intertier Connector	ROP 13-30	New definition for this term used in Article 480.			
480.2 Nominal Battery Voltage	ROP 13-31	Revised definition to reflect unique characteristics of battery voltages when fully charged, discharged, or while being charged.			
480.2 Terminal	ROP 13-32	New definition for this term used in Article 480.			
480.3	ROP 13-22	New requirements covering the proper termination of conductors at batteries and cells.			
480.4	ROP 13-33	Revised to specify that the nominal battery voltage is used as the benchmark voltage at which overcurrent protection is required.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
480.5	ROC 13-21	Revised to specify that the nominal battery voltage is used as the benchmark voltage at which a disconnecting means for battery supply conductors is required. Also revised to include requirements covering remote actuation of disconnecting means, disconnecting means for dc busways, and marking maximum system short-circuit current on battery system disconnecting means.			
480.8(C)	ROP 13-38	New requirement covering ready access to battery terminals.			
480.9(A)	ROC 13-23	Revised to specify that the level of ventilation must be appropriate for the battery technology and to include two Informational Notes that provide additional guidance on determining the proper level of ventilation.			
480.9(C)	ROP 13-42	Revised to specify how working space is determined around battery cabinets and trays as well as around battery racks, and to establish the minimum clearance from battery racks and stands to the adjacent wall or structures where access for maintenance is not required.			
480.9(C) Informational Note	ROC 13-25	New Informational Note with guidance on designing extra working space into areas containing batteries to facilitate moving batteries in and out of their racks.			
480.9(D)	ROP 13-44	New requirement and Informational Note on determining the minimum working space for top-terminal batteries that are installed on tiered racks.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
480.9(E)	ROP 13-45	New requirement covering the installation of personnel doors to provide entrance to and egress from battery rooms.			
480.9(F)	ROC 13-28	New requirement prohibiting gas piping in battery rooms.			
480.9(G)	ROC 13-29	New requirement covering illumination of the working space about battery systems.	Minimum cost impact		
Article 490					
490.21(B)(7)	ROP 9-152b	Revised the term "metal-enclosed switchgear" to "switchgear" for correlation with the revision made to the defined term in Article 100.			
Article 490	ROP 9-153	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
490.21(B)(6)	ROP 9-157	Revised to include signage requirements: "DANGER - DISCONNECT CIRCUIT BEFORE REPLACING FUSES" and to require that signage comply with new Section 110.21(B).			
490.21(B)(6) Exception	ROP 9-158	Revised by including the term "identified" and deleting "designed for the purpose" to provide consistency with the definition of *identified* in Article 100.			
490.22	ROP 9-162	Revised by including the term "identified" and deleting "designed for the purpose" to provide consistency with the definition of *identified* in Article 100.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
490.22	ROP 9-164	Revised to require a warning sign or label to meet requirements in new Section 110.21(B).			
490.25	ROP 9-165	Revised to include signage requirements: "DANGER — CONTACTS ON EITHER SIDE OF THIS DEVICE MAY BE ENERGIZED BY BACKFEED" and to require that signage comply with new Section 110.21(B).			
490.35(A)	ROP 9-171	Revised to include signage requirements: "DANGER — HIGH VOLTAGE — KEEP OUT" and to require that signage comply with new Section 110.21(B).			
490.44(C)	ROP 9-175	Revised for correlation with the new general requirement for *lockable disconnecting means* in 110.25.			
490.46	ROP 9-176	Revised for correlation with the new general requirement for *lockable disconnecting means* in 110.25.			
490.47	ROP 9-178	Revised by including additional warning sign requirements where the compartment door or panel gives access to parts that can only be de-energized and visibly isolated by the serving utility.			
490.48	ROP 9-179, ROC 9-9	New section that includes requirements for substation design by a qualified licensed professional, and also includes engineer, documentation, and diagram requirements.			
490.53	ROP 9-180	Revised to require a warning sign or label to meet requirements in new 110.21(B).			
490.55	ROP 9-181	Revised to require a warning sign or label to meet requirements in new 110.21(B).			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Chapter 5 Summary of Changes in 2014 NEC®					
Article 500					
500.2	ROC 14-1	Revised to include definitions from Articles 500 through 516 that are used in two or more of these articles. This action results in definitions being relocated from Articles 504 through 516 to 500.2.			
500.2 Combustible Dust	ROC 14-6	Revised the dust particle size threshold to correlate with other national and international area classification standards.			
500.2 Cord Connector	ROP 14-11b	New definition to provide consistency in applying requirements covering cord connectors in Articles 500 through 516.			
500.5(A)	ROP 14-15a	Revised to indicate that pyrophoric materials are not covered by the requirements of Article 500.			
500.8(C)(4)	ROP 14-24	Revised to specify that temperature class and operating parameters are based on the equipment being covered by a blanket of dust.			
500.8(E)(1)	ROP 14-27	Revised to require listed conduit fittings and cable fittings.			
Article 501					
501.10(A)(1)(e)	ROP 14-32	New requirement on installing optical fiber cables in Class I, Division 1 locations.			
501.10(A)(2)	ROP 14-35, ROC 14-11	Revised to correlate with the provisions for terminating flexible cords specified in 501.140 and to add a new provision allowing the use of Type TC-ER-HL cable for flexible connections in Class I, Division 1 locations.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
501.10(A)(3) Informational Note	ROP 14-31	New Informational Note providing reference to a standard covering testing and marking of cable and flexible cord connectors used in hazardous (classified) locations.			
501.10(B)(1)(5)	ROP 14-36	Revised to include Type TC-ER cable.			
501.10(B)(1)(7)	ROP 14-36	New requirement on installing optical fiber cables in Class I, Division 2 locations.			
501.10(B)(2)(3)	ROP 14-38	New provision permitting the use of interlocked armor Type MC cable for flexible connections.			
501.10(B)(2)(7)	ROP 14-37a	New provision permitting certain types of elevator cables for use with elevators installed in Class I, Division 2 locations.			
501.10(B)(3)(4) Informational Note	ROP 14-31	New Informational Note providing reference to a standard covering testing and marking of cable and flexible cord connectors used in hazardous (classified) locations.			
501.15(B)(2) Informational Note	ROP 14-46	New Informational Note identifying the standard with performance parameters for seals that are not explosionproof.			
501.15(C)(6)	ROP 14-48	Revised to include optical fiber cables.			
501.15(D)(2)	ROP 14-49	Revised to include optical fiber cables.			
501.15(E)(1)	ROP 14-50, ROP 14-51	Revised to permit the use of explosionproof cable seals and to include optical fiber cables.			
501.17	14-54	New provision covering the use of “add-on secondary seals.” Revised the existing Informational Note to recognize the use of secondary seals.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
501.30	ROC 14-19	Revised to state that the grounding and bonding requirements apply regardless of the system or circuit voltage. This correlates with provisions on bonding in hazardous (classified) locations covered in 250.100.			
501.105(B)(6)(1)	ROP 14-62	Revised by adding an exception for nonincendive field wiring.			
501.125(B) Informational Note No. 4	ROP 14-66	New Informational Note identifying hazards associated with the operation of reciprocating engine-driven equipment in Class I, Division 2 locations.			
501.130(B)(4) Exception	ROC 14-23	Revised to permit portable luminaires to be used in Class I, Division 2 locations provided they comply with 501.130(B)(1) and 501.130(B)(2).			
501.140(A)(1)	ROP 14-75	Revised to reinforce that this requirement is applicable to cord- and plug-connected portable equipment.			
501.140(B)(4)	ROP 14-76	Revised to permit a listed cord connector used in conjunction with a seal fitting listed for the location.			
501.145	ROP 14-77	Revised to prevent attachment plugs (cord caps) from becoming energized unless plugged into a receptacle that is part of the premises wiring system.			
Article 502					
502.10(A)(1)(4)	ROP 14-83	Added a new requirement on installing optical fiber cables in Class II, Division 1 locations.			
502.10(A)(2)(5)	ROP 14-84	Revised to correlate with the provisions for terminating flexible cords specified in 502.140.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
502.10(A)(2)(6)	ROP 14-88a	New provision permitting certain type of elevator cables for use with elevators installed in Class II, Divisions 1 and 2 locations.			
502.10(A)(3)	ROP 14-80	Relocated the requirement for the installation and performance of boxes and fittings installed in Class II, Division 1 locations. The Informational Note provides reference to a standard covering testing and marking of cable and flexible cord connectors used in hazardous (classified) locations.			
502.10(B)(1)(8) Exception	ROP 14-88	New provision on installing optical fiber cables in Class II, Division 2 locations.			
502.30(A) Exception	ROC 14-28	Revised to state that the grounding and bonding requirements apply regardless of the system or circuit voltage. This correlates with provisions on bonding in hazardous (classified) locations covered in 250.100.			
502.130(A)(1)	ROP 14-95	Revised to specify that luminaire marking must provide the type of lamp in addition to its maximum wattage.			
502.140	ROP 14-96	Revised to provide more detailed requirements on the permitted uses and installation practices where flexible cords used to connect equipment in Class II, Division 1 and 2 locations.			
Article 503					
503.5	14-98	Revised to specify that temperature class and operating parameters are based on the equipment being covered by a blanket of fibers/flyings.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
503.10(A)(1)(4)	ROP 14-106	Revised to include Type TC-ER cable.			
503.10(A)(3)(6)	ROP 14-105a	New provision permitting certain type of elevator cables for use with elevators installed in Class III, Divisions 1 and 2 locations.			
503.30(A)	ROC 14-31	Revised to state that the grounding and bonding requirements apply regardless of the system or circuit voltage. This correlates with provisions on bonding in hazardous (classified) locations covered in 250.100.			
Article 504					
504.2 Associated Apparatus	ROP 14-112	Revised to correlate with product safety standards.			
504.10(C)	ROP 14-112	Revised to permit both intrinsically safe apparatus and associated apparatus to be installed in general purpose enclosures.			
504.30(A)(2)(3)	ROP 14-112	Revised to provide a specific distance between the insulating partition and the wall of an enclosure.			
504.30(C)	ROP 14-112	New provision providing minimum clearance between uninsulated parts of field connections and grounded metal or other conducting parts.			
Article 505					
505.5(A)	ROP 14-136a	Revised to indicate that pyrophoric materials are not covered by the requirements of Article 505.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
505.6 Informational Note No. 3	ROP 14-139	Revised to provide guidance on marking provisions specified in current product safety standards, and guidance on how to safely assimilate markings on older products with current marking requirements.			
505.7(F)	ROC 14-40	New requirement on the maximum short-circuit current for equipment in Zone 1 locations protected using type of protection “e.”			
Table 505.9(C)(2)(4)	ROP 14-150	Revised to add method of protection type “mc.”			
505.9(C)(2)(5)	ROP 14-152a	Revised to permit equipment to be marked for a specific gas or vapor.			
505.9(C)(2) Exception No. 3	ROP 14-152	New exemption from temperature marking for cable termination fittings.			
505.9(E)(1)	ROP 14-155	Revised to require listed conduit fittings and cable fittings.			
505.15(B)(1)(g)	ROC 14-43	New requirement covering the use of Type TC-ER-HL cable in Class I, Zone 1 locations.			
505.15(B)(1)(h)	ROP 14-160	New provision covering the permitted wiring methods in Class I, Zone 1 locations for intrinsic safety type of protection “ib”.			
505.15(B)(1)(i)	ROP 14-163	New provision on installing optical fiber cables in Class I, Zone 1 locations.			
505.15(C)(1)(b)	ROP 14-168	Revised to also permit the use of Type TC-ER cable in Class I, Zone 2 locations.			
505.15(C)(1)(h)	ROP 14-169	New provision on installing optical fiber cables in Class I, Zone 2 locations.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
505.15(C)(2) Exception	ROP 14-169a	New exception permitting certain types of elevator cables for use with elevators installed in Class I, Zone 2 locations.			
505.16(B)(5)	ROP 14-172	Revised to also cover sealing of optical fiber cables.			
505.16(B)(6)	ROP 14-173	Revised to also cover sealing of optical fiber cables.			
505.16(C)(2)(a)	ROP 14-174	Revised to also cover sealing of optical fiber cables.			
505.16(D)(5)	ROP 14-176	Revised to also cover sealing of optical fiber cables.			
505.17(A)	ROP 14-178	Revised to provide specific reference to wiring methods for Class I, Zone 2 locations.			
505.17(B)	ROP 14-180	New provision covering cord- and plug-connected instrumentation equipment in Class I, Zone 2 locations.			
505.20(C) Exception No.4, Informational Note No.3	ROP 14-181, ROP 14-182	New Informational Note providing guidance to application standard for motors installed in Class I, Division 2 and Zone 2 locations.			
505.20(D)	ROP 14-183	New requirement covering the permitted applications of equipment based on its material group marking.			
505.22 Informational Note	ROP 14-185	New Informational Note identifying hazards associated with the operation of reciprocating engine-driven equipment in Class I, Zone 2 locations.			
505.25	ROC 14-48	Revised to state that the grounding and bonding requirements apply regardless of the system or circuit voltage. This correlates with provisions on bonding in hazardous (classified) locations covered in 250.100.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
505.26(4)	ROP 14-189	New requirement covering the use of "add-on secondary seals." Revised the existing Informational Note to recognize the use of secondary seals.			
Article 506					
506.1	ROP 14-190a	Revised to not restrict Article 506 requirements from covering metal dusts.			
506.2 Protection by Encapsulation "m"	ROP 14-196	Revised to correlate with changes to product safety standards that expand application of this type of protection.			
506.2 Protection by Enclosure "t"	ROP 14-198	Revised to correlate with changes to product safety standards that expand application of this type of protection.			
506.2 Protection by Intrinsic Safety "i"	ROP 14-197	Revised to correlate with changes to product safety standards that expand application of this type of protection.			
506.3	ROP 14-199	New provision requiring compliance with applicable requirements in other articles of the *Code* except as modified by Articles 504 and 506.			
506.6	ROP 14-200a	New provisions covering material group designations to facilitate proper equipment selection for installations in Zones 20, 21, and 22 locations.			
506.8(E)	ROP 14-203	Revised to correlate with changes to product safety standards that expand application of this type of protection.			
506.8(H)	ROP 14-204	Revised to correlate with product safety standards.			
506.9(C)(1)(2)	ROP 14-204a	Revised to add a requirement for additional marking on "Division" equipment to indicate suitability for use with Zone material groups.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
506.9(C)(1)(3), 506.9(C)(2)(5), and 506.9(D)	ROP 14-205	Revised to maintain consistent terminology for temperature marking on equipment.			
506.9(C)(2)(4)	ROP 14-205a	Revised to add a requirement for additional marking on "Division" equipment to indicate suitability for use with Zone material groups.			
506.9(C)(2) Exception	ROP 14-209	New exception covering marking of associated apparatus not suitable for installation in a hazardous (classified) location.			
Table 506.9(C)(2)(3)	ROP 14-206, ROP 14-207, ROP 14-208	Revised to reflect changes in product safety standards relating to new type and expanded protection techniques for Zone 20, 21, and 22 applications.			
506.9(D)	ROP 14-210	Revised to specify that temperature class and operating parameters are based on the equipment being covered by a blanket of dust or dust simulating fibers/flyings.			
506.9(E)(1)	ROP 14-211	Revised to require listed conduit fittings and cable fittings.			
506.15(A)(2) Exception No. 2	ROP 14-212	New exception covering the permitted wiring methods in Zone 20 locations for intrinsically safe equipment.			
505.15 (multiple locations)	ROP 14-213	New Informational Notes to reference product safety standard for cables, cable fittings, and cord connectors.			
506.15(A)(6) Exception No. 2	ROP 14-215a	New exception permitting certain types of elevator cables for use with elevators installed in Zone 20 hazardous (classified) locations.			
506.15(A)(7)	ROP 14-219	New requirement on installing optical fiber cables in Zone 20 locations.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
506.15(B)(2) Exception	ROP 14-212	New exception covering the permitted wiring methods in Zone 20 locations for intrinsically safe equipment.			
506.15(C)(6)	ROP 14-221	Revised to also permit the use of Type TC-ER cable in Zone 22 locations.			
506.15(C)(7)	ROP 14-222	Revised to reflect changes in product safety standards related to the use of intrinsic safety as a protection technique in Zone 22 hazardous (classified) locations.			
506.15(C)(9)a	ROP 14-223	New provision on installing optical fiber cables in Zone 22 locations.			
506.17	ROP 14-224	New Informational Notes to reference product safety standard for cables, cable fittings, and cord connectors.			
506.20(D)	ROP 14-225	New provision covering the permitted applications of equipment based on its material group marking.			
506.25	ROC 14-62	Revised to state that the grounding and bonding requirements apply regardless of the system or circuit voltage. This correlates with provisions on bonding in hazardous (classified) locations covered in 250.100.			
Article 514					
Figures 514.3(a) and 514.3(b)	ROP 14-237	Revised the figure to show the classified area around dispensing devices; added a new figure to show the classified area around an aboveground tank with a dispensing device.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
514.3(C)	ROP 14-238	New requirement covering the installation of motor fuel dispensing equipment and associated piping at boatyards and marinas. These requirements were formerly located in 555.21.			
514.13	ROP 14-241	Revised for correlation with new general requirement for *lockable disconnecting means* in 110.25.			
Article 516					
Article 516	ROC 14-67	Revised Article to update all requirements that are extracted from NFPA 33, *Standard for Spray Application Using Flammable and Combustible Materials*, and NFPA 34, *Standard for Dipping, Coating, and Printing Processes Using Flammable or Combustible Liquids* to the 2011 editions of those standards. More specific information included on the use of the "zone system" of electrical area classification method is included in these revisions.			
516.10(A)	TIA 1096	Revised to recognize the use of spray equipment that is not listed, but is otherwise approved. New Informational Note provides direction on the approval of electrostatic spray equipment where other hazard mitigation features as described in NFPA 33 are employed.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 517					
517.1, Informational Note	ROC 15-4	New Informational Note which directs users to submit proposed changes affecting design elements (extracted information from NFPA 99) to the Electrical Systems Technical Committee of the NFPA 99 *Health Care Facilities Code.*	N		
517.2 Critical Branch	ROC 15-5	Revised the definition of *critical branch* to correlate with the definition in NFPA 99 by removing a reference to emergency system and adding fixed equipment to the list of items connected to the critical branch.			
517.2 Emergency System	ROP 15-13	Revised by deleting the definition of *emergency system* to correlate with NFPA 99.			
517.2 Equipment Branch	ROP 15-14	Revised the definition of *equipment system* to *equipment branch,* changed "circuits" to "feeders and branch circuits," and included a reference to extracted material from NFPA 99, *Health Care Facilities Code.*			
517.2 Life Safety Branch	ROC 15-10	Revised the definition of *life safety branch* to correlate with the definition in NFPA 99 by removing a reference to emergency system and by specifying that power supplies for lighting, receptacles, and equipment essential for life safety are what is connected to the life safety branch.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
517.2 Patient Care Space	ROC 15-12	Revised the definition of *patient care area* to *patient care space* to correlate with the new definitions for patient care rooms in NFPA 99, *Health Care Facilities Code;* added new Informational Notes to provide guidance on proper application.			
517.2 Patient Care Vicinity	ROP 15-21	Revised to provide clarification and to update to the extracted information from NFPA 99, *Health Care Facilities Code.*			
517.2 Wet Procedure Area	ROP 15-24	Revised the definition of *wet procedure location* to *wet procedure area* and relocated to correlate with the revised definitions for Patient Care Space. New informational note that indicates that routine housekeeping procedures and incidental spillage of liquid do not define a wet procedure location.			
517.10	ROC 15-19	Revised by replacing "areas" with "space" to correlate with the revised definition and with NFPA 99, *Health Care Facilities Code.*			
517.14	ROP 15-29	Revised by replacing "emergency system" with "essential electrical system" to correlate with NFPA 99, *Health Care Facilities Code.*			
517.16	ROC 15-21	Revised to clarify that isolated ground receptacles are only prohibited in the patient care vicinity, to correlate with NFPA 99, *Health Care Facilities Code.*	Less restrictive		
517.17(A)	ROP 15-33	Revised by replacing the term "areas" to "space" to correlate with the revised definition and with NFPA 99, *Health Care Facilities Code.*			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
517.18(A)	ROP 15-34	Revised by replacing "emergency system" with "critical branch" and providing new requirements for receptacle plate marking to correlate NFPA 99, *Health Care Facilities Code.*			
517.18(B)	ROP 15-36	Revised by increasing the number of required receptacles from four to eight to correlate with NFPA 99, *Health Care Facilities Code.*			
517.18(C)	ROC 15-26	Revised by replacing "Pediatric Locations" to "Designated General Care Pediatric Locations" to correlate with NFPA 99, *Health Care Facilities Code.*			
517.19(A)	ROP 15-38, ROP 15-39, ROC 15-29	Revised by replacing the term "areas" with "space," replacing "emergency system" with "critical branch," and increasing the number of required receptacles from six to fourteen to correlate with NFPA 99, *Health Care Facilities Code.*			
517.19(C)	ROP 15-41	New requirement that provides minimum number, supply requirements, and configuration for operating room receptacles to correlate with NFPA 99, *Health Care Facilities Code.*			
517.19(D)	ROP 9-181a	Revised the term "metal-enclosed switchgear" to "switchgear" for correlation with the revision made to the defined term in Article 100.			
517.19(E)	ROC 15-34	Revised by replacing the term "areas" with "space" to correlate with the revised definition and with NFPA 99, *Health Care Facilities Code.*			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
517.26	ROC 15-39	Revised to include the life safety branch of the essential electrical system to correlate with NFPA 99, *Health Care Facilities Code.* The new Informational Note refers to Section 517.30 and to NFPA 99, Chapter 6.			
517.30 Figures 1 and 2		Revised terms to correlate with NFPA 99, *Health Care Facilities Code.*			
516.30(B)(1) through (4)	ROP 15-52, ROC 15-46	Revised by specifying that essential electrical systems for hospitals must be comprised of three separate branches: life safety, critical, and equipment; and revised these terms to correlate with NFPA 99, *Health Care Facilities Code.*			
517.30(A)(1)	ROP 15-54	Revised by replacing "emergency system" with "essential electrical system" to correlate with NFPA 99, *Health Care Facilities Code.*			
517.30(C)(3)(1)	ROP 15-60	Revised by adding Type RTRC marked with the suffix –XW to the list of permitted wiring methods.			
517.30(C)(3)	ROC 15-49	Revised by replacing "emergency system" with "essential electrical system," replacing "emergency" with life safety and critical branches, and replacing the term "areas" with "space" to correlate with NFPA 99, *Health Care Facilities Code.*			
517.30(D)	ROP 15-63, ROC 15-56	Revised to specify that the capacity and rating for the essential electrical system must be designed for the maximum actual demand likely to be produced by the connected load of the essential electrical system.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
517.30(E)	ROP 15-64, ROP 15-65	Revised by replacing "emergency system" with "essential electrical system" to correlate with NFPA 99, *Health Care Facilities Code.*			
517.30(G)	ROP 15-66, ROC 15-58	New requirement for overcurrent protective devices serving the essential electrical system to be selectively coordinated for the period of time that a fault's duration extends beyond 0.1 second. Two exceptions to the rule address the arrangement between transformer primary and secondary protective devices and overcurrent protective devices of the same ampere rating connected in series.	Possible Cost savings resulting from selective coordination at 0.1 rather than full range (instantaneous)		
517.30 (F)	ROP 15-67	New provision permitting feeders supplied from an alternate power source to supply the essential electrical system to the point at which the life safety, critical, and equipment branches are separated. Installation of the transfer equipment is permitted at other than the location of the alternate power source.	Possible cost savings due to potential to eliminate an additional ATS		
517.31	ROP 15-68	Revised the title from "Emergency Systems" to "Branches Requiring Automatic Connection" and revised the requirement by replacing "emergency system" with "essential electrical system" and "life safety and critical branches" to correlate with NFPA 99, *Health Care Facilities Code.*	N		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
517.32	ROP 15-69	Revised by replacing "emergency system" with "essential electrical system" to correlate with NFPA 99, *Health Care Facilities Code.*	N		
517.32(F)	ROP 15-70	Revised to include a list of generator accessories that are loads dedicated to a specific generator, to correlate with NFPA 99, *Health Care Facilities Code.*	N		
517.33(A)	ROP 15-72	Revised by replacing "emergency system" with "essential electrical system" to correlate with NFPA 99, *Health Care Facilities Code.*	N		
517.33(A)(7)	ROP 15-73	Revised by adding "data equipment rooms and closets" to critical branch task illumination and receptacle requirements.	Limited cost impact		
517.34	ROP 15-74	Revised the title by replacing "System" with "Branch" and replaced "emergency system" with "essential system" to correlate with NFPA 99, *Health Care Facilities Code.*	N		
517.34(A)	ROP 15-75	Revised by adding a new provision to permit delayed automatic connection to the alternate power source for supply, return, exhaust ventilating, and/or air-conditioning systems serving telephone equipment rooms and closets and data equipment rooms and closets.	More options, N		
517.35(C)	ROP 15-78	Revised to include a requirement for physical separation of the main feeders of the alternate source from the main feeders of the normal electrical source.	N		
517.41, Figures 1 and 2	ROP 15-79	Revised the terms to correlate with NFPA 99, *Health Care Facilities Code.*	N		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
517.41(E)	ROP 15-80, ROP 15-81	Revised by replacing "emergency system" with "essential electrical system" to correlate with NFPA 99, *Health Care Facilities Code.* Added a new requirement for nonlocking-type, 125-volt, 15- and 20-ampere receptacles to have an illuminated face or an indicator light to indicate that there is power to the receptacle.	Cost increase from standard faceplate and lighted faceplate, licensing rqmt of DHHS Division of Facility Services		
517.43 Exception	ROP 15-83	Revised by replacing "system" with "branch" to correlate with NFPA 99, *Health Care Facilities Code.*	N		
517.71(C)	ROP 15-90	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	N		
Article 520					
520.2 Stage Equipment	ROP 15-98	New definition for equipment that is integral to the stage production.			
520.2 Stage Switchboard	ROP 15-98	New definition that includes a switchboard, panelboard, or rack containing dimmers or relays with associated overcurrent protective devices, or overcurrent protective devices alone, used primarily to feed stage equipment.			
520.2 Stage Lighting Hoist	ROP 15-99	New definition for a motorized lifting device for luminaires with integral cable system to allow travel over the lifting range while energized.			
520.26	ROP 15-110a	Revised to correlate with the new definition of *stage switchboard.*			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
520.40	ROP 15-111	New requirement that includes provisions for stage lighting hoists and requirement for listing.			
520.53(H)(1)	ROP 15-114	Revised by including the term "identified" and deleting "identified for the purpose" to provide consistency with the definition of *identified* in Article 100.			
520.53(K)(3)c	ROC 15-78	Revised to require marking to meet the requirements in new 110.21(B).			
520.68(A)(3)	ROP 15-117	New subsection that includes provisions for permitting luminaries to be supplied by hard usage supply cords provided conditions are met.			
Article 525					
525.32	ROP 15-126	Revised to correlate with the term *equipment grounding conductor.*			
Article 530					
530.22(A)(3)c	ROC 15-82	Revised to require marking to meet the requirements in new 110.21(B).			
530.61	ROP 15-129	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Article 545					
545.5	ROP 19-9	Revised for consistency with terms associated with underground service conductors that are within the scope of the *Code*.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 547					
547.2 Equipotential Plane	ROP 19-11a	Revised by replacing "prevent" with "minimize" in the definition; this more closely represents the level of voltage reduction obtained with an equipotential plane.			
547.5(F)	ROC 19-8	Revised by permitting use of an aluminum equipment grounding conductor that is insulated or covered where installed underground.			
547.9(A)(1)	ROP 19-20a	Revised to apply to multiple buildings or structures of any use group that are supplied from the same distribution point.			
547.9(B)(3)(2)	ROP 19-21	Revised by adding the word "enclosure" after the words "site-isolating device" to clarify the equipment grounding conductor connection is to the site-isolating device enclosure.			
547.10(B) Informational Note No. 2	ROP 19-26a	Revised to update to the current edition of the referenced standard.			
Article 550					
550.2, 550.10(B), 550.11, 550.16, and 550.30	ROP 19-27	Revised by removing the definition of "distribution panelboard" and removing the term "distribution" throughout several sections, to correlate with the defined term *panelboard* in Article 100.			
550.2 Feeder Assembly	ROP 19-29	Revised by including the term "identified" and deleting "designed for the purpose" to provide consistency with the definition of *identified* in Article 100.			
550.10(C) Informational Note	ROP 19-31a	Revised to update to the current edition of the referenced standard.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
550.15(H)	ROP 19-37, ROP 19-39	Revised to require that conductors be listed for use in wet locations and raceways be approved for wet locations where exposed to moisture and subject to physical damage.			
550.32(C) Informational Note	ROP 19-43a	Revised to update to the current edition of the referenced standard.			
Article 551					
551.1 Informational Note	ROP 19-44a	Revised to update to the current edition of the referenced standard.			
551.2, 551.42, 551.45, 551.46, 551.47, 551.54, 551.55, and 551.73	ROP 19-45	Revised by removing the definition of "distribution panelboard" and the term "distribution" throughout several sections to correlate with the defined term *panelboard* in Article 100.			
551.2 Recreational Vehicle	ROP 19-48	Revised by removing explanatory material and relocating to a new Informational Note: "The basic entities are travel trailer, camping trailer, truck camper, and motor home."			
551.4(B) Informational Note	ROP 19-49a	Revised to update to the current edition of the referenced standard.			
551.4(C)	ROP 19-50, ROC 19-23	New requirement for standardized labels for recreational vehicles. Informational note refers to ANSI Z535, *Product Safety Signs and Labels,* for additional guidance.			
551.30(D) Informational Note	ROP 19-51a	Revised to update to the current edition of the referenced standard.			
551.30(E)	ROP 19-52	Revised by combining the location requirements, and adding similar location requirements for enclosed transfer switches when used as the first termination of generator supply conductors.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
551.41(B)	ROP 19-56	Revised by specifying that the minimum size for qualifying receptacle requirements includes both width and depth.			
551.41(B)(4)	ROP 19-57	New requirement for at least one receptacle for rooftop decks that is accessible from inside the RV.			
551.42(C)(2) Exception 2	ROC 19-24	New exception that permits a sixth circuit to serve only the power converter; if the combined load of all six (6) circuits does not exceed the allowable load that was designed for use by the original five (5) circuits.			
551.45(B) Exception 1	ROC 19-25	Revised to provide an alternate installation when the door installation prohibits meeting the specified setback limit for working clearances.			
551.46(D)	ROP 19-63	Revised to provide standardized label requirements for electrical entrance and for compliance with ANSI Z535, *Product Safety Signs and Labels.*			
551.47(I)	ROP 19-69	Revised to correlate with Section 334.30 by requiring cables to be secured, as well as supported.			
551.47(J)	ROP 19-70	Revised to correlate with Section 334.30 by requiring cables to be secured, as well as supported.			
551.47(Q)(3)	ROP 19-73	Revised to provide standardized label requirements for air-conditioning equipment and for compliance with ANSI Z535, *Product Safety Signs and Labels.*			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
551.47(R)(4)	ROP 19-74	Revised to provide standardized label requirements for generator installations and for compliance with ANSI Z535, *Product Safety Signs and Labels.*			
551.47(S)(3)	ROP 19-75	Revised to provide standardized label requirements for prewiring for other circuits and for compliance with ANSI Z535, *Product Safety Signs and Labels.*			
551.53	ROP 19-76	Revised to also apply to ceiling-suspended (paddle) fans.			
551.71	ROP 19-77	Revised to require that every recreational vehicle site equipped with a 50-ampere receptacle also be equipped with a 30-ampere, 125-volt receptacle conforming to Figure 551.46(C).			
551.79	ROP 19-81	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Article 552					
552.43, 552.44, 552.45, 552.46, 552.47, 552.55, 552.56, and 552.47	ROP 19-83	Revised by removing the term "distribution" throughout several sections to correlate with the defined term *panelboard* in Article 100.			
552.10(B)(2) Informational Note	ROP 19-83a	Revised to update to the current edition of the referenced standard.			
552.10(E)(2) Informational Note	ROP 19-86	Revised to update to the current edition of the referenced standard.			
552.44(C)(1) Informational Note	ROP 19-90a	Revised to update to the current edition of the referenced standard.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
552.44(C)(2) Informational Note	ROP 19-90b	Revised to update to the current edition of the referenced standard.			
Article 555					
555.1 Informational Note	ROP 19-101a	Revised to update to the current edition of the referenced standard.			
555.21(A) Informational Note	ROP 19-88b	Revised to update to the current edition of the referenced standard.			
555.2 Marine Power Outlet	ROP 19-102	Revised by removing the term "distribution" to correlate with the defined term *panelboard* in Article 100.			
555.4	ROP 19-104	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
555.15(B) and (C)	ROC 19-36	Revised by permitting an aluminum equipment grounding conductor that is insulated for installations at marinas and boatyards.			
555.19(A)(4)(a) Informational Note	ROP 19-107a	Revised to update to the current edition of the referenced standard.			
Article 590					
590.4(C)	ROC 3-32	Revised by adding "switchgear" to the list of equipment where branch circuits must originate.			
590.4(D)(2)	ROC 3-33	Revised to require receptacles installed in a wet location to be provided with an extra duty hood in accordance with 406.9(B)(1), for all occupancies.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
590.4(I)	ROP 3-104	Revised by clarifying that fittings are required to be listed for connecting flexible cords and cables to boxes.			
590.4(J)	ROC 3-35	Revised to specify that cable assemblies and flexible cords and cables installed as branch circuits or feeders are not permitted to be installed on the floor or on the ground. This does not include extension cords.			
Chapter 6 Summary of Changes in 2014 NEC®					
Article 600					
600.2 Neon tubing	ROP 18-89a	Revised to include cold cathode luminous tubing in the definition.			
600.3	ROP 18-90, ROP 18-91	Revised to require that retrofit kits be listed and to specify that electric signs, outline lighting, and retrofit kits must be provided with installation instructions.			
600.4(E)	ROP 18-93	Revised to also include outline lighting, skeleton tubing systems, and retrofit kits in the marking requirement, with an exception for cord-and-plug-connected portable signs.			
600.6(A)(1)	ROP 18-99	Revised to specify that the disconnecting means must be located nearest the point where the supply conductors enter the sign (or a pole supporting a sign), with an exception for supply conductors inside the sign that are installed in a listed raceway.			
600.6(A)(2)	ROP 18-97	Revised to correlate with new general requirement for lockable disconnecting means in 110.25.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
600.6(A)(3)(1)	ROP 18-101	Revised to make the "within sight" requirement mandatory rather than permissive.			
600.6(A)(3)(3)	ROP 18-102	Revised to make the "within sight" requirement mandatory rather than permissive.			
600.7(A)(1)	ROP 18-103	Revised to include skeleton tubing.			
600.10(C)(2)	ROP 18-108	Revised to require that the GFCI device protecting a portable or mobile sign be installed by the sign manufacturer.			
600.12	ROP 18-109	Revised to include retrofit kits.			
600.12(A)	ROC 18-49	Revised to apply to all neon and other secondary circuits rated 1000 volts or less.			
600.12(B)	ROP 18-110	Revised to limit application to neon secondary circuits rated more than 1000 volts.			
600.12(C)	ROP 18-112	Revised to indicate that the acceptable wiring method is determined by the installation conditions and the manufacturer's instructions.			
600.21	ROP 18-113	Revised to require that all power supplies be either self-contained or be enclosed in a listed sign body or listed enclosure.			
600.21(A), (B), (C), (D), (E), and (F)	ROP 18-114	Revised to include Class 2 power sources.			
600.33	ROP 18-124	Revised to specify that only the provisions in Chapter 3 and Part III of Article 725 covering wiring methods and materials suitable for LED lighting installations are applicable.			
Article 605					

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Entire article	ROP 18-125a, ROP 18-127	Revised to replace the terms “relocatable wired partitions” and “partition” with “office furnishings,” to correlate with the terminology used in the product safety standard for this equipment.			
605.2	ROP 18-125a, ROP 18-126	New definition of *office furnishings.*			
605.6(B)	ROP 18-125a, ROP 18-128	Revised to accommodate flexible cord connections associated with lighting systems supplied from Class 2 power sources, including low voltage LED lighting systems.			
Article 610					
610.31	ROC 12-1	Revised to correlate with the provisions covering the permitted types of disconnecting means specified in 430.109.			
610.31(2)	ROP 12-11	Revised to correlate with new general requirement for lockable disconnecting means in 110.25.			
610.31(4) Exception	ROP 12-12a	New exception to the “with view” requirement for the runway conductor disconnecting means where the crane serves an electrolytic cell line.			
610.32	ROP 12-12b, ROP 12-13	Revised to correlate with the provisions for the permitted types of disconnecting means specified in 430.109 and to correlate with new general requirement for lockable disconnecting means in 110.25.			
Article 620					

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
620.3(A)	ROP 12-16, ROP 12-17	Revised to require marking to meet requirements in new 110.21(B) and to revise the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
620.3(C)	ROP 12-17	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
620.5	ROC 12-8	Revised to clarify that reduced working space is permitted under any one of the conditions specified in (A) through (D).			
620.13(B)	ROP 12-19a	Revised by incorporating text of the Informational Note as a permissive requirement for determining the rating of a motor controller for the purpose of sizing the conductors supplying it.			
Table 620.14	ROC 12-10	Revised by incorporating text of the Informational Note as a new application note to the demand factor table.			
620.21 Exception	ROC 12-13	New exception permitting cords or cables of listed cord-and plug-connected equipment to be used without being installed in a raceway.			
620.22(B)	ROP 12-30a	Revised to require a separate branch circuit to supply the air-conditioning and heating equipment for each elevator car.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
620.36	ROP 12-32	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
620.41	ROP 12-32b	Revised by incorporating text of the Informational Note as the condition under which the length of unsupported cord is determined.			
620.51(A) and Exception No. 1	ROP 12-33, ROP 12-35	Revised to correlate with new general requirement for lockable disconnecting means in 110.25.			
620.51(C)(1)	ROC 12-17	Revised to correlate with new general requirement for lockable disconnecting means in 110.25 and to permit fused motor circuit switches as the disconnecting means for the elevator driving machine.			
620.51(C)(2)	ROP 12-40	Revised to correlate with new general requirement for lockable disconnecting means in 110.25.			
620.52(B)	ROP 12-41	Revised to require marking to meet requirements in new 110.21(B).			
620.53	ROP 12-42	Revised to require marking to meet requirements in new 110.21(B).			
620.53 Exception	ROP 12-44, ROP 12-45	Revised to clarify that one branch circuit is permitted to supply all of the equipment covered by the exception. Also revised to correlate with new general requirement for lockable disconnecting means in 110.25.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
620.54	ROP 12-46	Revised to correlate with new general requirement for lockable disconnecting means in 110.25.			
620.55	ROP 12-48	Revised to correlate with new general requirement for lockable disconnecting means in 110.25.			
620.62	ROP 12-50	Revised to specify the qualifications of those responsible for the design of the system used to establish selective coordination and those to whom the required documentation must be made available.			
Article 625					
625.2 Cable Management System	ROC 12-20	New definition describing the function of this system.			
625.2 Electric Vehicle Connector	ROP 12-52, ROP 12-66	Revised to recognize that the electrical connection to the electric vehicle can be conductive or inductive.			
625.2 Electric Vehicle Inlet	ROP 12-52, ROP 12-66	Revised to recognize that the electrical connection to the electric vehicle can be conductive or inductive.			
625.2 Electric Vehicle Storage Battery	ROP 12-52, ROP 12-57	Revised to reflect that all battery technologies have a means to vent excessive gas pressure due to overheating, in order to prevent battery explosion.			
625.2 Electric Vehicle Supply Equipment	ROP 12-52	New informational note explaining the relationship between the terms *electric vehicle supply equipment* and *electrical vehicle charging system equipment* in the context of Article 625.			
625.2 Fastened in Place	ROC 12-25	New definition of *condition* used in requirements covering EVSE.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
625.2 Output Cable to the Electric Vehicle	ROP 12-52	New definition describing the cable with an electric vehicle connection that runs from the output of the EVSE to the EV inlet.			
625.2 Power Supply Cord	ROP 12-52	New definition covering the cord connecting the EVSE to the premises wiring system through a cord-and-plug connection to a receptacle.			
625.4	ROP 12-52	Revised to include dc systems rated up to 600 volts.			
625.10(A)	ROC 12-27	Revised with a new exception covering the specific condition under which polarization of the EV coupler is not required.			
625.10(E)	ROP 12-52	Revised to clearly describe the condition under which a grounding pole is not required.			
625.17	ROP 12-52	Revised to distinguish the requirements for the power supply cord from those covering the output cable.			
625.17(C)(1) and (2)	ROC 12-43a	New provisions covering how the length of the power supply cord and the output cable is to be determined.			
625.18	ROP 12-51, ROP 12-52	Revised to not require interlock for dc supplies rated less than 50 volts.			
625.19	ROP 12-51, ROP 12-52	Revised to not require interlock for dc supplies rated less than 50 volts.			
625.41(formerly 625.14)	ROP 12-52	Revised to cover the impact that a load management system has on service and feeder calculations.			
625.42 (formerly 625.23)	ROP 12-52, ROP 12-72, ROP 12-73	Revised to correlate with new general requirement for lockable disconnecting means in 110.25.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
625.44 (formerly 625.13)	ROP 12-52, ROP 12-59, ROP 12-61, ROC 12-41, ROC 12-42	Revised requirements covering cord-and-plug- and permanently connected EVSE equipment.			
625.48 (formerly 625.26)	ROP 12-52	Revised to require that equipment used as part of an interactive electrical system be listed and marked as being suitable for this application.			
625.50 [formerly 625.29(A) and 625.30]	ROP 12-52	Revised to recognize that the electrical connection to the electric vehicle can be conductive or inductive, and to consolidate indoor and outdoor location provisions.			
625.52(B)(2) [formerly 625.29(D)(2)]	ROP 12-52, ROP 12-76	Revised to cover electric vehicle supply equipment supplied by dc branch circuits.			
Tables 625.52(B)(1) and (B)(2) [formerly Tables 625.29(D)(1) and (D)(2)]	ROC 12-47	Revised to cover electric vehicle supply equipment supplied by dc branch circuits.			
Article 626					
626.2 Cable Management System (Electrified Truck Parking Spaces)	ROC 12-48a	Revised to distinguish cable management systems for electrified trucks from cable management systems for electric vehicles covered in Article 625.			
626.22(D)	ROP 12-84	Revised to correlate with new general requirement for lockable disconnecting means in 110.25.			
626.24(B) Exception	ROP 12-85	Revised for correlation with the number of receptacles specified in 626.24(B)(1).			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
626.24(C)	ROP 12-87	Revised to correlate with new general requirement for lockable disconnecting means in 110.25.			
626.31(A)	ROP 12-90	Revised to correlate with new general requirement for lockable disconnecting means in 110.25.			
Article 630					
630.13	ROC 12-53	Revised to reference 110.22(A) for marking of welder supply circuit disconnecting means.			
Article 640					
640.1	ROP 12-93a	Revised the scope to specify the types of systems not covered by Article 640.			
640.2 Audio Amplifier or Preamplifier	ROP 12-94	Revised to provide correlation between this definition and its use in the requirements of Article 640.			
640.10(A)	ROP 12-107	Revised for clarity by replacing “laterally” with “horizontally” in regard to the minimum clearance distance.			
Article 645					
645.2	ROC 12-56a	New informational note providing guidance on the relationship between critical operations data systems and critical operations power systems.			
645.4	ROP 12-112	Revised to indicate that the provisions of Article 645 modify the general requirements in Articles 300 and 708 for power wiring, those in Article 725 for signaling circuit installations, and those in Article 770 optical fiber cable installations.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
645.5(E)(4)	ROP 12-129	Revised by deleting the condition requiring automatic cessation of air circulation upon detection of smoke in underfloor air-handling/ventilation areas serving an information technology equipment room(s).			
645.14 and 645.15	ROP 12-139, ROC 12-68	New Section 645.14 added to cover grounding of separately derived systems that supply ITE equipment. Section 645.15 now provides only requirements covering grounding and bonding of information technology equipment. Revised to require auxiliary grounding electrodes be installed in accordance with 250.54.			
645.27	ROP 12-143	New requirement covering selective coordination of overcurrent devices protecting circuits supplying critical operations data systems.			
Article 646					
Article 646 Modular Data Systems (MDCs)	ROC 12-71	New article covering prefabricated units containing information technology equipment and associated support equipment used to provide power, cooling, and ventilation for the units' HVAC equipment. MDCs are required to either be listed or be constructed in accordance with the requirements of Article 626.			
Article 647					
647.6(A)	ROP 12-148	Revised to clarify that equipment supplied by a grounded technical power system operates at the line-to-line voltage of 120 volts.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
647.7(A)(2)	ROP 12-149	Revised to require marking to meet requirements in new 110.21(B).			
647.8(A)	ROP 12-150	Revised for correlation with new general requirement for lockable disconnecting means in 110.25.			
Article 660					
660.4(C)	ROP 12-152	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Article 665					
665.2 Applicator	ROP 12-154	Revised to be consistent with use of this term within Article 665.			
665.12	ROP 12-155	Revised for correlation with new general requirement for lockable disconnecting means in 110.25.			
665.23	ROC 12-158	Revised to require marking to meet requirements in new 110.21(B).			
Article 668					
668.21(A)	ROP 12-160	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Article 669					
669.7	ROP 12-165	Revised to require marking to meet requirements in new 110.21(B).			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 670					
670.4 Informational Note	ROP 12-167	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Article 675					
675.8(B)	ROP 19-118, ROP 19-119	Revised for correlation with new general requirement for lockable disconnecting means in 110.25. The phrase "visible and not more than 15 m (50 ft)" is revised to "in sight from" because that distance is part of the Article 100 definition of "in sight from."			
675.10	ROP 19-120	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Article 680					
680.2 Storable Swimming, Wading, or Immersion Pools or Storable/Portable Spas and Hot Tubs	ROP 17-90	Revised to also include storable and portable spas and hot tubs.			
680.8(A)	ROP 17-92	Revised to also apply to overhead service conductors.			
680.12	ROP 17-96	Revised to also apply to fountains.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
680.21(C)	ROP 17-100	Revised to require GFCI protection for all 120- and 240-volt, single-phase swimming pool pump motors.	Increased to over 20A, 240V, 40A, for those above, very limited, impacts large pools only		
680.22(A)(1)	ROP 17-101, ROP 17-104, ROP 17-105	Revised to permit non-locking receptacles to supply swimming pool circulating pump motors.	N, less restrictive		
680.22(A)(3)	ROC 17-31	Revised to expand application of the receptacle outlet requirement to all occupancy types.			
680.22(B)(6)	ROC 17-32	New provision permitting certain types of listed low-voltage luminaires to be installed less than 5 feet from the inside walls of a swimming pool.	Less restrictive		
680.23	ROP 17-109	Revised to use the maximum water level as the benchmark for establishing which underwater luminaires are covered by these requirements.			
680.25(A)(1) Exception	ROP 17-37	Revised Exception to permit flexible metal conduit with an insulated equipment grounding conductor or a cable assembly complying with the requirement of Chapter 3 that contains an insulated equipment grounding conductor, to be used as a panelboard feeder for one- and two-family dwellings.	Less restrictive, aluminum cable savings possible, use of cable versus raceway		
680.26(C)	ROP 17-131	Revised to include physical protection provisions for the bonded metal element used to create direct contact between the swimming pool water and bonded metal surface.	Unusual to not have any other metal parts		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
680.27(B)(2)	ROC 17-41	Revised to require that the branch circuit supplying the pool cover motor and associated equipment be protected by a ground-fault circuit interrupter.	No cost impact		
Article 680 Part III Title, 680.30, 680.32, 680.33, and 680.34	ROC 17-26	Revised to make the requirements of Part III applicable to portable spas and portable hot tubs.			
680.42(A)(1)	ROP 17-139, ROP 17-140	Revised to remove the 6-foot length restriction for liquidtight flexible metal conduit and liquidtight flexible nonmetallic conduit.	Less restrictive, possible savings with wiring type		
680.42(B)	ROP 17-142	Revised to provide conditions under which perimeter bonding is not required for certain listed self-contained spas and hot tubs installed on or above grade outdoors.	Already NC amendment, language is same		
680.42(C)	ROP 17-145	Revised to permit application of this requirement to outdoor spas and hot tubs installed at one-family dwellings or at a dwelling unit that is part of a two-family or multifamily dwelling.	N, less restrictive for 2-family and multi-family		
680.43 Exception No. 3	ROP 17-146	New exception permitting application of the provisions of 680.42(C) for spas and hot tubs installed indoors at one-family dwellings or at a dwelling unit that is part of a two-family or multifamily dwelling.	N, less restrictive for 2-family and multi-family		
680.57(B)	ROC 17-48	Revised to require that the ground-fault circuit-interrupter protection be provided in either the branch circuit or feeder that supplies a sign either installed in a fountain or installed within 10 feet of a fountain.	Less restrictive, possible savings		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
680.74	ROP 17-148	Revised to clarify that only the metal piping system associated with the hydromassage bathtub is subject to the bonding requirement of this section.	N		
Article 690					
Figure 690.1(A)	ROP 4-170	Revised by removing the blocking diodes from the figure to reflect current circuit protection requirements contained in the *NEC* and in the product safety standards.			
690.2 Direct Current (dc) Combiner	ROC 4-81	New definition to provide standardization of the nomenclature used to describe this type of equipment.			
690.2 DC-to-DC Converter	ROC 4-83	New definition for correlation with existing requirements in Article 690 covering the use of this device.			
690.2 Multimode Inverter	ROP 4-181	New definition for a component that can be used in an interactive or stand-alone PV system.			
690.4	ROP 4-188a	Renamed this section "General Requirements." Conductor segregation and identification requirements have been relocated to 690.31.			
690.4(D)	ROP 4-188a	Revised to permit PV system installations to be comprised of more than one utility-interactive or stand-alone inverter.	N, clarification		
690.5(A)	ROC 4-87	Revised to specify the required performance of the ground-fault detection system, and to require listing of the equipment used to provide the ground-fault protection and circuit interruption. Also revised to permit ground fault devices to automatically interrupt the grounded conductor for the purpose of ascertaining circuit isolation.	Manufacturer change		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
690.5(C)	ROP 4-215	Revised to require marking to meet requirements in new 110.21(B).			
690.7(C)	ROP 4-223	Revised the threshold voltage for other than one and two family dwellings from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	About 10% savings for commercial installations		
690.7(E)(3)	ROP 4-225	Revised to require marking to meet requirements in new 110.21(B).	N		
690.8(A)(5)	ROC 4-228	New requirement on determining the maximum current for dc to dc converters.	No cost impact		
690.8(B)(1) [formerly 690.8(B)(2)]	ROP 4-225a	Revised by changing the term “conditions of use” to “adjustment and correction factors.”	N		
690.8(D)	ROP 4-225a	Revised “single fuse” to “single overcurrent device” to allow determining the ampacity of conductors that interconnect modules to be based on the rating of the specific type of overcurrent protective device used in the PV system .	N		
690.9(A)	ROP 4-235, ROC 4-94	Revised to require that overcurrent protection devices be located to protect conductors against overcurrents originating in any connected source. Also revised to require that battery system conductors comply with Article 480.	N		
690.9(B) [formerly 690.8(B)(1)]	ROP 4-233	Relocated requirements for determining overcurrent device ratings.	N		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
690.9(D)	ROP 4-239	Revised to require that overcurrent protective devices used in PV source and output circuits be listed as a PV overcurrent device.	N		
690.9(E)	ROP 4-242	Revised to provide separate requirements for the number of overcurrent protection devices in grounded and ungrounded PV systems.	For ungrounded systems, could be minimum cost increase		
690.10(C)	ROP 4-244	Revised to require marking to meet requirements in new 110.21(B).	N		
690.10(E)	ROC 4-97	Revised to cover securing of back-fed plug-in type circuit breakers connected to multimode inverters.	N		
690.11	ROP 4-251	Revised to expand the series arc fault protection requirement to conductors installed indoors and outdoors.	No impact on residential, cost impact on solar farms – equipment does not exist at this time for solar farms (informational note)		
690.12	ROC 4-113	New requirement to provide emergency personnel with a means to reduce the voltage and power of PV system circuit conductors within a specified amount of time.	New listed device to protect first responders, cost increase for large rooftop systems (about $0 -$2000, based on design choice) but not for residential,		
690.13	ROP 4-254a	Revised by consolidating requirements for disconnecting means formerly located in 690.13 and 690.14 into one section (690.13).	N		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
690.13(C) [formerly 690.14 (C)(3)]	ROP 4-255	Revised to not require that PV system disconnecting means be identified as suitable for use as service equipment.	Savings, Larger savings for the larger installations		
690.13(D) [formerly 690.14(C)(4)]	ROC 4-127	Revised by deleting “switchboard” as a type of equipment that can be used as the PV system disconnecting means.	N		
690.15	ROP 4-274a	Revised by consolidating requirements for disconnecting means formerly located in 690.14 and 690.15 into one section (690.15).	N		
690.15(B) [formerly 690.14(B)]	ROP 4-274a	Revised to include dc-to-dc converters.	N		
690.15(C)	ROP 4-276	New provision for installation of a disconnecting means within 6 feet of dc combiners mounted on rooftops.	New output of combiner box – disconnect or within 6’, manufacturer putting in equipment, Cost included with the rapid shutdown requirement		
690.15(D) [formerly 690.14(C)(4)]	ROP 4-277	Revised by deleting “switchboard” as a type of equipment that can be used as the PV system disconnecting means.	N		600V, 5kV class, now 1kV allowed when manufacturers have 600V class tested at 1000V
690.17	ROP 4-278a	Revised by consolidating requirements for type and operational characteristics of PV disconnecting means formerly located in 690.13 and 690.17 into one section (690.17).	N		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
690.17(A)	ROP 4-278a, ROC 4-129	Revised to provide list of equipment permitted to be used as a PV system disconnecting means. Also revised to permit the disconnecting means to be power operable.	N		
690.17(B)	ROC 4-130	New provision requiring PV disconnecting means to simultaneously open all ungrounded supply conductors.	N		
690.17(E)	ROC 4-131	Revised to require marking to meet requirements in new 110.21(B).	N		
690.18 Informational Note	ROP 4-283	Revised to use the more commonly understood term “energized.”	N		
690.31(A)	ROP 4-285	Revised to permit PV conductors to be guarded (as an alternative to their being installed in a raceway) where the conductors are in a readily accessible location.	Less restrictive, slight savings possible		
690.31(B)	ROP 4-288	Relocated the requirements covering PV system conductor identification and grouping from 690.4(B). Revised to prohibit inverter output circuit conductors from being installed in the same raceway, cable tray, cable, outlet box, junction box, or similar type of equipment with PV source and PV output conductors.	N, Text relocation		
690.31(C)(2)	ROC 4-136	New provision permitting single conductor cable listed as PV wire to be installed in outdoor cable trays without having a cable tray (CT) marking or a minimum size requirement.	Less restrictive, savings		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
690.31(D)	ROP 4-301	New provision permitting the outdoor use of multiconductor TC-ER and USE-2 cables for the output circuits of utility-interactive inverters that are not readily accessible.	Less restrictive, manufacturer change		
690.31(G)(1)	ROP 4-194, ROC 4-84	Revised to only provide a marking requirement for rooftop PV conductors that are concealed within built-up, laminate, or membrane roofing materials. New provision added covering the suitability of the marking method for exposure to sunlight and the weather.	N		
690.31(G)(4)	ROP 4-296	Revised to include specific requirements for the warning label and the letters on the label.	N		
690.31(I)	ROP 4-284a, ROP 4-288	Relocated from 690.4(G). Revised to require an overvoltage warning marking for bipolar PV systems.	N		
690.31(J)	ROP 4-284a, ROP 4-288	Relocated the requirement from 690.4(C).	N		
690.35(C)(1)	ROC 4-141	Revised to prescribe the performance characteristics of the ground-fault protective device without specifying a specific methodology to meet the requirement. Also revised to require that the device be listed for ground- fault protection.	N, manufacturer		
690.35(D)(1)	ROP 4-305a	Revised to permit cables with metal jackets in addition to those with nonmetallic jackets.	Less restrictive		
690.35(D)(4)	ROC 4-142	New provision permitting underground installations using cables identified for direct burial.	Less restrictive, cost savings on large solar farms		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
690.35(F)	ROP 4-306	Revised to require marking to meet requirements in new 110.21(B).	N		
690.41	ROC 4-147	Revised to permit PV systems of any voltage to operate as grounded or as ungrounded systems. Specific requirements have been included for grounded and ungrounded PV systems.	Less restrictive, neutral cost		
690.45	ROP 4-308a, ROC 4-149	Revised by deleting 690.45(B) and its Informational Note to correlate with the deletion of 690.5(A) Exception No. 2 that permitted installations without ground-fault protection provided the equipment grounding conductor was doubled in size.	N		
690.46	ROC 4-150	Revised to permit raceway installation of solid conductors not larger than 6 AWG used as grounding electrode conductors and equipment grounding conductors.	Less restrictive		
690.47(B)	ROP 4-310a	Revised to permit equipment associated with an ungrounded dc system and the ground-fault detection reference point to be grounded through connection to the ac equipment grounding system.	Cost savings, GEC not required for ungrounded systems, (10-300’ ft of #6 CU)		
690.47(C)(2)	ROC 4-154	Revised to permit additional means to connect the dc grounding electrode conductor to the ac grounding electrode conductor.	Included above		
690.47(C)(3)	ROC 4-151	Revised to provide grounding conductor sizing requirement for ungrounded dc systems. This revision correlates with the revision to 690.47(B) covering the grounding of equipment in ungrounded dc systems.	Included above		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
690.47(D)	ROC 4-155	Revised to restore a requirement from the 2008 *NEC* covering the installation of a local auxiliary grounding electrode for grounding the non–current-carrying metal parts of PV array frame(s) or structure(s) mounted on roofs, on poles, or on the ground.	Cost increase, additional ground rod, minimum increase		
690.53(4)	ROP 4-318, ROP 4-319	Revised to use the correct term *maximum circuit current* and to provide a marking/labeling requirement to accommodate PV power sources with multiple dc outputs.	N		
690.56(A)	ROP 4-320	Revised to require that the plaque or directory comply with the elements for warning labels specified in 690.31(G)(4).	N		
690.56(B)	ROC 4-159	Revised to require that the plaque or directory comply with the requirements of new 110.21(B).	N		
690.56(C)	ROC 4-159	New requirement for providing a plaque or directory indicating that the PV system is equipped with rapid shutdown equipment.	N		
690.71(B)(1)	ROC 4-161	Revised to recognize that lead acid is not the only type of battery available.	N		
690.71(H)	ROP 4-325	New requirements covering disconnecting means and overcurrent protection for battery systems.	Minimum cost increase for systems with batteries		
Article 690 Part IX	ROP 4-328	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.	Included 10% overall savings for voltage change from 600V – 1000V		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
690.80	ROP 4-327	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
690.81	ROC 4-92	New requirement covering the use of listed products rated over 1000 volts, with a reference to Column 1 in Table 300.50 for direct burial of PV wire rated greater than 600 volts but not exceeding 2000 volts.			
Article 690 Part X	ROP 4-331	New requirements covering the use of PV systems to supply electric vehicle charging equipment.	N		
Article 692					
692.10(C)	ROP 4-338	Revised to require marking to meet requirements in new 110.21(B).			
692.17	ROP 4-339	Revised to require marking to meet requirements in new 110.21(B).			
692.56	ROP 4-341	Revised to require marking to meet requirements in new 110.21(B).			
Article 692 Part VIII	ROP 4-343	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
692.80	ROP 4-342	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 694					
Article 694 and 694.1	ROP 4-345, ROP 4-346	Revised to not limit application of this article to only wind turbines individually rated 100 kW or less. Correlating changes have been made throughout Article 694.	Allows installation of larger turbine on same structure, Ron – check with Bob Shuler, call Jeff at App State		
694.2 Rated Power	ROC 4-174	Revised by removing specific performance criteria from the definition.			
694.7(A)	ROP 4-352	Revised to recognize that other sources of electric supply may be other than utility services.			
694.7(B)	ROC 4-198	Revised to expand the equipment required to be listed and to permit field labeling of wind electric systems.			
694.7(E)	ROP 4-351	Revised by adding a provision for GFCI protection of 125-volt, single-phase, 15- and 20-ampere receptacles that are installed to support maintenance of equipment associated with the wind electric system.			
694.7(F)	ROP 4-356	New provision covering the use of metal or nonmetallic towers or poles as raceways for electrical conductors.			
694.1	ROP 4-357	Revised the threshold voltage for other than one and two family dwellings from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
694.18(C)	ROP 4-361	Revised to require marking to meet requirements in new 110.21(B).			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
694.22(A)	ROP 4-362	Revised to require marking to meet requirements in new 110.21(B).			
694.22(C)(4)	ROP 9-181c, ROC 4-183,	Revised to include switchgear as equipment that can contain turbine disconnecting means.			
694.23	ROP 4-364a	New provision requiring a manual means to shut down the wind turbine, and requiring the shutdown procedure to be documented and posted.			
694.30(B)	ROP 4-368	Revised to include a new requirement covering the requirements for terminating flexible, fine-stranded cables.			
694.30(C)	ROP 4-370	Revised to permit the use of Type MC cable.			
694.40(A)	ROC 4-186	Revised to reference the applicable parts of Article 250.			
694.40(B)(1)	ROC 4-186	Revised to require that wind turbine towers be connected to a grounding electrode system, and to specify where it is required to use galvanized grounding electrodes.			
694.40(B)(2)	ROC 4-186	Revised to require the installation of a conductor(s) to establish a bonding connection between turbines and towers and the premises grounding system.			
694.40(B)(4)	ROC 4-186	Revised to specify that guy wires are not required to be grounded or bonded. The Informational Note provides guidance on guy wires being incorporated into the tower lightning protection system.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 694 Part IX	ROP 4-374	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
694.80	ROP 4-373	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
Article 695					
695.1(B)(2)	ROP 13-48a	Revised to indicate that the installation of pressure maintenance (jockey) pumps is not covered within the scope of Article 695.			
695.1(B)(3)	ROC 13-32	New provision indicating that transfer equipment installed upstream from any fire pump transfer switch(es) is not covered within the scope of Article 695.			
695.3(A)(1)	ROP 13-53	Revised to include vertical switchgear section(s) containing service equipment in the list of locations where a tap to supply a fire pump is not permitted to be connected.			
695.3(B)(3)(a)(2)	ROP 13-60	Revised to provide a requirement for the acceptable type of locking mechanism.			
695.3(B)(3)(a)(3)	ROP 13-62	Revised to provide more detailed description of the equipment types that are prohibited as locations for a fire pump disconnecting means.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
695.3(B)(3)(b)	ROP 13-61	Revised to provide requirement for the acceptable type of locking mechanism.			
695.3(F)	ROC 13-37	New requirement covering the location and type of equipment used to transfer the circuit supplying a fire pump controller to an alternate source of power.			
695.4(A)	ROC 13-41	Revised to include a "listed fire pump power transfer switch" as a permitted location to directly connect the fire pump supply conductors.			
695.4(B)(2)(a)(1)	ROP 13-57	Revised to specify that the overcurrent device in a fire pump supply circuit is required to carry indefinitely the locked-rotor current of the largest fire pump motor where multiple fire pump motors are supplied.			
695.4(B)(2)(a)(2)	ROP 13-58	New provision permitting the overcurrent protection of a fire pump feeder circuit to be provided by an assembly listed for fire pump service.			
695.6(D)	ROP 13-70, ROP 13-71	Revised to include a provision covering the acceptable and unacceptable type of connection devices for use with fire pump circuit conductors.			
695.7(B)	ROP 13-82	Revised to specify that the point of voltage measurement under running conditions is at the load terminals of the fire pump controller.			
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Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 700					
700.2 Relay, Automatic Load Control	ROP 13-88a	Revised to clarify that the function of this device is control of lighting circuits for emergency purposes, rather than transfer of power from the normal source to the emergency source.			
700.7(B)	ROP 13-97	Revised to require warning signs to meet requirements in new 110.21(B).			
700.8	ROC 13-69	New requirement covering installation of surge protection devices (SPDs) at panelboards and switchboards supplied by emergency systems.			
700.10(B)(5)(a) and (b)	ROP 13-103	Revised to clearly state the requirements covering the permitted methods of separating emergency system wiring from the wiring of other systems.			
700.10(B)(5)	ROP 13-104	Revised to include vertical sections of switchgear as acceptable locations for separating the emergency system wiring from the wiring of other systems.			
700.10(D)	ROP 13-105, ROP 13-106, ROP 13-107	Revised to apply emergency system feeder wiring protection requirement to all occupancy types in high-rise buildings (greater than 75 feet in height).			
700.12(B)(6)	ROP 13-111	Revised to permit generator shutdown per 445.18 as a means to disconnect the emergency source power. Also revised to require compliance with 225.36 only where the feeder conductors from the generator terminate in or on a building or structure.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
700.12(D)(1) and (2)	ROP 13-112, ROP 13-113	Revised for correlation with the Article 100 terms covering overhead and underground service conductors, and to clarify that the electrical and physical separation requirement applies only to the conductors of the separate service installed as the alternate source of emergency power.			
700.12(F)(2)(3) Exception	ROP 13-116	Revised to make application of this Exception conditional on the normal lighting **not** being supplied by a multiwire branch circuit(s).			
700.16	ROC 13-1	New requirement for emergency illumination at outdoor service and feeder supply disconnecting means if emergency illumination is provided for the interior of the building or structure.			
700.19	ROP 13-118	New requirement prohibiting use of multiwire branch circuits to supply emergency lighting and other equipment that is classed as an emergency load.			
700.23	ROP 13-120	Revised to recognize use of relay systems for control of emergency lighting circuits.			
700.24	ROC 13-81	New requirement covering the use of luminaires with externally controlled onboard dimming systems to provide emergency illumination.			
700.26	ROP 13-122	Revised to clarify that indication of a ground-fault condition in the emergency standby source circuit is **not** required where GFPE equipment automatically disconnects the circuit.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
700.27	ROC 13-85	Revised to add a requirement on the qualifications of those responsible for selecting the system used to provide selective coordination, and to require that documentation be available on the selection of the specific system employed.			
Article 701					
701.5(C)	ROP 13-132	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
701.7(B)	ROP 13-133	Revised to require warning signs to meet requirements in new 110.21(B).			
701.12 Informational Note	ROP 13-131a	Revised to reference the IEEE document on designing reliable industrial and commercial power systems.			
701.12(B)(5)	ROP 13-111	Revised to permit generator shutdown per 445.18 as a means to disconnect the standby source power. Also revised to require compliance with 225.36 only where the feeder conductors from the generator terminate in or on a building or structure.			
701.12(D)	ROP 13-136	Revised for correlation with the Article 100 terms covering overhead and underground service conductors, and to clarify that the electrical and physical separation requirement applies only to the conductors of the separate service installed as the alternate source of standby power.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
701.12(E)	ROP 13-137	Revised to include vertical sections of switchgear as acceptable locations for making a tap to supply a separate service for legally required standby loads.			
701.26	ROP 13-138	Revised to clarify that indication of a ground-fault condition in the legally required standby source circuit is **not** required where GFPE equipment automatically disconnects the circuit.			
701.27	ROC 13-92	Revised to add a requirement on the qualifications of those responsible for selecting the system used to provide selective coordination, and to require that documentation be available on the selection of the specific system employed.			
Article 702					
702.7(B)	ROP 13-135	Revised to require warning signs to meet requirements in new 110.21(B).			
702.7(C)	ROP 13-146	New requirement for a warning sign describing the system grounding arrangement where the optional standby power source connection is made through a power inlet.			
702.12(A)	ROP 13-111	Revised to permit generator shutdown per 445.18 as a means to disconnect the standby source power. Also revised to require compliance with 225.36 only where the feeder conductors from the generator terminate in or on a building or structure.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
702.12(B)	ROP 13-148	New requirement covering the use of a flanged inlet or other cord-and-plug-type connection as the disconnecting means for a building supply circuit derived from a portable generator rated 15 kW or less.			
Article 705					
705.2 Multimode Inverter	ROP 4-378	New definition of equipment that can function as either a utility-interactive or stand-alone inverter.	N		
Table 705.3	ROP 4-385	Revised to include reference to Article 694, Wind Electric Systems.	N		
705.12(D)	ROP 4-387, ROP 9-181g	Revised to include switchgear as a type of equipment where a primary power source and utility-interactive inverter(s) can be interconnected to supply multiple feeders and/or branch circuits.	Less restrictive, N		
705.12(D)(1)	ROP 4-375a	Revised to recognize that there may be more than one utility interactive output circuit being interconnected to form a single interconnected electric power production system.	N		
705.12(D)(2)	ROC 4-204	New requirement to use 125% of the inverter output circuit current in calculations to determine the minimum ampacity for conductors and busbars.	N		
705.12(D)(2)(1)	ROC 4-204	New requirement covering overload protection of feeder conductors that are supplied by both the utility source and by the output circuit of an interactive inverter(s).	N		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
705.12(D)(2)(2)	ROC 4-204	New requirement covering overload protection of tap conductors that are supplied by both the utility source and by the output circuit of an interactive inverter(s).	N		
705.12(D)(2)(3)(a) and (b)	ROC 4-204	Revised the requirement for overload protection of busbars that are supplied by both the utility source and by the output circuit of an interactive inverter(s).	Simpler calculation , could be cost savings if previous load calculations considered the main breaker rating, esp. with micro-invertors on houses		
705.12(D)(2)(3)(b)	ROP 4-403	Revised to require warning signs to meet requirements in new 110.21(B).			
705.12(D)(2)(3)(c)	ROC 4-204	New requirement that the maximum rating of all overcurrent protective devices (other than the main OCPD) installed in a panelboard must not exceed the rating of the busbar. This requirement also specifies that a warning label be provided to indicate that the combined ratings of OCPDs cannot exceed the rating of the panelboard busbar. This label is required to comply with new 110.21(B).	Included above		
705.12(D)(2)(3)(d)	ROP 4-375a	New requirement covering multiple busbar construction or mid-bus connection arrangements designed under engineering supervision that includes evaluation of available fault current and busbar loading conditions.	Less restrictive, could be savings, esp on larger commercial systems		

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
705.12(D)(4)	ROP 4-402	New Informational Note describing suitability of fused switches for backfed connections.	N		
705.12(D)(6)	ROP 4-206	New requirement for AFCI protection of exposed inverter output circuit wiring operating at 240 volts with a circuit current rating of 30 amperes or less.	Device not available (informational note to explain about reversion to 2011 until product is available)		
705.31	ROP 4-410a	New requirement, Informational Note, and Exception covering the installation of overcurrent protection within 10 feet of the point where electric power production source conductors connect to service conductors on the line side of the service disconnecting means.	Will impact cost if connection is more than 10' away (cost of fused disconnect), most residential cost neutral		
705.60(A)(1)	ROP 4-412	Revised to use correct nomenclature to describe the inverter circuit subject to the requirement.	N		
705.100(A)	ROC 4-209	Revised to provide a specific maximum allowable voltage unbalance (3%) where single-phase inverters are connected to a 3-phase hybrid system or ac where modules are connected to a 3-phase interactive hybrid system.	N		
Article 708					
708.10(A)	ROP 13-159	Revised to require identification of boxes and enclosures containing wiring and equipment associated with a critical operations power system only where other power systems are present in the same building or structure.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
708.14(1)	ROP 13-170	Revised to permit a wiring method specified by the system manufacturer that is necessary to achieve intended system performance.			
708.14(2)	ROP 13-170	Revised to permit cable shielding to be arranged as specified in the system manufacturer's installation instructions.			
708.14(7)	ROP 13-171	Revised to require that all cables used for emergency communications have a 2-hour fire-resistive rating and also be rated for use in risers.			
708.20(F)(5)(a)	ROP 13-172a	Revised to permit generator shutdown per 445.18 as a means to disconnect the COPS source of power for permanently installed generators and for portable generators rated more than 15 kW. Also revised to require compliance with 225.36 only where the feeder conductors from the generator terminate in or on a building or structure.			
708.20(F)(5)(a)	ROP 13-172a	New requirement covering the use of a flanged inlet or other cord- and plug-type connection as the disconnecting means for a building supply circuit derived from a portable generator rated 15 kW or less.			
708.52(B)	ROP 13-174	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
708.52(D)	ROP 13-175	Revised to require use of the manufacturer's recommendations in order to achieve full selectivity between service and feeder OCPDs under ground fault conditions.			
708.54	ROC 13-110	Revised to add a requirement on the qualifications of those responsible for selecting the system used to provide selective coordination, and to require documentation be available on the selection of the specific system employed.			
708.54 Exception	ROP 13-177, ROP 13-178	New Exception permitting two overcurrent devices connected in series to not be selectively coordinated where a load is **not** connected in parallel with the downstream device.			
Article 725					
725.2, Power-Limited Tray Cable	ROC 3-43a	New definition for a factory assembly of two or more insulated conductors rated at 300 volts, with or without associated bare or insulated equipment grounding conductors, under a nonmetallic jacket.			
725.139, 725.179 (Introduction)	ROP 3-118,	Revised several requirements in Article 725 to include listed *cable routing assemblies* as a method of installing Class I, 2, and 3 cables.			
725.3(K) and (L)	ROC 3-46	Revised by adding new subsections to address installation of conductors with other systems and where installed in corrosive, damp, or wet conditions.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
725.3(N)	ROC 3-47a	New subsection has been added for "Communications Raceways" and references to applicable sections of Article 800.			
725.48(B)(4)(2)	ROP 3-136	Revised by adding "or greater" after "600 volts" as part of a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
725.49(B)	ROP 3-138	Revised by replacing "Insulation on conductors shall be rated for 600 volts" to "Insulation on conductors shall be rated for the system voltage and not less than 600 volts."			
725.121	ROP 3-140	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
725.133 and 725.135	ROC 3-57	Revised to include "Cable Routing Assembly" and new Section 725.135 that includes installation requirements for Class 2, Class 3 and PLTC cables. Relocates and revises requirement from 725.154(B)(1) to new subsection 725.135(D), which specifies cables that penetrate from one or more floors to be riser rated.			
725.139	ROP 3-118	Revised to include "Cable Routing Assembly" to recognize cable routing assemblies for routing class 2 and class 3 conductors.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
725.154	ROC 3-63	Revised by separating the application rules from the installation rules, relocating installation rules to new Section 725.135.			
725.179	ROP 3-163a	Revised by changing “nonmetallic signaling raceways” to “nonmetallic communication raceways” to correlate with other sections of the *Code*.			
725.179(A) Informational Note	ROP 3-164	Revised to update to the current edition of the referenced standard.			
725.179(F)	ROP 3-165, ROC 3-74	Revised by separating the two methods of establishing cable survivability to clarify the two cable options and marking requirements. Revised Informational Notes to update to the current edition of the referenced standard and to provide reference to the UL guide information for electrical circuit protective systems.			
Article 727					
727.6	ROP 3-141	Revised to update to the current edition of the referenced standard.			
Article 728					
Article 728	ROP 3-170, ROC 3-81, ROC 83a and 83b	New article that includes installation requirements for fire resistive cable systems.			
Article 760					
760.3(D)	ROP 3-173	Revised by updating referenced *NEC* sections to assure that fire alarm cables installed in corrosive, damp, and wet locations are acceptable for these conditions.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
760.24	ROP 3-178	Revised by including installation requirements for circuit integrity cable.			
760.32	ROP 3-178a	Revised by clarifying that all non-power-limited and power-limited signaling system circuits entering a building must be provided with transient protection. The new Informational Note provides an example of a suitable protective device, tested to the requirements of ANSI/UL 497B, *Protectors for Data Communications.*			
760.49(B)	ROP 3-182	Revised by replacing "Insulation on conductors shall be rated for 600 volts" to "Insulation on conductors shall be rated for the system voltage and not less than 600 volts."			
760.51(B)	ROP 3-183	Revised to clarify that this section is only applicable to non–power-limited fire alarm circuit conductors.			
760.53(B)(3)	ROC 3-98	Revised by specifying risers penetrating one or more floors shall be Type NPLFR.			
760.133 and 760.135	ROC 3-101	Revised by separating the application rules from the installation rules by relocating installation rules to new Section 760.135.			
760.139	ROP 3-171	Revised to recognize cable routing assemblies as a recognized method for routing fire alarm cables.			
760.154	ROC 3-104	Revised by separating the application rules from the installation rules, and relocating installation rules to new Section 760.135.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
760.176(B)	ROP 3-207	Revised by replacing "Insulation on conductors shall be rated for 600 volts" to "Insulation on conductors shall be rated for the system voltage and not less than 600 volts."			
760.176(C) Informational Note	ROP 3-164	Revised to update to the current edition of the referenced standard.			
760.176(D) Informational Note	ROC 3-53	Revised to update to the current edition of the referenced standard.			
760.176(E) Informational Note	ROC 3-53	Revised to update to the current edition of the referenced standard.			
760.176(F)	ROC 3-109	Revised by separating the two methods of establishing cable survivability to clarify the two cable options and marking requirements. Revised the Informational Notes to update to the current edition of the referenced standard and to provide reference to the UL guide information for electrical circuit protective systems.			
760.176(F) Informational Note	ROP 3-209	Revised by updating the referenced section of NFPA 72.			
760.179(G)	ROC 3-111	Revised by separating the two methods of establishing cable survivability to clarify the two cable options and marking requirements. Revised the Informational Notes to include electrical circuit protective system, to update to the current edition of the referenced standard, and to provide reference to the UL guide information for electrical circuit protective systems.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
760.179(G) Informational Notes	ROP 3-210, ROP 3-211	Revised by updating the referenced section of NFPA 72 and to include electrical circuit protective systems.			
Article 770					
770 Informational Note	ROP 16-21	Revised by adding a reference to see Informational Note Figures 800(a) and 800(b) for illustrative application of a bonding conductor or grounding electrode conductor.			
770.2 Definitions	ROP 16-22	Revised to specify reference to “Part I” of Article 100.			
770.2 Abandoned Optical Fiber Cable, Informational Note	ROP 16-25	Revised to specify reference to “Part I” of Article 100 for the definition of equipment.			
770.2 Electrical Circuit Protective System	ROP 16-26a	New definition has been added to describe components and materials intended for installation as protection for specific electrical wiring systems.			
770.2 Exposed (To Accidental Contact), Informational Note	ROP 16-27	Revised to refer to “Part I” of Article 100 for additional definitions of *exposed*.			
770.2 Innerduct	ROP 16-28	A new definition has been added to describe the term “*innerduct*.”			
770.2 Optical Fiber Cable	ROC 16-10	Revised by removing explanatory information: “that transmits light for control, signaling, and communications” to more clearly.” New Informational Note added to describe installation methods.			
770.2 Point of Entrance	ROP 16-31	Revised by adding the term “optical fiber” to clarify the definition.			
770.3(B)	ROP 16-36	New provision that specifies optical fiber cables are subject to the requirements of 300.22(A)			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
770.12	ROP 16-38a	Revised by replacing “optical fiber raceways” with “communications raceways” to correlate with new Section 800.12.			
770.24	ROP 16-42, ROC 16-17	Revised by adding language requiring that cable ties used in “other spaces for environmental air” be listed as having adequate fire-resistant and low smoke-producing characteristics.			
770.24 Informational Note No. 1	ROP 16-43	Revised to update the edition of the referenced standard.			
770.24 Informational Note No. 2	ROP 16-44	Revised by updating the edition of the referenced standard and applicable referenced sections for this standard.			
770.26	ROC 16-24	Revised by including “communication raceways” to correlate with new Section 800.12.			
770.47	ROC 16-26	New section that includes provisions for optical fiber cables installed underground entering buildings. Two new Exceptions relax separation requirements where those adjacent systems are installed in prescriptive wiring methods.			
770.48(B)	ROP 16-47	Revised by changing to a list format to enhance usability.			
770.49	ROP 16-48	New section that includes grounding provisions metallic entrance conduit.			
770.93(B) Informational Note	ROP 16-49	New Informational Note referring to 770.2 for the definition of *Point of Entrance.*			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
770.100(A)(4)	ROP 16-50	New section that includes provisions for limiting the length of the bonding or grounding conductor and maximum length of 20 feet for one- and two-family dwellings. Added a new Exception that permits exceeding 20 feet when it is impractical, provided a separate ground rod is driven. This correlates with Sections 800.100(A), 820.100(A), and 830.100(A).			
770.100(A)(6)	ROP 16-51	Revised to clarify bonding conductor and grounding electrode conductor physical protection requirements and to correlate with Sections 800.100(A)(6), 820.100(A)(6), and 830.100(A)(6).			
770.100(B)(1) Informational Note	ROP 16-52	Revised to specify a reference to “Part I” of Article 100 for the definition of *intersystem bonding termination.*			
770.100(B)(1)	ROP 16-53	Revised by removing the term “grounding electrode conductor” to clarify the conductor specified by this requirement is a bonding conductor.			
770.100(B)(2)(7)	ROP 16-56	Revised by changing the term "grounding conductor" to "grounding electrode conductor" to correlate with the term defined in Artilce 100.			
770.100(B)(3)	ROP 16-54	Revised by adding the term “grounding” before “electrode” to correlate with the term *grounding electrode* defined in Article 100.			
770.100(B)(7)	ROP 16-55	Revised by changing the term “grounding conductor” to “grounding electrode conductor” to correlate with the term defined in Article 100.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
770.110	ROC 16-31	Revised the title to include "Cable Routing Assemblies" as a wiring method permitted for optical fiber cables. Revised Section 770.110(A)(2) by replacing "other permitted raceways" with "communications raceways" to correlate with new Section 800.12.			
770.110(C)	ROP 16-57	New subsection has been added that includes installation and support requirements for cable routing assemblies.			
770.113	ROP 16-62	Revised to clarify the types of raceways specified in Articles 770, 800, and 820 permitted for optical fiber cable, and to provide specific cable types and installation requirements in other spaces used for environmental air.			
770.133	ROP 16-66	Revised the threshold voltage from 600 to 1000 volts in conjunction with a coordinated effort throughout the *NEC* to recognize that commonly used alternative energy systems operate at over 600 volts.			
770.133(B) and (C)	ROP 16-67, ROP 16-68	Revised to include "box" and "cable routing assembly" that enclose optical fiber cables, in the list of items permitted to occupy the space with other conductors as specified in this section. Changed the reference to Part "IV" to Part "V" of Article 800, because Part V addresses requirements for wiring within a building.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
770.133(C)	ROP 16-69	Revised to include a reference to Article 645 for Class 2 and Class 3 remote-control, signaling, and power-limited circuits and correlation with the new definition of *cable routing assemblies.*			
770.154 and Table 770.154(a)	ROP 16-71	Revised the title by removing "Raceways, and Cable Routing Assemblies." Revised to limit the table purpose to permitted and non-permitted applications of listed optical fiber cables, and to correlate with the new definition of *cable routing assemblies.*			
770.179	ROP 16-75	Revised to require specific marking requirements for field-assembled cable components.			
770.179(E)	ROP 16-26a, ROC 16-38	Revised to specify that cables used for survivability of critical circuits are required to be listed and to be either circuit integrity cable (CI) or fire resistive cable that is part of an electrical circuit protective system.			
770.179(F)	ROP 16-75, ROC 16-37	Revised to require specific marking and listing requirements for field assembled optical fiber cable.			
770.179(A), (B), (D), and (E)	ROP 16-76, ROP 16-78	Revised to update the edition of the referenced standard.			
770.180	ROP 16-80	New section that includes requirements for listing of grounding devices.			
Chapter 8 Summary of Changes in 2014 NEC®					
Article 800					
800.2	ROP 16-82	Revised to specify reference to "Part I" of Article 100.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
800.2 Abandoned Communications Cable, Informational Note	ROP 16-83	Revised to specify reference to "Part I" of Article 100 for the definition of equipment.			
800.2 Electrical Circuit Protective System	ROP 16-85a	New definition has been added to describe components and materials intended for installation as protection for specific electrical wiring systems.			
800.2 Exposed (to Accidental Contact) Informational Note	ROP 16-86	Revised to specify reference to "Part I" of Article 100.			
800.2 Innerduct	ROP 16-87	New definition of *innerduct*, which is described as a nonmetallic raceway placed within a larger raceway.			
800.2 Point of Entrance	ROP 16-88	Revised by removing the grounding requirements from the definition and relocating them to new Section 800.49.			
800.3(D)	ROP 16-92	New subsection specifying that the requirements of Section 110.3(B) are applicable to installations under the purview of Article 800.			
800.4(A)(4)	ROP 16-96	Revised by adding "and sets of overhead service conductors" to correlate with revised service terminology and by replacing "nongrounded" with "ungrounded" to correlate with the term in Article 250.			
800.12	ROP 16-97	New section that permits communications raceways to be installed as innerduct in any type of listed raceway permitted by Chapter 3.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
800.24	ROP 16-100, ROC 16-17	Revised by adding language requiring that cable ties used in "other spaces for environmental air" be listed as having adequate fire-resistant and low smoke-producing characteristics.			
800.24 Informational Note 2	ROP 16-102	Revised by updating the edition of the referenced standard and including specific requirements for discrete combustible components in ceiling cavity plenums and raised floor plenums.			
800.26	ROP 16-103	Revised to include "cable routing assemblies" under the provisions of this section for limiting the spread of fire or products of combustion.			
800.49	ROP 16-104	New section that relocates the grounding requirements from the definition of *point of entrance*.			
800.90(B) Informational Note	ROP 16-107	Revised to include the term "bonding conductor" to correlate with the term used in other sections throughout the *Code.*			
800.100(B)(1) Informational Note	ROP 16-109	Revised to specify reference to "Part I" of Article 100.			
800.100(B)(2)(3)	ROP 16-110	Revised to specify the intersystem bonding termination is accomplished by those methods described in Section 250.94.			
800.100(B)(2)	ROP 16-111	Revised by replacing "grounding electrode conductor" with "bonding conductor" to clarify the conductor that connects to a bonding device (intersystem bonding) is a bonding conductor.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
800.100(B)(3)(1)	ROP 16-112	Revised by adding the term "grounding" before electrode to clarify that it is a grounding electrode that is being connected to;, and to correlate with the term "grounding electrode" as it is used throughout the *Code*.			
800.106(A)(1)	ROP 16-114	Revised by adding "grounding terminal" after primary protector to specify which terminal on the protector is connected to the grounding electrode.			
800.106(A)(2)	ROP 16-115	Revised by adding "grounding terminal" after primary protector to specify which terminal on the protector is connected to the grounding electrode.			
800.110	ROC 16-54	Revised to include "cable routing assemblies" to recognize cable routing assemblies as a recognized method for communication wires and cables. This revision includes specific securing and supporting requirements for both vertical and horizontal installations.			
800.113	ROP 16-119	Revised to include plenum cable routing assemblies into the installation rules for communications cables and raceways, and other (riser and general-purpose) cable routing assemblies. Updated the edition of the referenced standard in the Informational Notes.			
800.133(A)(1), 800.133(A)(1)(a), and 800.133(A)(1)(b)	ROP 16-124	Revised to include "cable routing assemblies" and reference the appropriate part of each article that deals with wiring within a building.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
800.133(A)(1)(b)	ROP 16-126	Revised to include a reference to Article 645 for Class 2 and Class 3 remote-control, signaling, and power-limited circuits.			
800.154	ROP 16-131	Revised to include "cable routing assemblies" and to create three application tables: one for communications wires and cables, a second for communications raceways, and third for cable routing assemblies.			
800.170(C)	ROP 16-135	New subsection for plenum grade cable ties required to be listed as having low smoke and heat release properties. Also added a new Informational Note directing users to NFPA 90A-2012 and ANSI/UL 2043 for additional information for listing discrete products as having low smoke and heat release properties.			
800.179(G)	ROP 16-137	Revised to specify that cables used for survivability of critical circuits shall be listed and be either circuit integrity cable (CI) or fire resistive cable that is part of an electrical circuit protective system.			
800.179(I)	ROP 16-138	Revised to specify that where listed hybrid and communications cables are a listed Type NM or NM-B, they must comply with Part III of Article 334.			
800.180	ROP 16-139	New section that includes listing requirements for grounding devices.			
800.182	ROP 16-140	Revised to include plenum, riser, and general purpose cable routing assemblies and by updating the edition of the referenced standard.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 810					
810.2	ROP 16-142	Revised to specify reference to "Part I" of Article 100.			
810.6	ROC 16-74	New section that includes listing requirements of "antenna lead-in protectors." An Informational Note has also been added to refer to UL Subject 497E, *Outline of Investigations for Protectors for Antenna Lead-In Conductors* for additional information.			
810.7	ROP 16-145	New section that includes listing requirements for grounding devices.			
810.16(B)	ROP 16-147	Revised to include "flat" antennas and the term "dish" to "parabolic" which more accurately describes antennas.			
810.21(F)(3)	ROP 16-152	Revised by adding the term "grounding" before electrode to clarify that it is a grounding electrode that is being connected to, and to correlate with the term "grounding electrode" as it is used throughout the *Code*.			
Article 820					
820 Informational Note	ROP 16-154	Revised to refer to Figures 800(a) and 800(b) to clarify the difference in application between a bonding conductor and a grounding electrode conductor.			
820.2	ROP 16-155	Revised to specify reference to "Part I" of Article 100.			
820.2 Abandoned Coaxial Cable, Informational Note	ROP 16-156	Revised to specify reference to "Part I" of Article 100 for the definition of equipment.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
820.2 Exposed (to Accidental Contact), Informational Note	ROP 16-158	Revised to refer to "Part I" of Article 100 for additional definitions of *exposed*.			
820.2 Point of Entrance	ROP 16-159	Revised by removing the grounding requirements from the definition and relocating them to new Section 820.49.			
820.3(B) and (C)	ROP 16-160	New subsections added to include reference to 300.22(A) for "wiring in ducts for dust, loose stock or vapor removal" and 300.22(C)(3) for "equipment in other spaces used for environmental air."			
820.3(H)	ROP 16-163	Revised to include references in Article 800 for the application and installation rules for community antenna and radio distribution systems.			
820.24	ROP 16-166, ROC 16-17	Revised by adding language requiring that cable ties used in "other spaces for environmental air" be listed as having adequate fire-resistant and low smoke-producing characteristics.			
820.24, Informational Note No. 2	ROP 16-168	Revised by updating the edition of the referenced standard and including specific sections for requirements for discrete combustible components in ceiling cavity plenums and raised floor plenums.			
820.26	ROP 16-169	Revised by replacing "CATV raceways" with "communication raceways" to correlate with current terminology.			
820.44(D)	ROP 16-170	Revised by deleting "for the purpose" to provide consistency with the definition of *identified* in Article 100.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
820.47(A)	ROP 16-171	Revised to include Class I and non–power-limited fire alarm circuit conductors.			
820.49	ROP 16-176	New section that relocates the grounding requirements from the definition of *point of entrance* to a new section.			
820.93 Informational Note	ROP 16-177	Revised by adding the term "block" after grounding to clarify that the intent is to locate the grounding block near the grounding location.			
820.93(B) Informational Note	ROP 16-178	New Informational Note that refers to 820.2 for the definition of *point of entrance.*			
820.100 Exception	ROP 16-181	Revised by adding the term "bonding jumper" to correlate with the term defined in Article 100.			
820.100(A)(4)	ROP 16-183	Revised by adding "bonding conductor" to provide consistency with the application and other text within this section.			
820.100(B) Informational Note	ROP 16-184	Revised to specify reference to "Part I" of Article 100.			
820.100(B)(2)(3)	ROP 16-185	Revised to specify that intersystem bonding termination is one of the methods described in Section 250.94.			
820.100(B)(2)	ROP 16-186	Revised by replacing "grounding electrode conductor" with "bonding conductor" to clarify that the conductor that connects to a bonding device (intersystem bonding) is a bonding conductor.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
820.100(B)(3)(1)	ROP 16-187	Revised by adding the term "grounding" before electrode to clarify that it is a grounding electrode that is being connected to, and to correlate with the term "grounding electrode" as it is used throughout the *Code*.			
820.100(B)(3)(2)	ROP 16-188	Revised to prohibit steam or hot water pipes or air terminal conductors (lightning-rod conductors) as grounding electrodes for bonding conductors or grounding electrode conductors.			
820.106(A)(1)	ROP 16-189	Revised by replacing "ground" with "grounding terminal" to clarify that it is the grounding terminal of the surge arrester that is required to be connected to the grounding electrode.			
820.106(A)(2)	ROP 16-190	Revised by replacing "ground" with "grounding terminal" to clarify that it is the grounding terminal of the surge arrester that is required to be connected to the grounding electrode.			
820.110	ROP 16-191	Revised to include cable routing assemblies to recognize cable routing assemblies as a recognized method for coaxial cables. This revision includes specific securing and supporting requirements for both vertical and horizontal installations.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
820.113	ROP 16-194	Revised to include plenum cable routing assemblies into the installation rules for communications cables and raceways, and other (riser and general-purpose) cable routing assemblies. Updated the edition of the referenced standard in the Informational Notes.			
820.133(A)(1), 820.133(A)(1)(a), and 820.133(A)(1)(b)	ROP 16-199	Revised to include "cable routing assemblies" and reference the appropriate part of each article that deals with wiring within a building.			
820.133(A)(1)(b)	ROP 16-201	Revised to include a reference to Article 645 for Class 2 and Class 3 remote-control, signaling, and power-limited circuits.			
820.154	ROP 16-204	Revised to include plenum cable routing assemblies.			
820.180	ROP 16-211	New section that includes listing requirements for grounding devices.			
Article 830					
830 Informational Note	ROP 16-212	Revised to refer to Figures 800(a) and 800(b) to clarify the difference in application between a bonding conductor and a grounding electrode conductor.			
830.2	ROP 16-213	Revised to specify reference to "Part I" of Article 100.			
830.2 Abandoned Network-Powered Broadband Communications Cable, Informational Note	ROP 16-214	Revised to specify reference to "Part I" of Article 100 for the definition of equipment.			
830.2 Exposed (to Accidental Contact), Informational Note	ROP 16-215	Revised to refer to "Part I" of Article 100 for additional definitions of *exposed*.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
830.2 Point of Entrance	ROP 16-217	Revised by removing the grounding requirements from the definition and relocating them in new Section 800.49. Added "network-powered broadband communications" to clarify the definition.			
830.3(B)	ROP 16-219	New subsection that includes a reference to 300.22(A) for "wiring in ducts for dust, loose stock or vapor removal."			
830.3(C)	ROP 16-220	Revised to reference the specific section in 300.22 and to correlate with Articles 800 and 840.			
830.3(D)	ROP 16-221	Revised by updating the references to specify the applicable part of an article.			
830.3(F)	ROP 16-222	Revised to include references in Article 800 for the application and installation rules for network-powered broadband communications systems.			
830.24	ROP 16-225, ROC 16-17	Revised by adding language requiring that cable ties used in "other spaces for environmental air" be listed as having adequate fire-resistant and low smoke-producing characteristics.			
830.24 Informational Note 2	ROP 16-227	Revised by updating the edition of the referenced standard and including specific sections for requirements for discrete combustible components in ceiling cavity plenums and raised floor plenums.			
830.49	ROP 16-234	New section that relocates the grounding requirements from the definition of *point of entrance* to a new section.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
830.90(A)(1)	ROP 16-235	Revised by adding the term "bonding conductor" and "grounding electrode conductor" to correlate with defined terms in Article 100.			
830.100(B)(1)	ROP 16-237	Revised to specify reference to "Part I" of Article 100.			
830.100(B)(2)(3)	ROP 16-238	Revised to specify that the intersystem bonding termination is one of those methods described in Section 250.94.			
830.100(B)(2)	ROP 16-239	Revised by replacing "grounding electrode conductor" with "bonding conductor" to clarify that the conductor that connects to a bonding device (intersystem bonding) is a bonding conductor.			
830.100(B)(3)(1)	ROP 16-241	Revised by inserting the term "grounding" before electrode to correlate with the defined term in Article 100.			
830.100(B)(3)(2)	ROP 16-242	Revised by inserting the term "grounding" before electrode, to correlate with the defined term in Article 100 and with similar text in 800.100(B)(3)(2) and 820.100(B)(3)(2).			
830.106(A)(1)	ROP 16-243	Revised to add cable shield and network-powered broadband communication ns cable metallic members not used for communications or powering to the list of components required to be grounded. This revision replaces "ground" with "grounding terminal" to clarify that it is the grounding terminal of the surge arrester that is required to be connected to the grounding electrode.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
830.106(A)(2)	ROP 16-244	Revised to add cable shield and network-powered broadband communications cable metallic members not used for communications or powering to the list of components required to be grounded. This revision replaces “ground” with “grounding terminal” to clarify that it is the grounding terminal of the surge arrester that is required to be connected to the grounding electrode.			
830.110	ROP 16-245	Revised to include “cable routing assemblies” and “communication raceways” as recognized methods for network-powered broadband communications cables. This revision includes specific securing and supporting requirements for both vertical and horizontal installations.			
830.113	ROC 16-95	Revised to include plenum cable routing assemblies into the installation rules for communications cables and raceways and other (riser and general-purpose) cable routing assemblies. This revision also updates the edition of the referenced standard in the informational notes.			
830.133(A)(1)	ROP 16-250, ROP 16-251, ROP 16-252	Revised to include “cable routing assemblies” under the provisions of this section requiring separation of conductors.			
830.154	ROP 16-255	Revised to include plenum cable routing assemblies.			
830.180	ROP 16-258	New section that includes listing requirements for grounding devices.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Article 840					
840.1 Informational Note	ROC 16-104	Revised by adding "optical fiber" to provide clarity.			
840.2	ROP 16-265	Revised to specify reference to "Part I" of Article 100.			
840.2 Fiber-to-the Premises (FTTP)	ROC 16-113	Revised to include "fiber" after optical to correlate with the defined term in 770.2. Revised by removing installation requirements from the definition.			
840.3(B)	ROP 16-269	New subsection added to include reference to 300.22(A) for "wiring in ducts for dust, loose stock or vapor removal."			
840.3(C)	ROP 16-270	New subsection added to include reference to 300.22(A) for 300.22(C)(3) for "equipment in other spaces used for environmental air."			
840.3(D)	ROP 16-272	New subsection referencing Section 110.3(B) for installation and use.			
840.3(E)	ROP 16-271	Revised by updating the references to specify the applicable part of an article.			
840.44(A)(4)	ROP 16-272	Revised by adding "and sets of overhead service conductors" to correlate with revised service terminology.			
840.48 Informational Note No. 2	ROP 16-279	Revised by adding "point of" before entrance and deleting "point" after entrance to correlate with the defined term *point of entrance.*			
840.49		New section that refers to 770.49, and that includes grounding provisions for metallic entrance conduit.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
840.93	ROP 16-281	Revised by adding a new introductory paragraph specifying that non–current-carrying metallic members of optical fiber cables, communications cables, or coaxial cables entering buildings or attaching to buildings must comply with 840.93(A), (B) or (C).			
840.106(A)(1)	ROP 16-283	Revised by specifying noncurrent-carrying metallic members of optical fiber cables shall be connected to a grounding electrode and includes provisions where for those instances where the ONT provides grounding for the coaxial cable shield.			
840.106(A)(2)	ROP 16-284	Revised by specifying that non–current-carrying metallic members of optical fiber cables must be connected to a grounding electrode; includes provisions for those instances where the ONT provides grounding for the coaxial cable shield.			
840.180	ROP 16-285	New section that includes listing requirements for grounding devices.			
Chapter 9 Summary of Changes in 2014 NEC®					
Chapter 9 Notes to Tables, Note 6	ROP 6-111	Revised by adding “actual dimensions” to permit the actual conductor size data to be used for fill calculations.			
Chapter 9 Notes to Tables, Note 7	ROP 8-198, ROP 8-199	Revised to clarify calculating the size for conduit or tubing permitted for a single conductor. One conductor is permitted when the calculation results in a decimal greater than or equal to 0.8.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Chapter 9 Notes to Tables, Note 10	ROC 6-77	New note added to clarify the methodical approach to values for approximate diameter of conductors.			
Chapter 9 Notes to Tables, Note 9	ROP 8-200	Revised by adding "optical fiber cable" which clarifies it must be treated as a single conductor for calculating percentage conduit fill area.			
Chapter 9 Table 1	ROP 8-202	Revised title to "Number of Conductors and/or Cables" and "Cross Sectional Area (%)" to include cables under the purview of the table.			
Chapter 9 Table 4	ROP 8-204	Revised by placing the most commonly used conduit fill columns closer to the metric designator and trade size column sizes, to enhance usability of the table.			
Chapter 9, Table 5	ROC 6-78	Revised by placing the approximate area columns to the left of approximate diameter columns, to enhance usability of the table.			
Chapter 9 Table 8, Informational Note	ROP 6-109	Revised by updating the title and current version of the standard referenced in the informational note.			
Chapter 9/Table 10 Note	ROP 1-185a	New Note: "Conductors with a lesser number of strands are shall be allowed permitted based on an evaluation for connectability and bending."			
Annexes Summary of Changes in 2014 NEC®					
Annex A					
Annex A	ROC 1-111, ROP 1-112, ROP 1-113	Revised by updating several UL standards listed.			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Annex A	ROP 186a	Revised by deleting reference to paragraph numbers, because no paragraph numbering exists.			
Annex C					
Tables C.1 through C.12(A)	ROP 8-204a	Revised tables by adding and removing insulation types and adding additional trade sizes based on requirements if applicable.			
Annex D					
Example D.1(d)	ROC 6-117a	New example showing application of revised service and feeder conductor ampacity calculation per 310.15(B)(7).			
Example D3(a)	ROP 2-264	Revised air compressor horsepower rating from 7.5 to 5 in order to preserve the comparison between the 90°C ampacity of a 1 AWG copper conductor and the 75°C ampacity of a 1/0 AWG copper conductor. This change was necessitated by the revision of the 90°C ampacity for a 1 AWG copper conductor from 150 amperes to 145 amperes in Table 310.15(B)(16).			
Example D4(b)	ROC 2-122	Revised to indicate that the individual dwelling unit calculations are performed using Parts I through III of Article 220 (i.e. “Standard Calculation”).			
Example D5a	ROP 2-266	Revised neutral calculation for individual dwelling feeder to indicate that applying a reduction factor (70%) is not permitted.			
Example D7	ROP 6-117a	New example added to describe the application of 310.15(B)(7).			

Article 90 Summary of Changes in 2014 NEC®			Major Change/Cost	Controversial?	Adopt Change for NC
Example D14	ROP 6-119	New example added to describe calculating the ampacity of a conductor when installed inside a raceway on a rooftop.			
Annex H					
Annex H	ROP 1-189	Revised editorially to enhance usability and understanding.			
Annex I					
Annex I Table I.1, I.2, and I.3	ROP 1-191	Revised by deleting Column A from the Tables. Column A values are not intended for installed equipment.			
Annex J					
Annex J	ROP 1-191a	New Annex J added to address usability and information for ADA electrical requirements.			

Appendix C:
2014 NEC Electrical Ad Hoc Committee Members
As of 6/4/14

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