

(0-82-69)

ORDINANCE NUMBER O- 15654 (New Series)

Adopted on JAN 18 1982

AN ORDINANCE AMENDING CHAPTER IX, ARTICLE 2, OF THE SAN DIEGO MUNICIPAL CODE ENTITLED THE ELECTRICAL CODE BY AMENDING SECTIONS 92.0100, 92.0101, 92.0501, 92.0510, 92.0601, 92.0603, 92.0607, 92.0626, 92.0627 AND 92.0629; AND BY DELETING SECTIONS 92.0514, 92.0515, 92.0604, 92.0605, 92.0630 THROUGH 92.0634.

WHEREAS, Sections 17922 and 17958 of the California Health and Safety Code provide that the governing body of every city or county shall adopt ordinances or regulations imposing the same requirements as those contained in the National Electrical Code, 1981 Edition; and

WHEREAS, Sections 17958.5 and 17958.7 of the California Health and Safety Code provide that a city or county may make such changes or modifications in the requirements contained in the National Electrical Code as it determines are reasonably necessary because of local conditions; and

WHEREAS, the amendments to the National Electrical Code, 1981 Edition, contained in this ordinance have been recommended by the City of San Diego Board of Appeals and Advisors and endorsed by the National Electrical Contractors Association and the Associated Builders and Contractors Electrical Council in order to provide for uniformity in San Diego County and to provide for local conditions and needs; and

WHEREAS, the Council of The City of San Diego expressly

finds and declares that each amendment or change to the National Electrical Code, 1981 Edition, contained in this ordinance is needed to provide for local conditions; NOW, THEREFORE,

BE IT ORDAINED, by the Council of The City of San Diego, as follows:

Section 1. Chapter IX, Article 2, of the San Diego Municipal Code entitled the Electrical Code, be and the same is hereby amended by amending Sections 92.0100, 92.0101, 92.0501, 92.0510, 92.0601, 92.0603, 92.0607, 92.0626, 92.0627, 92.0629, and by deleting Sections 92.0514, 92.0515, 92.0604, 92.0605, 92.0630, 92.0631, 92.0632, 92.0633, and 92.0634. The remaining sections in said Article 2 shall remain unchanged and the entire Article 2 shall read as follows:

ARTICLE 2

ELECTRICAL CODE

DIVISION 1

ADMINISTRATION AND AUTHORITY

SEC. 92.0100 SCOPE

The requirements of this Article shall apply to all privately owned electrical installations with the following exceptions:

A. Installations owned or leased by a public service corporation:

1. For use in generation, transformation, transmission, distribution, and/or metering of electrical energy.
2. For the operation of signals and/or the transmission of intelligence.
3. In buildings used exclusively for (1) and/or (2) above.
4. For installations on public property.
5. For underground service conductors installed outdoors on private property.

B. Installations listed in Article 90-2(b) of the 1981 National Electrical Code.

SEC. 92.0101 STANDARDS FOR INSTALLATIONS

A. The National Electrical Code, 1981 Edition, published by the National Fire Protection Association, one printed copy of which is filed in the office of the City Clerk as Document No. 768335, be, and the same is hereby adopted part of the Municipal Code of the City of San Diego, except as hereinafter modified, amended, repealed, or deleted; and by reference thereto is made a part hereof as though fully set out herein.

B. All electrical installations that are under the jurisdiction of the California Division of Industrial Safety shall also comply with the requirements of Title 8, Chapter 4, Subchapter 5, Groups One and Two (Electrical Safety Orders). These orders may apply to occupancies other than places of employment.

SEC. 92.0102 INTERPRETATION

The language used in this Article and in the National Electrical Code, which is made a part of this Article by reference, is intended to convey the common and accepted meaning familiar to the electrical industry. The Building Inspection Director is hereby authorized to determine the intent and meaning of any provision of this Article. Such determination shall be made in writing and a record kept which shall be open to the public.

SEC. 92.0103 RESPONSIBILITY

A. This Article shall not be construed to relieve from or lessen the responsibility of any party owning, operating, controlling or installing any electrical wiring, or material, for damage to person or property caused by any defect therein, nor shall the City of San Diego, including any officer, agent, or employee thereof enforcing this Article be held as assuming any such liability by reason of the inspections or approvals authorized herein.

B. The City of San Diego, including any officer, agent, or employee thereof, assumes no responsibility or liability for any installation for which permits and inspection are not required by this Article.

SEC. 92.0104 BOARD OF APPEALS AND ADVISORS

When a question involving the interpretation of the intent and purpose of any provisions of this Article or the suitability of alternate materials and types of construction is presented to the Building Inspection Director, he may request the Board of Appeals and Advisors to investigate such matters under the procedure established in Section 91.02.0204 of this Code.

SECTION 92.0105 AUTHORITY OF BUILDING INSPECTION DIRECTOR

A. The Building Inspection Director shall have the right during reasonable hours or at any time extreme danger exists to enter any building in the discharge of his official duties or for the purpose of making an inspection, reinspection, or test of the installation of electrical wiring, devices, appliances, and equipment contained therein. The Building Inspection Director shall have the authority to cut or disconnect any wire in cases of emergencies where necessary to safety of life or property or where such wire may interfere with the work of the Fire Department. The Building Inspection Director is hereby authorized to disconnect or order discontinuance of electrical service to any electrical wiring, device, appliance, or equipment found to be dangerous to life or property because they are defective or defectively installed. The Building Inspection Director shall have the authority to withhold permission to connect electrical service to any building until such building is approved for occupancy.

B. The Building Inspection Director may delegate any of his powers or duties to any of his assistants.

SEC. 92.0106 DUTIES OF BUILDING INSPECTION DIRECTOR

It shall be the duty of the Building Inspection Director to enforce the provisions of this Article. He shall, upon application, grant permits for the installation or alteration of electrical wiring, devices, appliances, and equipment and shall make inspections of electrical installations, as provided in this Article. He shall keep complete records of all permits issued, inspections, and reinspections made and other official work performed in accordance with the provisions of this Article. He shall also keep on file an Electrical Equipment List issued by or for Underwriters Laboratories, Inc., which list shall be available for public information during regular office hours.

SEC. 92.0107 PROHIBITIONS

A. It is unlawful for any person, either as owner, architect, contractor, artisan, or otherwise to install any electrical wiring, device, appliance, or equipment in such manner that the same does not conform to all the provisions of this Article.

B. It is unlawful to maintain an electrical system which was not legally installed pursuant to this Article, or which is, notwithstanding compliance with this Article, in an unsafe condition as determined by the Building Inspection Director.

C. It is unlawful to sell, offer for sale, loan, rent or dispose of by gift or premium any electrical materials, device or appliance designed or intended for attachment directly or indirectly to any electrical system, circuit, or electrical service for light, heat or power in the City of San Diego, unless such electrical material, device or appliance complies with the provisions of this Article.

SEC. 92.0108 EFFECTIVE DATE

A. All building permit applications filed with the City of San Diego prior to the effective date of this ordinance shall be exempt from the provisions thereof.

B. Where no building permit is required, all electrical permits issued prior to ninety (90) days from the effective date of this ordinance will be exempt from the provisions thereof.

DIVISION 2

PERMITS

SEC. 92.0201 PERMITS REQUIRED

A. No electrical wiring, device, appliance or equipment shall be installed within or on any building, structure or premises nor shall any alterations or addition be made in any such existing wiring, device, appliance or equipment without first securing a permit therefor from the Building Inspection Department, except as stated in Section 92.0202.

B. Permits shall be obtained before or at the time work is started, except in cases where emergency or urgent necessity can be shown to exist provided a permit is obtained within twenty-four (24) hours, exclusive of Saturdays, Sundays, and holidays.

C. A separate permit must be obtained for a construction pole or a temporary meter.

D. A separate permit shall be required for each building or structure which stands alone, except garages which are accessory to single-family residences and are located on the same premises.

E. Permits for privately-owned conduits or other materials in public places and in and across streets and alleys may be issued only after approval has been granted for the installation, by the City Engineer. All work shall be done in accordance with law and special regulations applicable thereto.



SEC. 92.0202 PERMITS - EXCEPTIONS

A. No permit shall be required for minor work such as replacing fuses, replacing or repairing switches, circuit breakers, lampholders, ballasts or receptacles where the replacement is the same size and general type as the original equipment and the work is done in accordance with the provisions of this Article.

B. No permit shall be required for the replacement of lamps or the connection of portable appliances to suitable receptacles which have been permanently installed.

C. No permit shall be required for the installation, alteration, or repair of wiring, devices, appliances or equipment operating at a voltage not exceeding 25 volts between conductors and not capable of supplying more than 50 watts of energy.

D. No permit shall be required for installation made by a public service corporation acting as permitted in Sec. 92.0100A.

SEC. 92.0203 TEMPORARY PERMITS

If the Building Inspection Director finds that the safety of life and property will not be jeopardized, he may issue permits for temporary electrical installations. All such temporary installations shall be made in a manner as nearly as practicable in conformance with the requirements of this Article for permanent work. The Building Inspection Director may permit deviations which will not cause hazard to life and property, provided that whenever such hazards are deemed to exist, he may at once rescind or cancel the permit covering such installations and disconnect or order disconnection of all energy to such equipment. Upon the expiration of the time designated therein, the Building Inspection Director may disconnect or order disconnection of all electrical energy authorized by temporary permit. Temporary permits may be issued for the following purposes:

A. Construction Power. The temporary power authorization shall be for the time construction is in progress, not to exceed one year.

B. Carnivals, Conventions, Festivals, Fairs, etc. The temporary power authorization shall be for the time the event is in progress, not to exceed ninety (90) days.

C. The Testing of Any Permanent System of Wiring Prior to the Final Approval of That System. The temporary power authorization shall be for the time required for testing, not to exceed thirty (30) days.

#### SEC. 92.0204 EXPIRATION OF PERMIT

A. If the work authorized by a permit is not commenced within a period of sixty (60) days after issuance, or if the work authorized by a permit is suspended or abandoned at any time after the work is commenced for a period of sixty (60) days, the permit shall become void.

B. Permits shall expire one (1) year after the date of issuance unless the permit is issued for a longer period of time.

C. Permits for a period longer than one (1) year must be requested at the time of application for the original permit. Said permits will be issued for the period of time determined by the Building Inspection Director to be reasonably necessary to complete the work for which a permit is requested.

D. An expired permit may be renewed upon payment of a fee to cover the unfinished work according to the fee schedule established by the City Manager and on file in the office of the City Clerk.

SEC. 92.0205 INCOMPLETED INSTALLATIONS

Should any person to whom a permit has been issued quit an installation, for any reason, he shall notify the Building Inspection Department within forty-eight (48) hours and request an inspection of work installed. No person shall resume work on an incomPLETED installation until such installation shall have been approved by the Building Inspection Department and necessary permit obtained.

SEC. 92.0206 SCOPE OF PERMIT

The permit when issued shall be for such installation as described in the application and no deviation shall be made from the installation so described without the written approval of the Building Inspection Director.

SEC. 92.0207 APPLICATION FOR PERMIT

A. Application for a permit, describing the work to be done, shall be made in writing to the Building Inspection Director. The application shall be accompanied by such plans, specifications, and schedules as may be necessary to determine whether the installations as described will be in conformity with the requirements of this Article. If it shall be found that the installation as described will conform with the requirements of this Article, and if the applicant has complied with all the provisions of this Article, a permit for such installation shall be issued provided, however, that the issuance of the permit shall not be taken as permission to violate any of the requirements of this Article.

B. Permits shall be obtained by each person, firm or corporation engaged in installing electrical wiring, devices, appliances or equipment as permitted by California State Contractor's Licensing Law.

C. Permits may only be obtained by:

1. Any person, firm, or corporation holding a valid California state Contractor's License which permits electrical installation.

2. The owner of a building.

D. A permit issued to one person, firm, or corporation shall not authorize any other person, firm, or corporation, except an employee of the permittee, to do any electrical wiring.

#### SEC. 92.0208 ELECTRICAL PLANS REQUIRED

A. Electrical plans shall be submitted for the following types of installation:

1. All commercial and industrial installations.

2. Apartment buildings containing three (3) or more units and having electrical heating.

3. Apartment buildings containing four (4) or more units but having no electrical heating.

Submitted plans shall show a single line diagram of service, feeders, conduit, and wire sizes. Electrical calculations shall accompany all submitted plans. Signed Certification of Compliance with California Administrative Code Title 24 shall appear on the plans.

B. All submitted plans shall be signed as required by the California State Business and Professions Code Division 3.

C. All plans required for hospitals and electrical installations operating in excess of 600 volts shall be signed by a State Registered Electrical Engineer.

DIVISION 3

FEES

SEC. 92.0301 FEE SCHEDULE

A. The fees provided for in this article must be paid to the City of San Diego for each electrical installation for which a permit is required by this Article, and must be paid before any such permit is issued, except as hereinafter provided.

B. A portion of the fees provided for in this section, established by the City Manager and filed in the Office of the City Clerk, may be refunded in the event that no portion of any work authorized by permit has been performed and provided that no inspections have been made. Such refund may be authorized by the Building Inspection Director upon application by the permittee within one year from the date of permit issuance. Prior to authorization of any refund under the provisions of this section, the Building Inspection Director shall require that the permittee's copy of the issued permit be returned to the Building Inspection Department.

C. The amount of the fees shall be paid in accordance with the fee schedule established by the City Manager and filed in the Office of the City Clerk.

SEC. 92.0302 ELECTRICAL PLAN CHECK FEE

A. There shall be no fee for the following plans:

1. Plans submitted as a part of and included in the building plan file.
2. Plans submitted as a part of and included in the electrical permit.

B. For plans other than those in subsection A.1 and A.2 of this section, including plans which have been submitted and approved under those subsections but then altered so as to require a recheck, the fee shall be determined in accordance with the fee schedule established by the City Manager and filed in the Office of the City Clerk. This fee is nonrefundable.

SEC. 92.0303 FEE FOR FAILURE TO OBTAIN PERMIT

In addition to any other penalty provided in this Article for violations thereof, any person who has done any electrical work without a permit as required by this Article, or who has caused any such work to be done without a permit, shall pay a penalty fee determined in accordance with the fee schedule established by the City Manager and filed in the Office of the City Clerk.

DIVISION 4

INSPECTION AND APPROVAL

SEC. 92.0401 INSPECTION OF INSTALLATIONS

A. Approvals Required: No work shall be done on any part of the electrical system beyond the point indicated in each successive inspection without first obtaining the written approval of the Building Inspection Director. Such written approval shall be given only after inspection shall have been made of each successive step in the installation.

B. Required Inspections: The Building Inspection Director, upon notification from the permit holder, shall make the following inspections, and shall either approve that portion of the electrical system, or notify the permit holder wherein the same fails to comply with this Article. These inspections shall be made prior to covering or concealing any portion of the electrical system, and shall be made within forty-eight (48) hours excluding non-working days, or as soon as practical.

1. Underground System Inspection: To be made when the underground raceway or cable is in place.

2. Rough Wiring Inspection: To be made when raceway or cable is installed in a building or structure. All conductors must be in place and all splices necessary for ground and circuit continuity (not including devices and fixtures) must be completed. A circuit card, or an approved set of plans, which show the complete electrical system, shall be available on the construction site.

3. Heat Cable Inspection: To be made after the heat cables are installed.

4. Final Inspection: To be made when the electrical system is complete with all devices, fixtures and equipment installed and connected. This inspection may suffice for an electrical system installed in an existing building with no uncovered walls, floors, or ceilings.

5. On large installations where the concealment of parts of the wiring proceeds continuously, the person installing the wiring shall give the Building Inspection Director due notice and inspections shall be made periodically during the progress of the work.

C. Disapproved Installations: All defects shall be corrected within ten (10) days after notification, or within other reasonable time as permitted by the Building Inspection Director.

D. Service Connections:

1. No electrical system shall be connected to the source of electrical energy unless such connections have been approved.

2. An electrical system, device, or appliance which has been disconnected, or ordered disconnected by the Building Inspection Director shall not be connected to the source of electrical energy until approved.

E. The Building Inspection Director shall have the power to remove or require the removal of any obstruction that prevents the proper inspection of any electrical equipment.



DIVISION 5

GENERAL RULES AND REGULATIONS

SEC. 92.0501 ALTERATIONS, ADDITIONS, RELOCATIONS AND CONVERSIONS

A. Alterations and additions. Additions, extensions, alterations or removal of existing wiring installations shall be made in compliance with the provisions of this Article.

1. Where additions, alterations or extensions of a wiring installation are proposed in cases where this Article requires a metallic wiring method, and the existing installation was lawfully installed according to any other applicable ordinance, code or order and is not unsafe in the opinion of the Building Inspection Director, the existing installation need not be replaced.

2. Existing electrical systems may be used in connection with alterations or repairs if such electrical systems have been properly maintained and were installed in accordance with the applicable laws in effect at the time of installation. Any electrical system shall be deemed to have conformed with applicable law in effect at the time of installation and to have been maintained in good condition if currently in a good and safe condition and working properly.

3. Where the electrical system is upgraded at the owners initiative and the wall covering is not removed, the receptacle spacing requirements of N.E.C. 210-52 need not apply.

B. Relocations. Electrical systems in relocated buildings shall comply with the provisions of this Article.

1. Exception: Each room in a relocated dwelling shall be provided with receptacles spaced so that no point along the floor line in any wall space is more than ten feet (10') from a receptacle.

2. Exception: Existing receptacles which are more than five feet (5') from a grounded surface need not be of the grounded type.

C. Overhead to Underground Conversions. In an overhead to underground conversion district the existing electrical service shall be replaced or repaired under any one of the following conditions:

1. When the electrical service equipment is not dead front operated.
2. When the electrical service equipment is not readily accessible.
3. When the electrical service equipment is not grounded.
4. When the electrical service equipment is not adequate to carry the actual load.

5. When the interrupting capacity of the electrical service equipment is not adequate to interrupt the maximum short circuit current available.

When spliced, the electrical service conductors shall be spliced in an approved junction box. The new and existing conduits must terminate in approved fittings at the junction box, be properly bonded, and the conductors must be spliced with an approved method.

#### SEC. 92.0502 MATERIALS

A. All electrical materials, devices, applications, and equipment installed or used, shall be in conformity with the provisions of this Article and with approved standards for safety to life and property.

B. Listing or labelings, as conforming to the Standards of the Underwriters Laboratories, Inc., Uniform Building Code Standards, or other approved testing laboratories, shall be prima facie evidence of conformity with the approved standards for safety to life and property when such standards are consistent with the method of installation.

C. Previously used materials shall not be reused in any work without the written approval obtained in advance from the Building Inspection Director.

D. A lighting fixture of the electrical discharge type shall have a power factor of 0.90 or better and shall be so marked when its rating exceeds 20 watts.

E. Unless the device is marked to indicate otherwise, the wiring space and current-carrying capacity are based on the use of Type R, or other 60°C wire, in circuits rated 100 ampere or less, and the use of Type RH, or other 75°C wire for higher ampere rated circuits.

#### SEC. 92.0503 POWER DISTRIBUTION PANELS

Each store and each dwelling unit shall be supplied power from their own distribution panel. Such panels shall not supply other portions of the building. A dwelling unit is a single unit providing complete, independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking and sanitation.

#### SEC. 92.0504 CIRCUIT CARDS

A complete schedule of circuits, showing the number and arrangement of outlets on each circuit, shall be posted at the service equipment location prior to request for rough wiring inspection. Circuit cards furnished by the Building Inspection Department shall be used for this purpose. In lieu of a circuit card, an approved wiring plan may be used.

#### SEC. 92.0505 TEMPORARY WIRING

All temporary wiring accessible to the public shall be placed in approved metallic raceways except that by special permission, properly protected cord wiring may be approved for short periods of time.

SEC. 92.0506 LABELING

A. When fuses are used for current limiting or motor running overcurrent purposes the size and type of the required fuse shall be permanently marked on the inside of the fuse cabinet.

B. Meter bases shall be labeled to identify the occupancy served.

C. Meter rooms shall be identified with lettering not less than two inches (2") high, or other approved means.

D. The manufacturer's name, trademark, or other identification symbols shall be placed on all electrical materials, devices, appliances, and equipment used or installed under this Article.

SEC. 92.0507 BRANCH CIRCUIT OVERCURRENT PROTECTION

A. Where plug fuses are in use on remodeled or extended wiring for lighting or convenience plug outlet branch circuits, they shall be replaced with Type "S" (tamper-resistant) fuses.

B. Whenever there exists evidence of overfusing or fuse tampering, the Building Inspection Director shall require the installation of Type "S" fuses or automatic breakers.

SEC. 92.0508 TRANSFORMERS

A. Location:

1. Closets and rooms housing dry type and askarel-insulated transformers used for power and lighting shall be ventilated as prescribed for transformer vaults.

2. Transformers installed for the operation of doorbells, chimes, annunciators and similar devices, when placed in clothes closets or similar locations, shall be placed immediately over the door on the wall or ceiling. They shall be so located that contact with combustible materials cannot be made.

3. Transformers installed in an attic or beneath a building or structure shall be located within two feet (2') of the opening leading into the attic or beneath a building or structure.

SEC. 92.0509 SPECIAL TEST FOR CONDUITS

When deemed necessary, the Building Inspection Director may require a test plug to be drawn through each run of conduit, in the presence of an inspector.

SEC. 92.0510 USE OF NONMETALLIC WIRING METHODS

A. Nonmetallic wiring methods are approved only for dwelling and residential accessory occupancies not exceeding three floors in height. Dwelling occupancies include hotels, motels, apartment houses, convents, monasteries, lodging houses and one and two family houses. Residential accessory occupancies will neither exceed a total of 1,000 square feet nor exceed 700 square feet of concentrated use assembly areas such as auditoriums, chapels, meeting rooms, exercise rooms and dance floors.

In mixed occupancies (commercial/dwelling) where there is a required firewall separation, the appropriate wiring method may be used on each side of the firewall. Where there is no required firewall, the most restrictive wiring method shall be used throughout the entire building.

B. Approved nonmetallic<sup>ni</sup> conduit may be used in dwelling and residential accessory occupancies. In other occupancies (commercial), approved nonmetallic conduit may be used when embedded in concrete or extending no more than 48 inches inside the building before terminating in an approved metallic wiring method.

C. By special permission nonmetallic conduit may be approved in locations subject to corrosive influences.

D. By special permission nonmetallic surface extensions may be approved. The amount of plastic and the type of use shall be considered in determining approval.

E. This section does not apply to wiring, devices, appliances or equipment operating at a voltage not exceeding 25 volts between conductors and not capable of supplying more than 50 watts of energy.

#### SEC. 92.0511 UNDERGROUND STEEL CONDUIT

A. Electrical metallic tubing shall not be installed embedded in earth or embedded in concrete in contact with the earth.

B. Heavy and intermediate steel conduit shall be installed underground only when encased in concrete or P.V.C.

SEC. 92.0512 ALUMINUM CONDUCTORS AND CONDUIT

- A. Non-plated aluminum conductors installed on 15 and 20 ampere branch circuits shall not be attached directly to snap-switches, receptacles, or fixtures.
- B. An approved type of inhibitor shall be used on all non-plated stranded aluminum conductor terminations.
- C. Aluminum conductors installed underground shall be installed in an approved raceway.
- D. Aluminum grounding conductors where used outdoors or where penetrating the exterior wall shall be factory insulated.
- E. Aluminum conduit, boxes or fittings shall not be used embedded in earth, concrete, plaster, or within 18 inches of the earth unless the exterior finish of the aluminum conduit, boxes or fittings is approved for the purpose.

SEC. 92.0513 LIMITATION OF CURRENT UTILIZATION OUTLETS

The number of current consuming outlets on one circuit shall not exceed:

- A. Four (4) on an appliance circuit.
- B. Fifteen (15) on a lighting circuit.

DIVISION 6

NATIONAL ELECTRICAL CODE AMENDMENTS

SEC. 92.0601 DEFINITIONS

The following sections of Article 100 are deleted or amended to read as follows:

Section 100A. GENERAL

**Multi-family Dwelling:** A building containing three or more dwelling units, and designated as R-1 in the U.B.C.

**Qualified Person:** A person designated by the employer who by reason of experience or instruction is familiar with the operation to be performed and the hazards involved.

**Fire-resistant Construction:** Construction having a minimum fire-resistance of two hours according to ASTM Standard E-119-75; fire tests of building construction and material NFPA 251-1972, also methods of fire tests of building construction and materials ANSI A2-1972.

**Combustible Material:** Material which will ignite at 500°F or less and sustain combustion.

SEC. 92.0602 REQUIREMENTS FOR ELECTRICAL INSTALLATIONS

The following sections of Article 110 are deleted or amended to read as follows:

Section 110-8 Wiring Methods

Only wiring methods recognized as suitable are included in this code. Use of these wiring methods shall conform to the restrictions of each applicable article pertaining to these wiring methods.



SEC. 92.0603 BRANCH CIRCUITS

The following sections of Article 210 are deleted or amended to read as follows:

Section 210-8(b) G.F.C.I. On Construction Sites is deleted.

SEC. 92.0606 OUTSIDE BRANCH CIRCUITS AND FEEDERS

The following sections of Article 225 are deleted or amended to read as follows:

Section 225-19 Clearances From Buildings for Conductors of 600 Volts or less:

a. Over roofs.

All conductors passing over or attaching to roofs shall conform to the clearances required in Article 230-24(a) as amended.

SEC. 92.0607 SERVICES

The following sections of Article 230 are deleted or amended to read as follows:

Section 230-24(a) Over Roofs

Where conductors are required to pass over buildings or structures, they shall maintain a vertical clearance of 8 feet.

Exception No. 1: Where the voltage between conductors does not exceed 300 volts and the roof is constructed of such lightweight material that it is considered to be unwalkable, the vertical clearances may be reduced to 24 inches.

Exception No. 2: Where the voltage between conductors does not exceed 300 volts and the conductors do not pass over more than 4 feet of the overhang portion of the roof and they are terminated at an approved support that is within 18 inches of the wall facing the pole line, the vertical clearance may be reduced to 12 inches.

Section 230-43, items (1) open wiring on insulators and (5) service-entrance cables are deleted.

Sections 230-50, 230-51 and 230-52 relating to protection and mounting of open wiring on insulators and service-entrance conductors are deleted.

#### Section 230-71 Maximum Number of Disconnects

(a) A single fusible switch or circuit breaker shall be provided to disconnect all ungrounded conductors supplied by each utility company metered circuit.

Exception No. 1: The disconnecting means for an existing utility company metered circuit with no main switch shall not exceed six (6) fused switches or six (6) circuit breakers.

Exception No. 2: The disconnecting means for a new utility company metered circuit shall not exceed six (6) fused switches or six (6) circuit breakers provided that not more than one (1) switch or breaker is rated less than:

- a. 200 amperes for residential occupancies, or
- b. 1,000 amperes for commercial occupancies.

(b) The total number of disconnects required to disconnect all utility company circuits supplying a single building or building area shall never exceed six (6).

#### Section 230-72 Grouping of Disconnects

(a) All disconnects relating to a service or services supplying a single building or building area shall be grouped.

(b) All such disconnects shall be permanently marked to indicate the load or area served.

(c) All service disconnects shall be installed in a readily accessible location on the ground floor level of the building either in or on the building.

Exception No. 1: By special permission, disconnects may be located on a level other than the ground floor level.

Exception No. 2: By special permission, disconnects may be located adjacent to the building. Adjacent is defined to be within fifty feet (50') and in sight from the ground level of the building.

(d) Every service disconnect location shall be such that the service entrance conductors are limited to a maximum of twenty-five feet (25') from the point that these conductors enter the building to the first overcurrent device.

Section 230-90(a), Exception No. 4 is deleted.

## SEC. 92.0625 GROUNDING

The following sections of Article 250 are deleted or amended to read as follows:

### Section 250-80 Bonding of Piping Systems

#### (a) Metal Water Piping

(1) The interior water piping system on a premises shall always be bonded to the grounding electrode system.

(2) The underground water piping system on a premises shall always be bonded to the grounding electrode system.

(3) Where the underground water piping system is electrically continuous to the interior water piping system, a bonding jumper from either to the grounding electrode system is acceptable.

(4) Bonding jumpers shall be sized in accordance with Table 250-94 and connected in the manner specified in Section 250-113.

(b) Other Metal Piping. Interior metal piping which may become energized shall be bonded to the service equipment enclosure, the grounded conductor at the service, the grounding electrode conductor where of sufficient size, or to the one or more grounding electrodes used. The bonding jumper shall be sized in accordance with Table 250-95 using the rating of the circuit which may energize the piping.

The equipment grounding conductor for the circuit which may energize the piping shall be permitted to serve as the bonding means.

Bonding all piping and metal air ducts within the premises will provide additional safety.

#### Section 250-81 Grounding Electrode System

(a) Primary Grounding Electrodes. The electrodes (1) through (3) below are defined to be primary grounding electrodes for the purposes of this section.

(1) An electrode encased by at least 2 inches of concrete, located within and near the bottom of a concrete foundation or footing that is in direct contact with the earth, consisting of at least 20 feet of one or more steel reinforcing bars or rods of not less than 1/2 inch diameter, or consisting of at least 20 feet of bare solid copper conductor not smaller than No. 4 AWG.

(2) The metal frame of the building, where effectively grounded.

(3) A ground ring encircling the building or structure, in direct contact with the earth at a depth below earth surface not less than 2-1/2 feet, consisting of at least 20 feet of bare copper conductor not smaller than No. 2 AWG.

(b) Secondary Grounding Electrodes. The grounding electrodes specified in Section 250-83 are defined to be secondary grounding electrodes for the purposes of this section.

(c) Required Grounding Electrodes.

(1) A primary grounding electrode shall be provided for each building constructed under the provisions of this code.

(2) Either a primary or a secondary grounding electrode shall be provided for all other installations served under the provisions of this code.

(d) Grounding Electrode System. All grounding electrodes available on a building or structure shall be bonded together to form a grounding electrode system. Bonding jumpers shall be sized in accordance with Section 250-79(c) and connected in the manner specified in Section 250-115.

(e) Additional Requirements. Whenever it is deemed necessary by the authority having jurisdiction, additional electrodes may be required to assure a permanent and effective grounding electrode system.

SEC. 92.0626 WIRING METHODS

The following sections of Article 300 are deleted or amended to read as follows:

Section 300-3 Conductors of Different Systems.

(a) 600 Volts, Nominal, or Less. Conductors of 600 volts, nominal, or less shall be permitted to occupy the same equipment wiring enclosure, cable, or raceway, without regard to whether the individual circuits are alternating current or direct current, where all conductors are insulated for the maximum voltage of any conductor within the enclosure, cable, or raceway and where identification is provided at each wiring enclosure where conductors are accessible so that different systems can be readily recognized.

Section 300-5(a) Minimum Cover Requirements, Exception No. 4 is deleted.

• TABLE 300-5

Minimum Cover Requirements, 0 to 600 Volts

(Cover is defined as the distance between the top surface of direct buried cable, conduit, or other raceways approved for the purpose and the finished grade.)

Wiring Method	Minimum Burial (Inches)
Direct Buried Cables	24
Rigid Metal Conduit	6
Intermediate Metal Conduit	6
Schedule 80 Nonmetallic Conduit	6
Schedule 40 Nonmetallic Conduit	12
Other Approved Raceways *	18

\*Note: Raceways approved for burial only when concrete encased shall require a concrete envelope not less than 2 inches thick.

SEC. 92.0627 CONDUCTORS FOR GENERAL WIRING

The following sections of Article 310 are deleted or amended to read as follows:

Notes to Tables 310-16 through 310-19

3. Limitations on Conductor Ampacity. No conductor shall be installed on the basis of the allowable ampacity of these tables unless it also conforms to the listing of the equipment to be used. Except where specifically marked otherwise, the termination provisions on equipment are based on the allowable ampacities of 60°C conductors in circuits rated 100 amperes or less and the allowable ampacities of 75°C conductors in circuits rated over 100 amperes.

9. Overcurrent Protection. Where the standard ratings and settings of overcurrent devices do not correspond with the ratings and settings allowed for conductors, the next higher standard rating and setting shall be allowed provided that the rating or setting of the overcurrent device does not exceed the allowable ampacity of the conductor by more than 20 amperes.

Exception: As limited in Section 240-3.

SEC. 92.0628 PERMITTED USES OF WIRING METHODS

The following sections, relating to permitted uses of nonmetallic wiring methods, are amended to require compliance with the general rule for nonmetallic wiring methods, Municipal Code Section 92.0510.

Section 320-3

Section 324-3

Section 336-3

Section 338-3

Section 339-3

Section 342-3

Section 347-2

The following sections of Article 336 are deleted or amended to read as follows:

Section 336-6(b) Protection from Physical Damage.

The cable shall be protected from physical damage where necessary by conduit, pipe, guard strips, or other means. Where conduit or pipe is used for physical protection, it shall be limited to a maximum length of 6 feet. Where passing through a floor the cable shall be enclosed in rigid metal conduit, intermediate metal conduit, or metal pipe extending at least 6 inches above the floor.

The following sections of Article 333 are deleted or amended to read as follows:

Section 333-6 Use of Type AC Cable.

Type AC cable is not permitted for use in general wiring except that it may be fished through inaccessible areas where necessary to install wiring without causing disturbance to the finish of any portion of a building structure.

SEC. 92.0629 SWITCHBOARDS AND PANELBOARDS

The following sections of Article 384 are deleted or amended to read as follows:

Section 384-3(f) Phase Arrangement. The phase arrangement on three phase buses shall be A, B, C, from front to back, top to bottom, or left to right as viewed from the front of the switchboard or panelboard. The C phase shall be that phase having the higher voltage to ground on 3-phase, 4-wire delta connected systems. Other busbar arrangements may be permitted for additions to existing installations.



Section 2. This ordinance shall take effect and be in force on the thirtieth day from and after its passage.

APPROVED: John W. Witt, City Attorney

By Thomas F. Steinke  
Thomas F. Steinke  
Deputy City Attorney

TFS:ta:552  
11/5/81  
O-82-69  
Or.Dept:Bldg.Insp.

Passed and adopted by the Council of The City of San Diego on JAN 18 1982,  
by the following vote:

Councilmen	Yeas	Nays	Not Present	Ineligible
Bill Mitchell	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bill Cleator	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Susan Golding	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Leon L. Williams	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ed Struiksma	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mike Gotch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dick Murphy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lucy Killea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mayor Pete Wilson	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

AUTHENTICATED BY:

**PETE WILSON**

Mayor of The City of San Diego, California.

**CHARLES G. ABDELNOUR**

City Clerk of The City of San Diego, California.

(Seal)

By *Janet A. Blackwell*, Deputy.

I HEREBY CERTIFY that the foregoing ordinance was not finally passed until twelve calendar days had elapsed between the day of its introduction and the day of its final passage, to wit, on

**JAN 4 1982**

**JAN 18 1982**

~~I FURTHER CERTIFY that said ordinance was read in full prior to its final passage.~~

I FURTHER CERTIFY that the reading of said ordinance in full was dispensed with by a vote of not less than a majority of the members elected to the Council, and that there was available for the consideration of each member of the Council and the public prior to the day of its passage a written or printed copy of said ordinance.

**CHARLES G. ABDELNOUR**

City Clerk of The City of San Diego, California.

(Seal)

By *Janet A. Blackwell*, Deputy.

Office of the City Clerk, San Diego, California

Ordinance Number 0-15654 Adopted JAN 18 1982

CERTIFICATE OF PUBLICATION

RECEIVED  
CITY CLERK'S OFFICE  
1982 FEB 11 AM 11:26  
SAN DIEGO, CALIF. *ldw*

San Diego, City of  
12th Floor, 202 C St.  
San Diego, CA 92101  
BLACKNELL

IN THE MATTER OF

NO.

**ORDINANCE NUMBER 0-15654**  
**Electrical Code**  
The City of San Diego hereby adopts the 1981 National Electrical Code with certain local amendments. This Ordinance also repeals the 1975 National Electrical Code which was adopted as amended by Ordinance No. 0-15532 (New Series).  
A complete copy of the Ordinance is available for inspection in the office of the City Clerk of The City of San Diego, 12th Floor, City Administration Building, 202 "C" Street, San Diego, CA 92101.  
Introduced on January 4, 1982.  
Passed and adopted by the Council of The City of San Diego on January 14, 1982.  
ATTESTED BY:  
PETE WILSON, Mayor of The City of San Diego, California.  
CHARLES E. AGRESTI, City Clerk of San Diego, California.

I, Charlene Lance, am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the San Diego Daily Transcript, a newspaper of general circulation, printed and published daily, except Saturdays and Sundays, in the City of San Diego, County of San Diego, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of San Diego, State of California, under the date of January 23, 1909, Decree No. 14894; and the

ORDINANCE NUMBER 0-15654 (NEW SERIES).

is a true and correct copy of which the annexed is a printed copy and was published in said newspaper on the following date(s), to wit:

February 1, 1982.

I certify under penalty of perjury that the foregoing is true and correct.

Dated at San Diego, California this 1st day of Feb., 1982.

*Charlene Lance*

(Signature)

$2'' \times 2 \times 8.06 = 32.24$

00102