

CHAPTER 34, MUNICIPAL CODE OF THE
CITY OF CEDAR RAPIDS, IOWA
CEDAR RAPIDS ELECTRICAL CODE

EFFECTIVE MAY 1, 2006

34.01 TITLE.

This Chapter shall be known as the Cedar Rapids Electrical Code, may be so cited and may be referred to hereinafter as the "Code."

34.02 PURPOSE AND SCOPE.

It is the purpose of this Chapter to adopt an electrical code by reference, to provide for the examination, qualification and licensing of electrical contractors, electricians, residential electricians, and the registration of apprentice electricians, and apprentice residential electricians, also including provisions for the inspection and regulation of electrical installation, issuance of permits, the collection of fees, and to provide penalties for violations of this Ordinance in order to protect the public health, safety and welfare. The provisions of this Code shall apply to and govern all uses, installations, alterations, repairs, removals, renewals, replacements, connections, disconnections, and maintenance of all electrical equipment within the City of Cedar Rapids, Iowa.

34.03 DEFINITIONS.

For use within this Chapter, the following terms are defined:

(a) The term "electrical contracting" means undertaking, or offering to undertake, the planning and installation of electrical systems and equipment and the employment, management, supervision, and control of electricians, residential electricians, apprentice electricians, and apprentice residential electricians doing electrical work.

(b) The term "electrical contractor" means any person responsible for the activity of planning, or supervising electricians, residential electricians, apprentice electricians, and apprentice residential electricians doing electrical wiring, work, or equipment installations and connections to apparatus, which is or will be connected to an electric light and power source.

(c) The term "electrical work" means all installations, alterations, repairs, removals, replacements, disturbances, connections, disconnections, and maintenance of wiring and electrical equipment or control of any of the above, over 25 volts in, above, or under any building, structure or open space in the City of Cedar Rapids, Iowa.

(d) The term "electrical equipment" means all electrical materials, wiring, conductors, fittings, conduits, devices, appliances, fixtures, signs and apparatus or parts thereof comprising an electrical system or control of such system, within a structure or facility or control of such system.

(e) The term "electrician" means any person doing electrical work for an electrical contractor.

(f) The term "residential electrician" means any person doing electrical work for an electrical contractor in a residential one and two family dwelling unit, multifamily buildings with 12 or less dwelling units and not more than three floors above grade, and garages, sheds, and storage buildings accessory to dwellings.

(g) The term "apprentice electrician" means any person working for an electrical contractor for the purpose of becoming an electrician, and enrolled in, and satisfactorily progressing toward the completion of a registered apprenticeship-training program,

signatory by an electrical contractor and accredited by the U.S. Department of Labor.

(h) The term "apprentice residential electrician" means any person working for an electrical contractor assisting one or more residential electricians as defined in (f) above, and enrolled in, and satisfactorily progressing toward the completion of a registered apprenticeship training program, signatory by an electrical contractor and accredited by the U.S. Department of Labor.

(i) The term "electrical maintenance work" shall mean the repair of the existing electrical equipment, that was installed by a licensed electrical contractor, within a manufacturing, industrial, or public utility establishment, or limited replacement and extensions of branch circuits as determined by the Chief Electrical Inspector.

Assembled processing machinery, which serves the existing operations within a manufacturing, industrial, or public utility establishment may be connected to existing branch circuits.

(j) The term "licensed" means licensed under this ordinance or the Metro Licensing Agreement unless otherwise specified.

(k) When the word "shall" is used, the meaning is that the act to be performed is mandatory.

(l) The word "Department" means the Building, Housing and Zoning Department of the City of Cedar Rapids, Iowa.

34.04 EXEMPTIONS.

The provisions of 34.07 and 34.08 shall not apply to any of the following:

(a) A regular employee of a manufacturing, industrial, or public utility establishment, who does electrical maintenance work for that establishment only.

(b) A regular employee of any railroad who does electrical work on railroad equipment only as a part of their employment.

(c) A regular employee who works at assembling, fabricating, manufacturing, or testing electronic or electrical appliances, machinery, products, or other electrical materials; this provision does not exempt employees who wire prefabricated buildings.

(d) A regular licensed employee of a licensed mechanical contractor who is replacing a residential furnace or air conditioner may wire the new unit if the existing wiring is within five feet of the new unit(s).

(e) A regular licensed employee of a licensed plumbing contractor who is replacing a residential water heater may wire the new unit if the existing wiring is within five feet of the new unit(s).

34.05 ELECTRICAL INSPECTION SECTION.

There is hereby established in the Department an Electrical Inspection Section, consisting of one or more electrical inspectors, under the jurisdiction of the Building Official as defined in Section 33.04 of the Municipal Code of the City of Cedar Rapids. The term "inspector" as used within this code shall mean "Electrical Inspector."

34.06 ELECTRICAL BOARD FOR LICENSING AND APPEALS

(a) **Establishment of the Board.** There is hereby established an Electrical Board for Licensing and Appeals, hereinafter referred to as the "Board," with authority and responsibility as follows:

1. Authority to license a person as an electrical contractor if they are not eligible for a Metro Electrical License.
2. To act as a Board of Appeals as provided in the Cedar Rapids Electrical

Code

3. To periodically review the provisions of the Cedar Rapids Electrical Code and make recommendations to the City Council for improving and updating said document.
4. To appoint two members as representatives to the Metro Electrical Licensing Board.
5. The Metro Board of Examiners, as created by the 28E Agreement entitled "Metro Electrical Licensing Agreement," attached hereto as Appendix A, shall constitute the Electrical Board of Licensing except as provided for in 34.06 (a) (1).

(b) Composition of the Board. The Board shall consist of seven members, all of whose place of business, residence, or work is located in the City of Cedar Rapids. All members shall be qualified by experience and training to pass judgement upon matters pertaining to electrical construction. The membership shall be as follows: Two licensed electrical contractors, one licensed working electrician, a representative from a public service company furnishing electrical power to the City, one practicing electrical engineer capable of designing systems governed by this code, a member of the Fire Department, and a representative directly involved with electrical maintenance from a manufacturing plant, with no one company or interest being represented by more than one member of the Board. Said Board shall serve without compensation.

(c) Appointment of Members and Terms of Office. The members of the Electrical Board for Licensing and Appeals shall be appointed by the Mayor with the approval of the City Council. The term of appointment to the Board shall be three years except that the terms shall be so arranged and staggered so that the terms of no more than two members shall expire on December 31 of any one year. A vacancy within any term shall be filled by appointment of the Mayor with the approval of the City Council for the unexpired portion of that term only.

The Board shall designate a member as chairperson and vice-chairperson and shall adopt reasonable rules for conducting its investigations and proceedings, and shall render all decisions and findings in writing to the Building Official with a duplicate copy to the appellant and may recommend to the City Council new legislation as is consistent therewith.

(d) Quorum. Four members of the Board shall constitute a quorum for the transaction of business, provided that a decision on a matter relating to a specific license shall not be valid unless decided in the presence of a Board member who holds a similar valid license. Any vote taken for the purpose of suspending or revoking a contractor's license shall require a majority vote of all members of the Board.

(e) Powers and Duties of the Board. The Electrical Board for Licensing and Appeals shall have the following powers and duties:

1. To act upon reports of violations by licensed electricians, residential electricians, apprentice electricians, apprentice residential electricians, or electrical contractors as filed by the electrical inspector with the Board.
2. To prescribe rules consistent with the provisions of this code for hearings before the Board to suspend, revoke, or reinstate licenses.
3. To revoke any license, by four votes of all members of the Board, for repeated violations of this code or the rules of the local or the State Boards of Health relating to electrical installations, but only after the person charged with a violation has been afforded the opportunity to be heard in his or her own defense.
4. To keep a complete record of the official proceedings of the Board

preserve all documents, books, and papers relating to appeals, examinations for licenses, and hearing of complaints and charges for at least three years.

5. To hear appeals from the decision of the electrical inspector and to rule on interpretations of the provisions of the Code, and to determine the suitability of alternate materials and methods of construction consistent with the provisions of the Code.

6. To permit variances from the strict terms and provisions of this Code if such variance can be made without increasing the hazards to health or safety of persons or property and when granting of such variance will not violate the intent and purpose of this code. Inconvenience or financial hardship to the appellant shall not be grounds for the granting of such variance.

7. To periodically review the National Electric Code and Chapter 34 of the Cedar Rapids Municipal Ordinance and make recommendations to the City Council.

34.07 ELECTRICAL CONTRACTOR AND LICENSE.

(a) Except as provided in Section 34.03, 34.04 and 34.09, no person shall engage in the activity of electrical contracting, as defined in Section 34.03 without first obtaining an electrical contractor's license from said City.

(b) An electrical contractor's license issued to an individual, partner, or officer of a firm, corporation or other association, authorizes such firm, corporation or other association to conduct an electrical contracting business in the City of Cedar Rapids, Iowa, for the period of time for which such license is granted, provided such licensee is supervising the operations of said firm or corporation and further provided that such licensee, firm, corporation, or other association shall be insured.

(c) Before any permit for electrical work shall be issued to a electrical contractor in the City of Cedar Rapids, Iowa, he/she shall execute and file with the Department a certificate of insurance written by a company authorized to transact business in the State of Iowa, in limits of not less than One Million Dollars (\$1,000,000) aggregate amount liability and property damage per occurrence; said certificate to be written on a standard form and carrying an endorsement naming the City of Cedar Rapids, Iowa and its employees as additional insured's as their interest may appear and conditioned upon the faithful performance of all duties required of such electrical contractor by this chapter, or by the rules and regulations of the City of Cedar Rapids, Iowa or as provided for in the Metro Electrical Licensing Articles of Agreement, Appendix A. It shall be a further condition of said Certificate of Insurance that the obligator shall hold the City of Cedar Rapids and its agents and employees harmless from any and all damages sustained by reason of neglect or incompetence on the part of such electrical contractor, his/her agents or employees in the performance of the work done, or any negligent guarding of hazardous areas, or by reason of any other cause growing out of the negligence or carelessness of such electrical contractor, his agents or employees or the issuance of such license or permit.

Said Certificate of Insurance shall be for one year and shall expire no sooner than the 31st day of December of each year, and shall be re-filed on or before said date for each subsequent year.

(d) An electrical contractor's license may be renewed without the filing of said insurance certificate provided that no electrical work is done or contracted for by such license holder during the term of the license. Such license shall be marked "NOT INSURED" or "NOT TO BE USED FOR CONTRACTING."

Each active contractor shall furnish the City his or her state contractor's registration number before the license will be issued or renewed.

(e) In the event of the death of a insured electrical contractor, the Board may issue a temporary electrical contractor's license to a responsible member, partner, or officer of such firm, corporation or other association until such time that such firm, corporation or other association acquires a licensed electrical contractor, provided that such temporary license shall not be issued for a period of more than (6) months.

34.08 ELECTRICIAN AND LICENSE.

Except as provided in Sections 34.03, 34.04, 34.09, 34.10 34.11 and 34.24, no person shall engage in doing electrical work or installing electrical wiring or equipment and apparatus which is or will be connected to any electric power source in the City of Cedar Rapids, Iowa, unless said person shall have obtained an electrician's license or a residential electrician's license from said City before doing any such electrical work and further provided that such licensee is employed by a licensed electrical contractor.

34.09 WIRING IN PREFABRICATED ASSEMBLIES.

The provisions of Sections 34.07, 34.08, 34.23 and 34.24, shall not be applicable to electrical work and wiring installed and concealed in prefabricated assemblies where such fabricating plant is more than fifteen (15) miles outside the corporate limits of the City of Cedar Rapids, Iowa. The electrical permits normally required for fabrication of prefabricated assemblies shall be the responsibility of the approved and certified fabricator for those assembly plants located more than fifteen (15) miles outside the corporate City limits.

The provisions of Section 34.23 and 34.24 shall be applicable to electrical work and wiring installed within prefabricated assemblies within the corporate limits of the City and within 15 miles of the City, the same as for any other electrical work within the City.

34.10 TEMPORARY WORK PERMIT.

A temporary work permit may be issued to any person as per Article 8.6 Exception of the Metro Licensing Agreement.

34.11 APPRENTICE ELECTRICIAN AND APPRENTICE RESIDENTIAL ELECTRICIAN REGISTRATION.

An apprentice electrician or apprentice residential electrician need not be licensed, provided that he/she is employed by an electrical contractor to assist one or more licensed electricians or residential electricians and further provided that such apprentice performs work under the direct supervision of a licensed electrician or residential electrician responsible for such work. Each apprentice electrician or apprentice residential electrician shall register as per Article 7 of the Metro Licensing Agreement. The ratio of apprentice residential electrician(s) to residential electricians shall be one to one. The ratio of apprentice electrician(s) to electricians shall be one to one.

34.12 APPLICATION FOR LICENSE.

Each individual, partner, or officer of a company or corporation desiring an electrical contractor license, each individual desiring an electrician license, or residential electrician license shall make application to the Metro Electrical Licensing Board as per Article 8 of the Metro Licensing Agreement.

Examination shall be per Article 9 of the Metro Licensing Agreement.

34.13 FEE FOR EXAMINATION.

Each person taking an examination for an electrical contractor license, electrician license, or residential electrician license shall pay a sponsorship fee to the City of Cedar Rapids. Examination fees shall be made payable to the Testing Agency.

34.14 ISSUANCE OF LICENSES.

Upon satisfactorily passing the appropriate examination, the applicant shall be entitled to a license according to the terms of his/her application, this ordinance, the Metro Licensing Agreement, and payment of the appropriate license fee to the City of Cedar Rapids, Iowa.

34.15 RECIPROCITY.

As per Article 16 of Appendix A, the Metro Licensing Agreement

34.16 LICENSE RENEWAL.

Metro electrical contractor, electrician, and residential electrician licenses shall expire on the next December 31st following issuance. Licenses shall be renewed annually as per the Metro Licensing Agreement. Cedar Rapids electrical contractor licenses shall expire on the next December 31st following issuance and shall be renewed annually for a \$50.00 fee.

EXCEPTIONS:

1. In those cases involving an electrical contractor who will hold and maintain his/her license without being actively engaged or employed as a contractor and without filing a certificate of insurance with the City, the fee for renewal of the electrical contractor's license shall be as set by Council Resolution, provided that such license is marked "NOT INSURED" or "NOT TO BE USED FOR CONTRACTING" and further provided that such person shall turn in such marked license to the Board, file an approved electrical contractor's certificate of insurance with the City, furnish a current Code Update Certificate, and pay the appropriate fee for renewal of a regular license and obtain valid permits prior to any electrical contracting operations within the City of Cedar Rapids, Iowa.

1. The fee may be waived for the issuance of a license, or the renewal of a license, to an electrical inspector who has qualified for said license according to the provisions of the Cedar Rapids Electrical Licensing Ordinance.

34.17 CODE UPDATE CERTIFICATE

Renewal of an electrical contractor license shall require a contractor to attend and complete an approved NEC Code update course within twelve months of January 1st of the date on the latest codebook. A certificate of completion must be presented before licenses will be renewed. Electrician and residential electrician shall require an update certificate as per the Metro Agreement.

EXCEPTIONS:

1. An electrical contractor who holds and maintains a license without being actively engaged or employed as a contractor and who has not filed a Certificate of Insurance with the City, shall pay a fee as set by Council Resolution for the original license provided such license is marked "NOT INSURED" or "NOT TO BE USED

FOR CONTRACTING." Prior to any electrical contracting operations within the City of Cedar Rapids such person shall turn in such marked license to the Board, file an approved electrical contractor's certificate of insurance with the City, furnish a valid Code Update Certificate, and pay the appropriate fee for the issuance of a regular license and obtain valid permits.

2. In those cases involving an electrical contractor who has or is now retiring from being actively engaged or employed as a contractor, there is now established a "Retired" file. Such applicant shall pay one last renewal fee, have his or her card stamped retired and laminated in plastic. This license may be reinstated at any time by paying the current year's renewal fee, and furnishing a current valid Code Update Certificate. A contractor would also have to furnish an approved Certificate of Insurance and State of Iowa Contractor Registration number.

34.18 LAPSE OF LICENSE.

Renewal of a lapsed license shall be per the Metro Licensing Agreement Article 12.5 and 12.6.

34.19 REVOCATION OF LICENSE.

The Board shall have the power to suspend or revoke any license, where fraud or misrepresentation was used in obtaining the license, for allowing the license to be transferred or to be used either directly or indirectly by any other person, for failure to comply with any of the provisions of this Ordinance, the Code, and its definitions, or other ordinances, or for negligence, failure to obtain proper permits or call for inspections, incompetence, or misconduct in the performance of any duties of an electrical contractor, electrician, or residential electrician, as outlined in the following procedure:

In all cases involving revocation or suspension of a license, at least fifteen (15) days notice shall be served upon the holder whose license is in question indicating the time and place of hearing and the general grounds for the contemplated revocation or suspension. The notice shall also advise the holder of his/her right to appear at said hearing in person or by counsel for the purpose of being heard.

34.20 SUMMARY SUSPENSION.

If the Board finds that the public health or safety requires emergency action, and incorporates a finding to that effect in its order, summary suspension of a license may be ordered pending the usual suspension or revocation proceedings enumerated herein before. Immediately upon issuance of an order of summary suspension, the Board shall institute the usual revocation or suspension proceedings as outlined in Section 34.19 except the 15-day notice of hearing may be waived if requested by the holder of the suspended license.

34.21 APPEAL.

In the event any person shall feel aggrieved by any action of the Board, he/she may appeal from such action to the City Council by filing written notice of his/her appeal within ten (10) days from the date of the action. The Council shall give the appellant, and the Board five (5) days written notice by certified mail of the date, time, and place of and hearing of said appeal. All interested persons shall be given the opportunity to be heard at such hearing and the City Council may affirm, modify, or overrule the action of the Board based upon the evidence submitted before the City Council.

34.22 ELECTRICAL INSPECTOR.

(a) **Qualifications.** Each electrical inspector shall be a practical expert electrician and shall be appointed by the Mayor, with the approval of the City Council, from the approved list of the Civil Service Commission in accordance with the statutes governing civil service appointments. Each inspector shall know and understand practical and theoretical electricity, electrical materials, systems and methods of construction, and all orders, rules, regulations and codes that pertain to municipal electrical inspection. An electrical inspector shall not engage in the sale, installation, or maintenance of electrical equipment, materials, or systems that are regulated by this Code, either directly or indirectly, nor have any financial interest in any concern engaged in such business in the City of Cedar Rapids, Iowa, at any time while employed as an inspector, except personal residences for employees built by an independent contractor.

(b) **Duties.** It shall be the duty of each inspector to administer and enforce the provisions of the Cedar Rapids Electrical Code and other related ordinances, codes, regulations or statutes, and to perform such other duties as may be required by the Building Official. Such duties are not intended to include designing of, or laying out of electrical work or systems, except as such activity contributes to the enforcement of this Code. The inspector(s) shall hereafter require that the installation of all electrical light and power wiring, conduit and raceway systems, all electrical fixtures, equipment and appliances, or apparatus, and all electrical work and materials shall be of such grade and type of installation as to be free of electrical hazards and to conform with the provisions of this Code.

(c) **Authority.** Each electrical inspector is authorized and empowered to inspect any and all buildings or installations, and to order the necessary removal, disconnection or repair to put in proper and safe condition for the safety of life and the prevention of fire, all electrical heating and lighting apparatus, power generators, motors, machinery, conduits, raceways, fixtures and connections, electrical wires and electrical apparatus used for light, heat or power purposes or control of such and to control the disposition and arrangement of the same so the persons and property shall not be in danger there from.

34.23 PERMIT TO DO ELECTRICAL WORK.

Before commencing the installation or alteration of any wiring system through or by which is conveyed or intended to be conveyed, electrical current for power, heating, cooling or illuminating purposes or control of any of the above, over 25 volts, in, on, or under any building or structure in the City of Cedar Rapids, Iowa, a permit therefore shall first be obtained by the licensed-insured electrical contractor in charge of such work from the Electrical Inspection Section of the Building Department, and it shall be unlawful to commence or proceed with such work unless such permit shall have first been obtained. An investigation fee of \$35.00 shall be charged when a permit has not first been obtained.

EXCEPTIONS: The provisions of this section shall not apply to the following:

1. Such wiring in a single-family dwelling, or a one, two, three, or four dwelling unit condominium, which is accomplished by a homeowner in compliance with the provisions of Section 34.24 of this Code.
2. Such electrical maintenance work which is accomplished within or about a manufacturing, industrial, or public utility establishment in compliance with the provisions of Section 34.26 of this Code.
3. Such integral electrical wiring and equipment which was permanently wired or installed on or within a factory-built structure in an approved factory by qualified mechanics, and which was inspected, approved and certified by an approved third

party inspection agency in compliance with the Iowa State Building Codes; however, any part of the electrical wiring or electrical system which was installed or added to a factory-built structure after its location and erection on a local building site by qualified factory mechanics, shall be installed and connected under the authority of an electrical permit by a licensed insured electrical contractor in compliance with the Code.

34.24 WIRING BY HOMEOWNER.

(a) **Examination and Permit.** A permit shall be issued to a homeowner who proposes to install, repair, or add to the electrical system in his/her own existing single family dwelling that is used as his/her own permanent place of residence, or in his/her dwelling unit in a one-four unit condominium that is separated from the other units by a one-hour fire wall, provided that each of the following conditions shall be fulfilled:

1. Such owner has applied to the Department for an examination; and
2. The fee for each homeowner's examination has been paid to the Department; and
3. Said homeowner has successfully passed an examination to prove that he/she is capable of doing the specific electrical work covered by the permit in a safe and workmanlike manner; and
4. The Department has issued a permit covering the work to be done.

EXCEPTION: An electrician or residential electrician licensed by the City may obtain a homeowners permit for his/her new dwelling, or rewiring of his/her own dwelling or condominium unit.

(b) **Responsibility of Homeowner.** The owner shall personally perform all labor in connection with the work. All work done under the provisions of this section shall meet the materials and workmanship requirements of the Cedar Rapids Electrical Code and shall be inspected the same as for work done by a licensed and insured contractor.

34.25 PLANS AND SPECIFICATIONS.

The inspector(s) may require that plans and specifications, showing the materials, layout and specific details of the electrical system, be submitted with the application for the electrical permit. If a review of plans indicates major deviations from the provisions of this Code, the applicant shall submit revised plans and specifications. If any changes are made to the plans and specifications for which a permit was issued, amended plans and specifications shall be submitted.

34.26 ELECTRICAL MAINTENANCE.

A regular full-time employee of a manufacturing, industrial, or public utility establishment, who does electrical maintenance work for that establishment only, shall be permitted to do electrical maintenance work only on that establishments property as defined in Section 34.03 (i).

34.27 EMERGENCY WORK.

(a) In case of emergency involving imminent hazard to life or property, authorized personnel may proceed with necessary corrective work to alleviate the hazardous or dangerous condition as it relates to the electrical system prior to obtaining a permit if same is required, providing that the permit is applied for and tentative approval obtained at the earliest practicable occasion thereafter. All emergency work shall be made to comply with the provisions of this Ordinance and shall be inspected by an electrical inspector in the

same manner as for other electrical work.

(b) After furnishing or restoring emergency service, the local power company representative shall inform an electrical inspector of the date, time, location, and nature of such emergency power restoration.

34.28 UNSAFE ELECTRICAL SYSTEMS OR EQUIPMENT.

Electrical systems or equipment regulated by this code which are unsafe, are beyond their normal useful life, or which constitute a fire hazard, or are otherwise dangerous to human life are, for the purpose of the section, unsafe. Use of electrical systems or equipment regulated by this code constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is, for the purpose of this section, an unsafe use.

Unsafe electrical systems or equipment are hereby declared to be public nuisances and shall be abated by repair, rehabilitation, demolition or removal in accordance with the procedures set forth in the Uniform Code for the Abatement of Dangerous Buildings or an alternate procedure as may be adopted by this jurisdiction. As an alternative, the building official or other employee or official of this jurisdiction as designated by the governing body may institute other appropriate action to prevent, restrain, correct or abate the violation including the immediate termination of power.

34.29 REPAIRS OF DAMAGED SYSTEMS.

Any part of an electrical system damaged by explosion, fire, act of God, or any other damage, shall be replaced or repaired in conformance with the provisions of this Code for new work. **EXCEPTION:** Parts of an electrical system, which were not damaged and had been installed in compliance with the electrical code, which was in effect at the time of the installation, may be salvaged and retained in said electrical system, provided that the safety of the system is maintained equal to new work complying with the provisions of this Code.

34.30 MOVED BUILDINGS.

(a) The electrical system in a moved building shall be made to comply with the provisions of this Code the same as for new construction. **EXCEPTION:** Parts of an electrical system, which were not damaged and had been installed in compliance with the electrical code, which was in effect at the time of the installation, may be salvaged and retained in said electrical systems, provided that the safety of the system is maintained equal to new work complying with the provisions of this Code.

(b) The permanent service connection shall not be made by the utility company until the electrical system is completely installed and is approved by the inspector.

(c) The existing service on the moved building shall not be connected to the electrical power source unless specifically approved by an inspector.

34.31 INSPECTIONS.

Upon the completion or near completion of electrical work that has been done under a permit, the electrical contractor or the homeowner doing the work shall notify an inspector that the work is ready for inspection. Failure to notify an inspector the electrical work is ready for inspection within thirty days of completion shall result in a \$35.00 late charge

being added to the regular permit fee. It shall be the duty of the person requesting inspections required by this code to provide access to and means for inspection of such work.

If an inspector finds the work to be in conformity with the provisions of the Code, he/she shall affix an approval sticker to a conspicuous and logical place on the premises, and shall note such approval in the Department records. Such approval shall authorize the use of the work and its connection to the supply of electricity.

An inspector may grant conditional approval by authorizing the temporary connection and use of an installation, with such approval to expire at a stated time.

If the Department has been notified in writing that an electrical installation is ready for inspection, and such inspection is not made within twelve (12) working hours (7:30 a.m. - 4 p.m. Monday through Friday except holidays) after the time of receipt of such written notification, such installation shall be considered to be in compliance with the Code, provided that the licensed/insured contractor in charge of the work shall file an affidavit with the Department, certifying that the work was installed in accordance with the provisions of the Code and that the materials and workmanship meet or exceed the requirements of said Code.

Electrical work or equipment which is installed or added to a factory-built structure or a mobile home, after its location and erection on a local building site, shall be inspected by an inspector and be subject to local codes and required permits.

An inspector is hereby also authorized, if he/she determines that good cause exists, to inspect the entire electrical system of a facility.

34.32 RIGHT OF ENTRY.

An inspector shall have the right, during reasonable hours and upon consent of the occupant, to enter any building or premises in the discharge of official duties to make an inspection, re-inspection, or tests of electrical equipment, in accordance with the provision of the law.

When the building or premises is unoccupied, the consent of the owner or owner's agent shall be obtained prior to entering.

In case of an emergency involving hazard or danger to life or property, the inspector shall take immediate action to alleviate the hazard from the faulty electrical system.

34.33 ORDERS FOR CORRECTION; UNSAFE CONDITIONS; AUTHORITY TO CUT OFF POWER.

Each electrical inspector is hereby empowered to inspect, and re-inspect as necessary all wiring, poles, raceways, fixtures and apparatus used in conducting electrical current for the purpose of light, heat or power or control of light, heat or power within the City of Cedar Rapids. Whenever such wiring, raceways, apparatus or fixtures are found to be hazardous to life or property, unsafe by reason of obsolescence, or to have been installed in violation of this Chapter or regulations of the City, said inspector shall notify the person, firm or corporation who owns, uses or operates such wiring, raceways, apparatus, or fixtures, by personal service, or by certified mail to their last known address, directing them to place the same in a safe and secure condition, conforming to this Code and the other ordinances and regulations of the City, within a reasonable time as specified by the inspector, and also notify such person, firm or corporation in the same notice of the right to obtain a hearing by appealing such direction or order from the Inspector to the Electrical Board of Licensing and Appeals in accordance with the procedure established by the

Electrical Board of Licensing and Appeals.

If the necessary changes or repairs are not completed within the specified time, the inspector shall have the authority to disconnect or order the disconnection of electrical service to the equipment or installation 48 hours after written disconnect notice.

No such disconnection shall be ordered during the pending of a related appeal to the Electrical Board of Licensing and Appeals, except in the case where the conditions in question may be imminently dangerous to life or property.

In cases where continuance of electrical service to an electrical system or equipment contributes to the existence of an electrical hazard to persons or property, an inspector shall have the authority to cause immediate discontinuance of such service.

Said inspector shall present written notification, by personal service or certified mail, to any person, firm or corporation owning abandoned, dead or dangerous wiring, apparatus, or fixtures which are no longer used, requiring the removal of same within a reasonable time, to be set by the inspector.

Upon their failure or refusal to comply with the terms of said notice, the inspector may report the same through the Building Official to the City Council, which may order the removal of same, and order the cost of such removal to be assessed against the property from which removed.

34.34 WIRING NOT TO BE CONCEALED BEFORE INSPECTION.

No person shall cover or conceal or cause to be covered or concealed any wiring for which a permit has been issued or is required by this Code, before said wiring has been inspected and approved.

An inspector shall have the authority to remove or cause removal of lath, plaster, boarding, paneling, insulation, earth, concrete or other cover which may prevent the proper inspection of wires or electrical apparatus before it has been approved.

34.35 ELECTRICAL WELDER.

The permanent, extended location and use of an electrical welder in a residential zoned district, for business, hobby or other purposes, is hereby prohibited, except by written permission from an inspector.

34.36 WIRING IN OR ON PUBLIC PROPERTY.

It shall be unlawful for any person to locate any electrical raceway or to conduct electrical energy over, under or across any street, alley, sidewalk, or other public property, or to make any excavation in such public property for the purpose of laying an electrical raceway or wiring, without first obtaining written approval from the City Council. Said Council approval shall be requested in writing, prior to the start of any such work, by submitting an application through the Traffic Engineering Department to said Council, stating in detail the location, depth, extent, number of ducts, and the purpose which the raceway, wiring or crossing will serve. All such raceways or crossings shall be constructed and installed in compliance with the Code and with the provisions of the resolution of the City Council.

34.37 LIABILITY FOR COMPLIANCE.

The issuance of electrical permits, the inspection and enforcement of compliance with the Code, or the approval of electrical wiring, apparatus, poles, raceways and other electrical systems or equipment by an electrical inspector, shall not relieve the person, firm,

or corporation having control of such electrical systems or equipment from responsibility, nor lessen the liability of a person, firm or corporation installing or owning such wiring, apparatus, poles, raceways, or other electrical equipment, as would exist in the absence of such permits, inspection, code enforcement, or the granting of such approval.

34.38 (Repealed 12-02)

34.39 PERMIT FEES.

Electrical permits shall not be issued until the fees, as set forth and established by resolution of the City Council, have been paid to the City Treasurer.

34.40 (Repealed by 12-02)

34.41 NATIONAL ELECTRICAL CODE ADOPTED.

Except as hereinafter added to, modified or amended, there is hereby adopted as the Electrical Code of the City of Cedar Rapids, Iowa, that certain electrical code known as the National Electrical Code, 2005 edition, as published by the National Fire Protection Association of Boston, Massachusetts; and the provisions of said Electrical Code of the City of Cedar Rapids, as may be amended from time to time, shall be controlling in the installation, alteration, repair, relocation, replacement, addition to, use, maintenance or removal of electrical appliances, equipment, conduits, raceways, apparatus, or control of such system and in all matters covered by said Electrical Code within the corporate limits of the City of Cedar Rapids, Iowa, and shall be known as the Cedar Rapids Electrical Code.

34.42 VARIATIONS FROM THE NATIONAL ELECTRICAL CODE.

The provisions of Section 34.43 through Section 34.56 of this Code hereafter set out shall be mandatory provisions, which shall supersede and take precedence over similar provisions of the 2005 National Electrical Code in all instances where the following sections differ from the provisions of the 2005 National Electrical Code.

34.43 EXTERIOR SERVICE-WIRING.

(a) All electrical service wiring shall be run in rigid metal conduit, intermediate metallic conduit or electrical metallic tubing.

EXCEPTION: (1) Rigid non-metallic conduit is approved for the underground part of all installations except as prohibited in Chapter 5 of the NEC.

(2) Rigid non-metallic conduit is approved for conduits from 400 ampere or less meter sockets that are direct metered, to the electric service panels, providing the maximum exposed exterior conduit length from the meter socket to the point of entry into a building is five feet or less and the maximum length of interior conduit from the point of entry into a building to the panels is five feet or less in length.

(b) The minimum size service conductor shall be No. 8 AWG and the minimum trade size of the conduit shall be 3/4 inch. **EXCEPTION:** Communication equipment under the exclusive control of communication utility companies and outdoor signs having a continuous electrical load with not more than 80% ampacity of the conductors, may be wired with No. 10 AWG ungrounded service conductors and No. 8 AWG grounded service conductor in 1/2 inch minimum size conduit.

(c) Multiple meter and multiple over-current protection panels shall be permanently

marked with a phenolic plaque.

34.44 ELECTRIC SERVICE AND METER.

(a) **Application.** The electrical contractor shall notify the customer to make application to the electric utility company for electrical service and the installation of the electric meter.

(b) **Meter Height.** The electric meter and height shall be located as per the electric utility company

(c) **Service and Transformer Location.** The electric service shall be located according to the directions of the electric utility company.

(d) **Service Attachment Devices.** An approved attachment device for the overhead electrical service wiring shall be provided by the electrical contractor or by the customer. Any service riser mast used as an attachment point shall be a minimum of 2 inches diameter rigid or intermediate steel conduit and be suitably supported.

(e) **Location of Service Head.** The service drop conductors shall be attached to the building at a point below the bottom and within three feet of the service head. At least three feet of wire shall be left hanging from the entrance cap for termination.

(f) **Raceway Seal.** The service conduit shall be sealed at the exit point of the load side of the meter socket.

(g) **Main Service Disconnect.** The main service disconnect and metering for buildings or installations, which the underground downtown power network serves, shall be referred to the electric utility company for location and design.

34.45 SINGLE FAMILY DWELLING SERVICE.

(a) **Minimum Size Service Conductors and Conduit.**

1. Single family dwellings with not over 1000 square feet of finished floor space, or space which may be finished, shall be served with not less than #4-75 degree C AWG stranded copper service conductors in not less than one-inch conduit.

2. Single family dwellings with not over 2000 square feet of finished floor space, or space which may be finished, shall be served with not less than No. 1 - 75 degree C AWG stranded copper service conductors in conduit of not less than 1-1/4 inch trade size.

3. Single family dwellings with more than 2000 square feet of finished floor space, or space which may be finished, shall be served with not less than No. 2/0 - 75 degree C AWG stranded copper service conductors in conduit of not less than 1-1/2 inch trade size.

(b) **Minimum Size Distribution Panels.**

1. The minimum size service entrance panel for a single family dwelling with up to 1000 square feet of finished floor space, or space which may be finished, shall be equipped to provide protection against over-current with no less than a 100 ampere main over-current protective device having at least 20 available 120 volt branch circuit spaces.

2. The minimum size service entrance panel for a single family dwelling with 1001 to 2000 square feet of finished floor space, or space which may be finished, shall be equipped to provide protection against over-current with no less than a 150 ampere main over-current protective device having at least 30 available 120 volt branch circuit spaces.

3. The minimum size service entrance panel for a single family dwelling with over

2000 square feet of finished floor space, or space which may be finished, shall be equipped to provide protection against over-current with no less than a 200 ampere main over-current protective device having at least 40 available 120 volt branch circuit spaces.

4. A 3-pole solid neutral entrance disconnect switch of equal rating shall be considered acceptable in conjunction with the above minimum service requirements.

(c) **Existing Service Equipment.** Existing open type service equipment or split-bus service equipment shall be replaced by approved dead front service equipment at the time the service is increased or changed.

34.46 TWO FAMILY AND MULTIPLE FAMILY DWELLING SERVICE.

The minimum electrical capacity for an electrical service, which serves more than one apartment, shall be computed from the provisions of Article 220 of the 2005 National Electrical Code.

34.47 FEEDERS & PANEL REQUIREMENTS FOR INDIVIDUAL APARTMENTS.

(a) Feeders to individual apartments shall be computed from the provisions of Article 220 of the 2005 National Electric Code.

(b) Apartments with not over 500 sq. feet of finished floor area shall have a minimum 70-ampere main lug panel with 12 available spaces.

(c) Apartments with 501 to 1000 sq. ft. of finished floor area shall have a minimum 100-ampere main lug panel with 16 available spaces.

(d) Apartments with 1001 to 2000 sq. ft. of finished floor area shall have a minimum 150-ampere main lug panel with 24 available spaces.

(e) Apartments over 2000 sq. ft. of finished floor area shall have a minimum 200 ampere main lug panel with 30 available spaces.

34.48 RULE FOR COMPUTING RANGE AND DWELLING LOADS:

(a) **Range Feeder Size:** From entrance switch or distribution point, install not less than No. 8 AWG stranded copper conductors for a range up to 15 KW, with maximum protection not to exceed the current carrying capacity of the conductor.

For a range 15 KW to 20 KW, install not less than No. 6 AWG stranded copper conductors, with maximum protection not to exceed the current carrying capacity of the conductor.

(b) **Branch Circuit Requirements:** One circuit for lighting shall be provided for every 600 square feet of finished floor space, or space which may be finished.

In addition, provision for the following appliance circuits shall be made:

Two separate 20-ampere circuits for kitchen and breakfast area receptacles. The garbage disposal unit may be wired on one of the kitchen receptacle circuits or the dishwasher circuit. There must be at least two circuits on the main usable counter top area.

One separate 20-ampere circuit for each laundry area.

Other circuits, if installed, shall be as follows:

One separate 20-ampere circuit for microwave oven.

One separate circuit for each non-gravity furnace with disconnect switch.

One separate 20-ampere circuit for each food freezer.

One separate 20-ampere circuit for each dishwasher.
One separate 20-ampere circuit for a workshop.
One separate 20-ampere circuit for a refrigerator.
Additional separate circuits for other heavy loads.

Islands and peninsula counters shall not be required to have outlets if there is a minimum of four duplex outlets servicing the counter top area of the kitchen. Receptacle outlets serving the counter top shall not be installed below the top level of the counter top work surface in a kitchen or dining area, unless approved by the electrical inspector(s).

34.49 ADDITIONS TO BUILDINGS OR REMODELING.

(a) Where kitchen and bathrooms are reconfigured the wiring shall conform to the 2002 National Electrical Code and the provisions of this ordinance.

(b) Where any habitable room has the wall covering removed, exposing the structure, the wiring shall conform to the 2005 National Electrical Code and the provisions of this ordinance.

(c) The minimum size of electrical service(s), over-current panel(s) for the electrical system of an existing dwelling(s) which is being remodeled or added to shall be computed and installed according to Section 34.45, 34.46, 34.47 and 34.48 of this Code, the same as for new dwellings. **EXCEPTION:** Existing equipment which meets the computed minimum requirements shall be approved by the inspector.

(d) Where the construction, alteration or modification of a building reduces the clearance of the service drop conductors below the acceptable minimum clearance required by ARTICLE 230.24, as amended, of the 2005 National Electrical Code, such service conductors shall be relocated according to the directions of the electric utility company.

34.50 PROHIBITED ELECTRICAL CONSTRUCTION.

(a) **Armored Cable Wiring:** The installation of Armored Type AC and MC cable wiring as provided in Article 320 and 330 of the 2005 National Electrical Code is prohibited. **EXCEPTION:** Type AC and MC cable with separate ground wire may be fished in walls and ceilings and installed above lay-in ceilings or in concealed areas, and as approved in 34.53 Exception.

(b) **Service Entrance Cable:** The installation of Type SE service entrance cable as provided in Article 338 of the 2005 National Electrical Code is prohibited.

34.51 CONDUCTORS.

(a) All conductors other than service drop conductors, medium and high voltage cables (601 volt insulation level and above), and conductors comprising an integral part of switchboards, transformers or busways meeting N.E.M.A. standards and the provisions of the 2005 National Electrical Code, shall be copper.

EXCEPTIONS:

1. Aluminum service drop cable installed in accordance with the 2005 National Electrical Code may be used for the overhead, aerial service to outside accessory installations such as outbuildings and signs.
2. Aluminum conductors of 4/0 AWG trade size or larger size may be used as a substitute for copper conductor provided that such aluminum conductors are appropriately sized, and further provided that such conductors are terminated in an approved connection.

(b) All wiring in outlet or fixture boxes shall be continuous before the receptacle,

fixture or electrical device is installed.

34.52 WIRING METHODS. DWELLINGS.

(a) **Habitable Space.** Non-metallic sheathed cable may be installed for the conductors in the concealed wood or steel frame portions of one and two family dwellings, or multi-family buildings with twelve or less dwelling units and three floors or less above grade, except in an unfinished basement or cellar or for service entrance conductors. Garages, sheds, and storage buildings accessory to dwellings may be wired in nonmetallic cable. For the purpose of this section, area separation walls shall not define separate buildings.

(b) The residential part(s) of group homes may be wired in non-metallic sheathed cable if the occupant load is not more than twenty persons.

(c) The white conductor in non-metallic sheathed cable used as a switch leg is not required to be re-identified as per Article 200.7 (c) (2) of the 2005 National Electrical Code.

(d) Habitable space in accessory buildings does not need ground fault protection for outlets.

(e) Electric panels shall not be installed within six inches of a corner in new construction.

(f) Basements.

1. **Required Basement Lights.** A lighting outlet with lamp-holder shall be provided in each room of a basement or cellar of a residential building. At least one such fixture shall be located in every 200 square feet of such floor space. All wiring shall be in metallic raceways. If the panel is in the basement the raceway(s) shall be continuous from the panel. Smoke detectors shall be located as per the building code. **EXCEPTION:** Eighteen inches of non-metallic cable may be exposed, if not subject to physical damage, before entering a panel, box, or raceway.

2. All finished habitable rooms in residential basements shall have the required outlets as defined in Article 210.52 of the 2005 National Electrical Code.

3. **Circuits.** No connection shall be made between the basement or cellar wiring and the wiring in the floors above except as provided in this section. Such raceway(s) shall start from the panel and run continuous to all outlets.

4. No PVC conduit shall be installed in residential basements.

(g) EXCEPTIONS:

1. Basement or cellar wiring in a single family dwelling may be fed by grounded nonmetallic sheathed cable from the floor above if the entrance panel is not located inside the basement or cellar.

2. The lighting outlet with lamp-holder at the floor of the basement or cellar stairs may be fed from either the first floor or basement.

3. When rewiring, the circuits may be fed from raceways in the basement.

4. It is permissible to wire the smoke detectors from either the basement circuit or a circuit from the floor(s) above.

5. It is permissible to wire basement appliance circuits through the floor(s) above.

6. Dedicated single outlets for window air conditioners shall be exempt from the arc-fault requirements as stated in 440.65 of the 2005 National Electrical Code.

34.53 WIRING METHODS - OTHER BUILDINGS.

Conductors in and upon all buildings other than those covered by Section 34.52 of

the Cedar Rapids Electrical Code shall be run in approved raceways.

EXCEPTIONS:

Type AC and MC cable as approved in 34.50.

Type FCC Flat Conductor Cable may be installed in compliance with Article 324 of the 2005 National Electrical Code.

Type AC, TC, and MC cable that is tray rated may be installed in approved cable trays, in industrial applications, for feeders, motor wiring, and control of motor wiring.

34.54 EMERGENCY LIGHTING.

Emergency lighting and exit lighting shall be powered from a secondary independent source, notwithstanding the provisions of Exception No. 5 of Section 230.82 and Subsection 700.12 of the 2005 National Electrical Code.

34.55 CONVERSION OF BUILDINGS.

(a) **Conversion of Single Family Residences.** The conversion of a single- family residence into a duplex or an apartment house shall conform to the requirements for a multiple family dwelling.

(b) **Conversion of a Residence to Business or Commercial Building.**

Conversion of a residence into a business or commercial building will place the residence in the same class of wiring as a business or commercial building unless separated by a two-hour firewall.

(c) **Conversion of a Residence to Business or Commercial Building.**

Conversion of a residence into a business or commercial building or the construction of a business or commercial building in combination with a residence will place the residence in the same class of wiring as the business or commercial building unless separated by a two-hour fire wall.

34.56 TEMPORARY WIRING.

Temporary wiring shall be per Article 590 of the 2005 National Electrical Code.

Exception: (1) Triplex and quadplex Ariel cable may be used if protected to within two feet of the ceiling and further protected from physical damage. The bare messenger wire shall not be used as a current carrying conductor. The voltage shall be limited to 150 volts to ground and 250 volts between phases.

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