

## Changes in 2014 National Electrical Code

### Introduction

National Fire Protection Association (NFPA) has been the developer and publisher of NFPA 70®, National Electrical Code® (NEC®) since 1911. The NEC continues to be the most widely used code for the built environment in the world, establishing the standard for safe electrical installations. The code has been adopted in nearly every state in the U.S., in many territories, and in several countries. The NEC is updated in a three year cycle. NFPA released the 2014 NEC in August 2013. This article will discuss some of the changes in 2014 NEC.

### Chapter 1 - General

New definitions have been added for the following:

- Retrofit kit – applies to LED listed retrofit kits used for luminaires and signs.
- 110.21(B) Field-Applied Hazard marking sub level B – Specific requirements for warning labels and similar markings where required.
- 110-25 Lockable Disconnecting Means – Added to deliver consistent requirements.
- 110-26 (E) (2) Dedicated Equipment space for outdoor installations – Dedicated equipment space required for outdoor installations also.

### Chapter 2 – Wiring and Protection

Some changes to Chapter 2 follow:

- Section 210.8(A) (8) requires GFCI protection for all outlets that supply dishwashers installed in dwelling units.
- Section 210.8(A) (10) requires GFCI protection for all 125V 15 and 20 A receptacles installed in a laundry room.
- Section 210.17 requires a separate branch circuit for outlet serving Electric Vehicle.

### Chapter 3 – Wiring Methods

Some of the changes to Chapter 3 are:

- Section 300.38 - A new section was added to part II of article 300 to indicate that the interior of raceways installed in wet locations above grade are considered to be in wet location.
- Section 310.15(B)(c) – The title and parent text were revised to clarify that the basic provisions for applying an ambient temperature adjustment correction factor applies to all types of raceways.

### Chapter 4 – Equipment for General Use

Some of the changes to Chapter 4 are:

- Section 445.11 – A new manufacturer’s marking provision was added requiring indication as to whether or not the generator is bonded to the generator frame.
- Section 445.20 - GFCI protection required for receptacles on 15KW or smaller portable generators if the generator has 125/250V locking type receptacle.

### Chapter 5 – Special Occupancies

Some of the changes to Chapter 5 are:

- Section 517 - The term emergency system has been eliminated from Article 517, leaving only “Essential electrical system” with three separate branches. In order to coordinate requirements between NEC and NFPA 99, section 517-30 (B) was re-organized.

- Sections 517.18(B), 517-19(B) and 517.19(C) – The minimum number of receptacles required for specific areas of a healthcare facility has been increased to align with NFPA 99. The minimum number of receptacles in patient bed locations have been increased from 4 to 8 in general care area, 6 to 14 in critical area. The minimum number required in an operating room is 36.
- Section 590.4 (J) - cable assemblies and flexible cord installed as branch circuits or feeders are prohibited from being installed on the floor or on the ground for temporary installations such as construction sites.

### Chapter 6 – Special Equipment

Some of the changes to Chapter 6 are:

- Section 646 - A new article for Modular Data Centers (MDC) was added to draw distinction between data centers that fall under article 645. MDCs are an important emerging trend in data center architecture.
- Section 690.12 – This new section titled “Rapid Shutdown of Photo Voltaic (PV) systems on buildings” applies to PV systems installed on building roofs and would require that PV source circuits be de-energized from all sources within 10 seconds of when the utility supply is de-energized or when the PV power source disconnecting means is opened. This will incorporated significant improvement in safety for rooftop PV systems, based on safety concerns from first and second responders of the fire and emergency service communities.

### Chapter 7 – Special Conditions

Some of the changes to Chapter 7 are:

- Section 728 - A new article has been added in the 2014 NEC to address installations of fire-resistive cables. The installations of these cables are critical to their ability to function during a fire. These systems must be installed in accordance with very specific materials, supports, and requirements and are critical for the survivability of life safety circuits.
- Section 750 - A new article was added to provide some general requirements that address the types of loads permitted to be controlled through energy management, which has become commonplace in today’s electrical infrastructure through the control of utilization equipment, energy storage, and power production.

### Chapter 8 – Communication Systems

Section 830.24 - A revision to this section will require nonmetallic cable ties and other nonmetallic cable accessories used to secure and support communication cables to be listed as having low smoke and heat release properties when used in plenums. This same change occurred at 770.24; 800.24; 820.24; and 830.24.

### References

1. <http://www.nfpa.org/press-room/news-releases/2013/nfpa-releases-2014-national-electrical-code>
2. <http://www.iaei.org/blogpost/928475/165827/Analysis-of-Changes-2014-NEC?tag=July-August+2013>
3. <http://iec-okc.org/>

