

ORDINANCE NO. BL2011-_____

An ordinance amending Chapter 16 of The Metropolitan Code of Laws by adopting The 2011 Edition of The National Electrical Code and Amendments thereto.

NOW, THEREFORE BE IT ENACTED BY THE COUNCIL OF THE METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY;

Section 1. Section 16.20.140 of the Metropolitan Code of Laws is hereby amended by deleting Section 16.20.140 and substituting the following:

16.20.140 National Electrical Code, adopted by reference. A. The 2011 Edition of the National Electrical Code and Article 90 through Chapter 9 inclusive are adopted and incorporated into this chapter as the technical section of the electrical code of the metropolitan government, by reference, as fully as though copied into this chapter.

Section 2. Section 16.20.150 of the Metropolitan Code of Laws is hereby amended by deleting Section 16.20.150 and substituting the following:

16.20.150 Amendments to the National Electrical Code.

A. Section 100.1 of the 2011 Edition of the National Electrical Code is amended by deleting the definition of Authority Having Jurisdiction and substituting the following:

Authority Having Jurisdiction - The Director of the Metropolitan Department of Codes Administration.

B. Section 210.12(A) of the 2011 Edition of the National Electrical Code is amended by deleting Section 210.12(A) and substituting the following:

210.12 Arc-Fault Circuit-Interrupter Protection.

(A) Dwelling Units. All 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets installed in dwelling unit bedrooms shall be protected by a listed arc-fault circuit interrupter, combination-type, installed to provide protection of the branch circuit.

Informational Note No. 1: For information on types of arc-fault circuit interrupters, see UL 1699-1999, *Standard for Arc-Fault Circuit Interrupters*.

Informational Note No. 2: See 11.6.3(5) of *NFPA 72-2010, 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.

Exception No. 1: If RMC, IMC, EMT, Type MC, or steelarmored Type AC cables meeting the requirements of 250.118 and metal outlet and junction boxes are installed for the portion of the branch circuit between the branchcircuit overcurrent

device and the first outlet, it shall be permitted to install an outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.

Exception No. 2: Where a listed metal or nonmetallic conduit or tubing 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 an outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.

Exception No. 3: 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.

C. Section 210.19(A)(1) of the 2011 Edition of the National Electrical Code is amended by deleting Section 210.19(A)(1) and substituting the following:

(1) General. Branch-circuit conductors shall have an ampacity not less than the maximum load to be served. Where a Branch circuit supplies continuous loads or any combination of continuous and non continuous loads, the minimum branch-circuit conductor size, before the application of any adjustment or correction factors, shall have an allowable ampacity equal to or greater than the non continuous load plus 125 percent of the continuous load. Aluminum and copper-clad aluminum conductors shall not be used on any branch circuit wiring.

Exception: Where the assembly, including the overcurrent devices protecting the branch circuit(s), is listed for operation at 100 percent of its rating, the ampacity of the branch circuit conductors shall be permitted to be not less than the sum of the continuous load plus the non continuous load.

D. Section 210.52 of the 2011 Edition of the National Electrical Code is amended by adding the following new Section 210.52(J):

(J) Smoke Detectors.

(1) Dwelling Units and Sleeping Rooms. Approved single-station or multiple-station smoke detectors shall be installed in accordance with NFPA 72, Chapter 2, within every dwelling and every dwelling unit within an apartment house, condominium or townhouse, and every guest or sleeping room in a motel, hotel, dormitory, and sleeping rooms in residential care/assisted living occupancies. Where more than one detector is required to be installed within an individual dwelling unit, the detectors shall be wired in such a manner that the actuation of one alarm will actuate all of the alarms in the individual unit.

(2) Locations Within Structures. In dwelling, dwelling units, dormitories, and sleeping rooms in residential care/assisted living occupancies smoke detectors shall be installed in each sleeping room, outside of each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the dwelling, including basements, cellars and attached garages but not including crawl spaces and uninhabitable attics.

Exception: Heat detectors may be substituted for smoke detectors in cellars and attached garages.

(3) Additional Split-Level Requirements. Within every dwelling and every dwelling unit within an apartment house, condominium or townhouse, and every guest or sleeping room in a motel, hotel, dormitory, and sleeping rooms in residential care/assisted living occupancies, with split levels, a smoke detector needs to be installed only on the upper level, provided the lower level is less than one full story below the upper level, except that if there is a door between levels, then a detector is required on each level. All detectors shall be interconnected such that actuation of one alarm will actuate all the alarms in the individual unit and shall provide an alarm, which will be audible in all sleeping areas.

(4) Alteration, repairs and additions. When interior alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings or dwelling units, the entire dwelling unit shall be provided with smoke detectors located as required for new dwellings; the smoke detectors shall be interconnected and hard wired.

Exception: Detectors shall not be required to be interconnected and hard wired when the alterations, repairs or additions do not result in the exposure of electrical wiring by the removal of interior wall and ceiling finishes.

E. Section 230.70(A)(1) of the 2011 Edition of the National Electrical Code is amended by deleting Section 230.70(A)(1) and substituting the following:

(1) Readily Accessible Location. The service disconnecting means shall be installed at a readily accessible location either outside of a building or structure, or inside. The main service disconnecting means shall not be located more than five (5) feet from the point where the service conductors leave the load side of a meter base and enter a building or other structure.

F. Section 250.50 of the 2011 Edition of the National Electrical Code is amended by deleting Section 250.50 and substituting the following:

Grounding Electrode System. All grounding electrodes as described in 250.52(A)(1) through (A)(6) that are 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 252(A)(4) through (A)(8) shall be installed and used. A minimum of one concrete encased electrode is required to be in place.

Exception: Concrete-encased electrodes of existing buildings or structures shall not be required to be part of the grounding electrode system where the steel reinforcing bars or rods are not accessible for use without disturbing the concrete.

G. Section 300.4(A) of the 2011 Edition of the National Electrical Code is amended by deleting Section 300.4(A) and substituting the following:

(A) Cables and Raceways Through Wood Members.

(1) Bored Holes.

(a) Joist and rafters. In both exposed and concealed locations, where a cable or raceway-type wiring method is installed through bored holes in joists and rafters, holes shall be bored so that the edge of the hole is not less than two (2) inches from the top or bottom of the joist or rafter and the diameter of any such hole shall not exceed one-third (1/3) of the actual depth of the joist or rafter.

(b) Studs. A hole not greater in diameter than forty (40) percent of the stud actual width may be bored in any wood stud. Bored holes not greater than sixty (60) percent of the actual width of the stud are permitted in nonbearing partitions or in any wall where each bored stud is doubled provided no more than two such successive double studs are bored. In no case shall the edge of the bored hole be nearer than five eighths (5/8) inch to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.

(c) Protection. Holes bored less than 1¼ in. (31.8 mm) from the nearest edge of the wood member, the cable or raceway shall be protected from penetration by screws or nails by a steel plate or bushing, at least 1/16 in. (1.59 mm) thick, and appropriate length and width installed to cover the area of the wiring.

Exception: Steel plates shall not be required to protect rigid metal conduit, intermediate metal conduit, rigid nonmetallic conduit, or electrical metallic tubing.

(2) Notches in wood.

(a) Joist and rafters. In both exposed and concealed locations, where cables or raceways are to be laid in notches in wood joist and rafters, notches on the ends of joists shall not exceed one-fourth (1/4) the actual depth of the joist. Notches for cables or raceways in the top or bottom of joists shall not exceed one-sixth (1/6) of the actual depth and shall not be located in the middle one-third (1/3) of the span.

(b) Studs. In exterior walls and bearing partitions, any wood stud may be cut or notched to a depth not exceeding twenty-five (25) percent of its actual width. Stud in nonbearing partitions may be notched to a depth not greater than forty (40) percent of the actual width of the stud is permitted in partitions supporting no loads other than the weight of the partition.

(c) Protection. In both exposed and concealed locations, cable or raceways shall be permitted to be laid in notches in wood studs, joist, rafters or other wood members where the cable or raceway at those points is protected against nails or screws by a steel plate or bushing, at least 1/16 in. (1.59 mm) thick installed before the building finish is applied.

Exception: Steel plates shall not be required to protect rigid metal conduit, intermediate metal conduit, rigid nonmetallic conduit, or electrical metallic tubing.

H. Section 300.21 of the 2011 Edition of the National Electrical Code is amended by deleting Section 300.21 and substituting the following:

300.21 Penetrations of Fire Rated Assemblies.

(A) Through Voids. Electrical installation in hollow spaces, vertical shafts, and ventilation or air-handling ducts shall be made so that the possible spread of fire or products of combustion will not be substantially increased.

(B) Through Materials. Electrical penetration through fire-resistance-rated walls, partitions, floors or ceiling shall be protected by approved methods to maintain the fire-resistance rating of the element penetrated.

(C) Openings for Outlet Boxes. Openings in fire-resistance-rated walls or floor/ceiling assemblies for metallic electrical outlet boxes not exceeding 16 square inches are permitted provided the area of such openings does not aggregate more than 100 square inches for any 100 square feet of fire resistant wall area or floor/ceiling area or shaft enclosure wall area. Outlet boxes on opposite sides of a fire resistance-rated wall or shaft enclosure shall be separated by a horizontal distance of not less than 24 inches (610 mm).

Exception: Openings for electrical outlet boxes of any material are permitted provided such boxes are listed for use in fire resistant assemblies and are installed in accordance with their listing.

(D) Apparatus Exceeding 16 Square Inches. When walls, floors, ceilings and partitions are required to have a minimum 1-hour or greater fire resistance rating, service equipment, panels, panel boards, cabinets, switchboards and lighting fixtures that exceeds 16 square inches shall be so installed such that the required fire resistance will not be reduced.

Exception: Fixtures, which are listed for such installation, are permitted.

Section 3. This ordinance shall take effect from and after its final passage, the welfare of the Metropolitan Government of Nashville and Davidson County requiring it.

RECOMMENDED BY:

INTRODUCED BY:

TERRENCE COBB
DIRECTOR OF CODES ADMINISTRATION

APPROVED AS TO
AVAILABILITY OF FUNDS

MEMBERS OF COUNCIL

DIRECTOR OF FINANCE

APPROVED AS TO LEGALITY OF FORM
AND COMPOSITION

METROPOLITAN ATTORNEY