

City of Elmhurst

AMENDMENTS

to the

NFPA NATIONAL ELECTRIC CODE, 2014 edition

IRC 2012 and IBC 2012 edition

Table of Contents

GENERAL AMENDMENTS

1. **Applicability**
2. **Conflicts**
3. **Licensed, Bonded and Registered**
4. **Deleted Articles**
5. **Aluminum Conductors – Not Permitted**

6. **GFCI Protected **Circuits****
7. **Arc Fault Circuit – Interrupter **Protected Circuits****
8. **Smoke Detectors**
9. **Carbon Monoxide Detectors**
10. **Rigid Conduit Required**

11. **Service Panel**
12. **One Service for a Single Family Dwelling**
13. **Interior Underground Installations**
14. **Exterior Underground Installations – Minimum Cover Requirements**
15. **Interior Conduits**

16. **GARAGES & EXTERIOR DETACHED STRUCTURES**
17. **Dedicated Circuits**
18. **Plaster Rings**
19. **Low Voltage Wiring in Commercial Buildings**
20. **Low Voltage Wiring in Single Family Dwellings and Townhouses**

21. **Bonding Jumper for Pipes – Hot to Cold to Gas**
22. **Water Meters – Remote Readers – Conduit Required**



City of Elmhurst

AMENDMENTS

To the

NFPA NATIONAL ELECTRIC CODE, 2014 edition
 IRC 2012 and IBC 2012 edition

1. **Applicability**
 The City of Elmhurst Amendments, Zoning Ordinance, and Municipal Ordinance and all of the adopted model codes shall be applicable to the planning and construction of all projects within the City.
2. **Conflicts**
 Whenever two codes are in conflict, the more stringent requirement shall govern.
3. **Licensed, Bonded and Registered**
 All electrical work shall be performed by a licensed and bonded electrician who is also registered with the City of Elmhurst Building Department. The electrical license must be one which was acquired by passing a written electrical examination offered by an approved municipality or city. The electrician/s shall provide a legible copy of their electrical license, to the building department, with the application for registration.
4. **Deleted Articles**
 The following articles of the 2014 NEC are hereby deleted in their entirety; and are not permitted:
 - ARTICLE 320 ARMORED CABLE
 - ARTICLE 324 TYPE FCC FLAT CONDUCTOR CABLE
 - ARTICLE 330 METAL-CLAD CABLE: TYPE MC
 - ARTICLE 334 NON-METALLIC-SHEATHED CABLE

 - ARTICLE 338 SERVICE ENTRANCE CABLE
 - ARTICLE 356 LIQUID FLEXIBLE NON-METALLIC CONDUIT
 - ARTICLE 362 ELECTRICAL NON-METALLIC TUBING

 - ARTICLE 378 NON-METALLIC WIREWAYS
 - ARTICLE 380 MULTI-OUTLET ASSEMBLY – NON-METAL ONLY
 - ARTICLE 382 NON-METALLIC EXTENSIONS

 - ARTICLE 388 SURFACE NON-METALLIC RACEWAYS
 - ARTICLE 390 UNDER FLOOR RACEWAYS – NON-METAL ONLY
 - ARTICLE 394 ALL KNOB AND TUBE WIRING
 - ARTICLE 398 OPEN WIRING ON INSULATORS

5. **Aluminum Conductors - Not Permitted**
Aluminum conductors are not permitted. (All electrical conductors shall be copper).
6. **GFCI Protected Circuits - Required**
All locations specified in Article 210.8 of the NEC 2014 edition. All light fixtures and exhaust fans in toilet rooms, bathrooms, powder rooms, shower rooms, etc. shall also be GFCI protected.
7. **Arc-Fault Circuit – Interrupter Protection**
Arc-fault circuit-interrupter protection shall be provided as required in 210.12(A) (B), and (C) of the NEC 2014 edition. The arc-fault circuit interrupter shall be installed in a readily accessible location. **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) of the NEC 2014 edition.
8. **Smoke Detectors (i.e. Smoke Alarms)**
Smoke Alarms shall be interconnected and shall be located per all requirements of Section **R-314 of the IRC 2012 edition** and other locations as follows:
- In each sleeping room
 - Outside each separate sleeping area in the immediate vicinity of the bedrooms
 - On each story of the dwelling, including basements and attics with stairways
 - Above or near the furnace, boiler, water heater in the same room (see item 9)
9. **Carbon Monoxide Detectors**
Carbon Monoxide Detectors shall be provided as follows:
- On every level
 - Outside each separate sleeping area in the immediate vicinity of the bedrooms (within 15 feet).
 - On every floor on which a fossil fuel burning boiler or furnace is located and/or in a room in which a boiler, furnace or water heater is located.
 - On every floor in which sleeping rooms are heated by any type of warm air heating plant that burns fossil fuel
- Ref: State of Illinois 91st General Assembly Legislation 91-HB0603
Engrossed. (see item 9)

10. Rigid Conduit Required

- a) All exterior above ground conduit shall be rigid galvanized pipe. [Including the ground rod conductor conduit.](#)
- b) All service entrance conductor conduit to the first disconnect enclosure shall be rigid galvanized pipe.

EXCEPTION:

[Generator and](#) air conditioning condensers may utilize liquid tight metal flexible conduit. If the flexible conduit is over 6'-0", it must include a grounding conductor. (Ref NEC 2014 250.118)

11. Service Panel

All service panels and sub panels shall be installed with a main breaker in the panel. All breakers shall be in 1". Whenever the electric meter is more than 5'-0" from the panel, an outside service disconnect breaker is required at the electric meter. A minimum one hundred (100) amp service with a (minimum) 20 circuit positions is required. Homes in excess of 1,500 square feet, excluding basement, must be equipped with a (minimum) two hundred (200) amp service with a (minimum) 30 circuits positions. [Reference Article 220 of the NEC 2014 edition.](#)

12. One Service for a Single Family Dwelling

Only one electrical service shall be permitted to a single family dwelling. (ref Article 230.2)

All sub-panels shall be fed through the main panel, located in the dwelling. (ref Article 230.40 [of the NEC 2014 edition](#))

13. Interior Underground Installations

Rigid galvanized or underground PVC conduit may be used under all interior concrete slab construction. All slab and foundation wall penetrations must be rigid galvanized conduit which is grounded. (ref Article 250.80 [of the NEC 2014 edition](#))

14. Exterior Underground Installations – Minimum Cover Requirements

(ref [Table 300.5 of the NEC 2014 edition](#))

- Exterior below ground conduit shall be rigid galvanized (min.) 6" deep,
- or -
- Electrical grade PVC type non-metallic conduit (min.) 18" deep
- or -
- Type "UF" cable with ground conductor (min.) 24" deep.

15. Interior Conduits

All new interior electrical installations shall be piped in rigid or EMT or (minimum) ½" Greenfield whips up to 6'-0" as needed. In existing closed walls or inaccessible ceilings (minimum) ½" Greenfield may be used. If Greenfield is over 6'-0" long, a grounding wire must be included and bonded to a box on both ends (BX armored cable is not permitted).

16. GARAGES & EXTERIOR DETACHED STRUCTURES

All garages shall have a minimum of two wall outlet receptacles plus one additional outlet in the ceiling for each overhead garage door. All wall outlets in the garage shall be GFCI protected. At least one ceiling light is required for each bay, plus one outside light at each exterior service door and one light on each side of the overhead doors. [A building disconnect is required for detached garages and structures \(NEC 2014 edition, Articles 225.31 and 250.32\)](#)

17. DEDICATED CIRCUITS

A dedicated circuit is an Individual Branch Circuit that supplies only one piece of utilization equipment. Heating and cooling systems, sump pumps, sewage ejectors, washers and dryers shall be installed on their own separate dedicated circuits. A single receptacle is required for pumps and ejectors. Provide a readily accessible on-off switch on heating and cooling systems. GFCI protection is not required on dedicated circuits. [Washers & dryers in basements shall have GFCI protection on their dedicated circuits.](#)

18. Plaster Rings

All plaster rings shall be for 5/8" Gypsum board.

Plaster rings at garage ceilings shall be for 1-1/4" Gypsum board, when there is habitable space, a closet or storage room above the garage, [to accommodate the two layers of 5/8" gypsum board.](#)

19. LOW VOLTAGE Wiring in Commercial Buildings

LOW VOLTAGE WIRING shall be defined as wires/cables which are used for fire alarms, burglar alarms, telephone, intercoms, security systems, computer cable, CATV, doorbells, thermostats and the like.

19a) All low voltage wiring shall be "**plenum rated**", cables or wires.

19b) CONCEALED AREAS

When concealed, low voltage wiring/cables are not required to be in conduit. Concealed shall be defined as follows:

- Located within a gypsum board partition
- Located within a floor/ceiling assembly in which the ceiling is gypsum board, suspended acoustical ceiling panel and grid, or similar
- Located in a tray or runway that is located above the bottom cord of bar joists in a warehouse space

19c) **EXPOSED AREAS**

Low voltage wiring is required to be in EMT Conduit in all exposed areas, in the interior of a building and rigid conduit on the exterior of buildings.

Some examples of exposed areas are as follows:

- Vertically on a wall and not concealed in the wall
- Horizontal runs which are below the top of the bar joists or ceiling assembly
- Any location where one can see the wires

EXCEPTION: Low voltage wires may run exposed at the top or bottom of the bar joists providing that the wires are bundled with ties and that proper hangers are installed at regular intervals to prevent sagging, or installed on cable trays.

20. LOW VOLTAGE Wiring in Single Family Dwellings and Townhouses

Low voltage wiring and cables are not required to be in conduit for single family homes and townhomes and are not required to be plenum rated.

21. Bonding Jumper for Pipes – Hot to Cold to Gas

Per NEC 2014 edition, Article 250.104

Bonding of Piping Systems: Provide a copper bonding jumper conductor with clamps and bond the hot water pipe, cold water pipe and gas pipe at a location over the water heater. Use the same size conductor as the grounding conductor to the water heater. (i.e. use a #4 copper conductor for a 200 AMP Service, use a #1/O copper conductor for a 400 AMP Service)

22. Water Meters – Remote Readers – Conduit Required

For all buildings whether residential, commercial, or otherwise, a conduit for low voltage wiring of the remote reader for the water meter shall be provided, by the Contractor. (formerly 24.11)

◆◆◆ END ◆◆◆