

TITLE 14 HOUSING AND CONSTRUCTION
CHAPTER 10 ELECTRICAL CODES
PART 4 2008 NEW MEXICO ELECTRICAL CODE

14.10.4.1 ISSUING AGENCY: The Construction Industries Division of the Regulation and Licensing Department.
[14.10.4.1 NMAC - Rp, 14.10.4.1 NMAC, 7-1-08]

14.10.4.2 SCOPE: This rule applies to all contracting work performed in New Mexico on or after July 1, 2008, that is subject to the jurisdiction of CID, unless performed pursuant to a permit for which an application was received by CID before that date.
[14.10.4.2 NMAC - Rp, 14.10.4.2 NMAC, 7-1-08]

14.10.4.3 STATUTORY AUTHORITY: NMSA 1978 Section 60-13-9.
[14.10.4.3 NMAC - Rp, 14.10.4.3 NMAC, 7-1-08]

14.10.4.4 DURATION: Permanent.
[14.10.4.4 NMAC - Rp, 14.10.4.4 NMAC, 7-1-08]

14.10.4.5 EFFECTIVE DATE: July 1, 2008, unless a later date is cited at the end of a section.
[14.10.4.5 NMAC - Rp, 14.10.4.5 NMAC, 7-1-08]

14.10.4.6 OBJECTIVE: The purpose of this rule is to establish minimum standards for electrical wiring, as defined in CILA Section 60-13-32, in New Mexico.
[14.10.4.6 NMAC - Rp, 14.10.4.6 NMAC, 7-1-08]

14.10.4.7 DEFINITIONS: [Reserved]
[14.10.4.7 NMAC - Rp, 14.10.3.7 NMAC, 7-1-08]

14.10.4.8 ADOPTION OF THE 2008 NATIONAL ELECTRICAL CODE:
A. This rule adopts by reference the 2008 national electrical code (NEC), as amended by this rule.
B. In this rule, each provision is numbered to correspond with the numbering of the 2008 national electrical code.
C. This rule is to be applied in conjunction with 14.7.6 NMAC, the 2006 New Mexico energy conservation code.
[14.10.4.8 NMAC - Rp, 14.10.3.8 NMAC, 7-1-08]

14.10.4.9 ADMINISTRATION AND ENFORCEMENT:
A. Inspectors. See 14.6.5 NMAC, Inspectors.
B. Disconnect Orders. See CILA Section 60-13-42.
C. Stop Orders. See 14.5.3 NMAC, Inspections.
D. Unsafe Wiring. See 14.5.1 NMAC, General Provisions.
E. Electrical Plan Review. See 14.5.2 NMAC, Permits.
F. Electrical Permit. See 14.5.2 NMAC, Permits.
G. Electrical Inspections.
(1) Inspections Required: See 14.5.3 NMAC, Inspections.
(2) Electrical Customer-Owned Distribution System Requirements. See 14.5.3 NMAC, Inspections.
[14.10.4.9 NMAC - Rp, 14.10.4.9 NMAC, 7-1-08]

14.10.4.10 ARTICLE 90 INTRODUCTION. See this article of the NEC.
[14.10.4.10 NMAC - N, 7-1-08]

14.10.4.11 CHAPTER 1 General.
A. Article 100 - Definitions. See this article of the NEC

B. Article 110 - Requirements for Electrical Installations. See this article of the NEC except as provided below.

(1) **Section 110.2 Approval.** See this section of the NEC and add the following: (1) **Product Listing and Labeling-**~~such~~ electrical wiring, equipment or material-approval shall be based on listing and labeling by a nationally recognized testing laboratory-~~listed~~ **recognized** by the federal occupational safety and health administration. (2) **Field Evaluation-** ~~E~~electrical wiring, equipment or material that is not listed and labeled, but for which a (UL) safety standard exists may be approved upon certification by a nationally recognized testing laboratory **recognized by the federal occupational safety and health administration or by a field evaluation body accredited by the international accreditation service, inc. [that has been approved by the electrical bureau].** (3) **Engineer Certification-** ~~E~~electrical wiring, equipment or material for which a (UL) safety standard does not exist may be approved upon certification by an electrical engineer licensed to practice in New Mexico. Such a certification will not be valid unless based on a verification of the manufacturer's safety and performance test data for the product.

(2) **Section 110.21. Marking.** See this section of the NEC and add: all equipment used on circuits over 300 volts between conductors shall have a warning sign either on or adjacent to the equipment. Warning signs shall be made in accordance with ANSI Z535 environmental and safety signs. The language shall read:

(a) for voltages over 300 volts but less than 600 volts: "480 VOLTS". (Label dimensions shall be 1" x 4"); and

(b) for voltages over 600 volts and there are exposed parts: "DANGER - HIGH VOLTAGE - KEEP OUT".

(3) **Section 110.26 Spaces about electrical equipment.**

(a) **110.26 (A) Working space.** See this section of the NEC and add: Disconnects that do not provide over-current, overload, short circuit, or ground fault protection are not required to maintain the dimensions of 110.26(A)(1), (A)(2) and (A)(3) where adequate space is not readily available and the disconnect is permanently labeled "INADEQUATE WORKING SPACE-DO NOT WORK ON WHILE ENERGIZED".

(b) **110.26 (E) Headroom.** See this section of the NEC and add: Exception No. 2: In underground water well pump enclosures, service equipment or panel boards that do not exceed 200 amperes, operating at 250 volts or less and only feeding equipment associated with the water well enclosure, shall be permitted in spaces where the headroom is less than six and one half feet (6 ½ ft.) but greater than five feet (5 ft.) provided the enclosure is supplied with a removable lid, that when removed would allow a minimum of six and one half feet (6 ½ ft.) headroom.

C. Article 210. Branch circuits. See this article of the NEC except as provided below.

(1) **Section 210.11.**

(a) **210.11 (A) Number of branch circuits.** See this section of the NEC and add: In dwelling occupancies, circuits for general purpose receptacles shall be limited to a maximum of ten (10) current consuming outlets. Single and duplex receptacle outlets are considered to be one current consuming outlet. Exception: Circuits serving only lighting loads may be calculated per article 220 of the national electrical code.

(b) **210.11 (B) Load evenly proportioned among branch circuits.** See this article of the NEC.

(c) **210.11 (C) Dwelling units.** See this section of the NEC except as provided below.

(i) **Small appliance branch circuits.** See this section of the NEC and add: not more than four (4) current consuming outlets shall be connected to these circuits. Single and duplex receptacle outlets are considered to be one current consuming outlet. Exception: small appliance circuits that supply only dining area receptacles may serve not more than six (6) receptacle outlets.

(ii) **Laundry branch circuits.** Delete the text of this section of the NEC and substitute: in addition to the number of branch circuits required by other parts of this section, at least one additional 20-ampere branch circuit shall be provided to supply the laundry receptacle outlet. Such circuits shall have no other outlets.

(2) **Section 210.19 Conductors – Minimum ampacity and size.** See this section of the NEC and add the following to subsection (A) Branch circuits not more than 600 volts. (1) General: see this section of the NEC and add: conductors for branch circuits shall be sized to prevent excessive voltage drop. Conductors of 15 ampere 120V branch circuits supplying general-purpose receptacle outlets shall be not less than 12 AWG.

(3) **Section 210.52 Dwelling unit receptacle outlets.**

(a) **210.52 (A) General provisions. (2) Wall space.** See this section of the NEC and add: exception: free-standing cabinets designed to be used as an eating or drinking bar where stools or chairs are pulled up to a counter top which extends at least one (1) foot from the front of the cabinet, shall not be considered as wall space.

(b) **210.52 (G) Basement and garages.** See this section of the NEC and add: receptacle outlets must be installed a minimum of eighteen (18) inches above finished floor, in attached or detached garages.

(4) **Section 210.70 Lighting outlets required.**

(a) **210.70 (A) (2) Dwelling units - Additional locations.** See this section of the NEC and add a new subsection as follows: (d) on single family dwellings at least one wall switch, located within five (5) feet from each entrance or exit or automatic lighting control such as a motion detector shall be installed to control exterior illumination.

(b) **210.70 (A) (3) Dwelling units - Storage or equipment spaces.** See this section of the NEC and add: at least one (1) switched lighting outlet shall be installed in all accessible attics and crawl spaces adjacent to the usual point of entry.

(c) **210.70 (C) Other than dwelling units.** See this section of the NEC and add: at least one (1) switched lighting outlet shall be installed in all accessible attics and crawl spaces adjacent to the usual point of entry.

D. Article 215. Feeders. Section 215.1. Scope. See this section of the NEC and add: approved wiring methods for feeders: nonmetallic-sheathed cable types NM, NMC and NMS (Article 334), and service entrance cable type SER (Article 338), shall be permitted to be used for feeders in dwelling units providing that the cables shall not pass through or under any other dwelling unit(s). Underground feeder and branch circuit cable type UF cable (Article 340) shall be permitted to be used underground for any occupancy, and indoors only in accordance with nonmetallic-sheathed cable (Article 334) providing that the cable shall not pass through or under any other dwelling unit(s).

E. Article 225. Outside branch circuits and feeders. See this article of the NEC except as follows.

(1) **Section 225.19 Clearance from buildings for conductors of not over 600 volts nominal-above roofs. (A) Above roofs.** See this section of the NEC but delete exception no. 2 in its entirety.

(2) **Section 225.32 Location.** See this section of the NEC except as follows.

(a) Add the following provision: the disconnecting means shall be installed at a readily accessible location. Where the disconnecting means is located outside the building or structure served, the disconnecting means enclosure shall be installed within ten (10) feet from the building or structure and visible, or on the exterior wall of the building or structure served. Where the disconnecting means is installed inside the building or structure served, the disconnecting means enclosure shall be located within forty eight (48) inches from where the feeder conductor raceway enters the building or structure.

(b) Delete the text of exception no. 1 and substitute: for industrial installations under single management, where documented safe switching procedures are established and maintained for disconnection, the disconnecting means shall be permitted to be located elsewhere on the premises.

F. Article 230. Services. See this article of the NEC except as provided below.

(1) **Section 230.24 Clearances. (A) Above roofs.** Delete exception no. 2 in its entirety.

(2) **Section 230.28. Service masts as supports.** See this section of the NEC and add: where a service mast is used for the support of service drop conductors, it shall be a minimum two inch (2") rigid metal conduit, intermediate metal conduit or comply with local utility requirements.

(3) **Section 230.31 Size and rating. (A) General.** See this section of the NEC and add: where the underground service lateral is customer owned, the service lateral conductors shall be sized to prevent excessive voltage drop. The maximum voltage drop on the service lateral conductors shall not exceed five percent (5%). For the purpose of this calculation, the ampacity shall be based on the calculated demand load of the building or structure served. Customer owned includes all non-utility owned or operated service lateral conductors.

(4) **Section 230.43. Wiring methods for 600 volts, nominal, or less.** See this section of the NEC but delete subsection (1) open wiring on insulators, and subsection (6), Electrical nonmetallic tubing (ENT).

(5) **Section 230.54 Overhead service locations** See this section of the NEC and add a new section as follows: (H) overhead service support shall comply with the serving utility requirements or be at least six inch by six inch (6" x 6") pressure-treated timber or equivalent round poles (minimum 6" diameter crown) installed to a depth not less than four (4) feet below finish grade.

(6) **Section 230.70 Service Equipment - Disconnecting Means.**

(a) **230.70 General. (A) Location.** See this section of the NEC and add: the disconnecting means for each occupant of a multiple occupancy building shall be grouped at a common location.

(b) **230.70 General. (A) Location. (1) Readily accessible location** Delete the text of this section of the NEC and substitute: the service disconnecting means shall be installed at a readily accessible location. Where the disconnecting means is located outside the building or structure, the disconnecting means enclosure shall be located immediately adjacent to the meter enclosure. Where the disconnecting means enclosure is located outside

the building or structure and within ten (10) feet from the building or structure, it shall not be considered a separate structure. Where the meter enclosure is located on the exterior wall of the building or structure, the service disconnecting means enclosure shall be installed at a readily accessible location and within forty eight (48) inches from the meter enclosure. Where the disconnecting means is located inside the building, the disconnecting means enclosure shall be installed at a readily accessible location within forty eight (48) inches from where the service conductor raceway enters the building or structure. Exception: bushing current transformer meter installations that are associated with the utility transformer are not required to be located in close proximity to the disconnecting means enclosure.

(7) **Section 230.72 Grouping of service disconnects. (A) General.** See this section of the NEC and add: all building or structure disconnects of each service shall be grouped at one location and shall be separated by the least practical distance, not to exceed an overall distance of twenty (20) feet.

G. Article 250 – Grounding and bonding. See this article of the NEC except as provided below.

(1) **Section 250.50 Grounding electrode system.** See this section of the NEC and add: on new construction a concrete encased electrode shall be considered available and installed in compliance with NEC 250.52(A) (3). If a concrete encased electrode is not present, then at least 20 feet of No. 2 bare copper in direct contact with the earth at a depth below the earth's surface of not less than thirty (30) inches shall be installed in a continuous trench that is at least twenty (20) feet in length, augmented with a minimum of two (2), eight (8) foot grounds rods spaced a minimum of six (6) feet apart.

(2) **Section 250.52 (A) Grounding electrodes. (5) Rod and pipe electrodes.** See this section of the NEC but delete subsection (a) in its entirety.

(3) **Section 250.52 Grounding electrodes. (B) (1) Not permitted for use as grounding electrodes.** Delete the text of this section of the NEC and substitute: Gas piping shall not be used as a grounding conductor or electrode. This does not preclude the bonding of metallic piping to a grounding system.

~~(3-4)~~ **Section 250.53 Grounding electrode system installation. (C) Bonding jumper.** See this section of the NEC and add: Grounding electrode bonding jumpers shall be protected from physical damage. When a bonding jumper conductor is buried to provide physical protection, a minimum cover of 24 inches shall be provided in accordance with NEC Table 300.5 column 1 all locations not specified below.

~~(4-5)~~ **Section 250.56 Resistance of rod, pipe and plate electrodes.** Delete the text of this section of the NEC and substitute: a single electrode consisting of a rod or plate shall be augmented by one additional electrode of any of the types specified by 250.52 (A) (2) through (A) (7). Where multiple rod or plate electrodes are installed to meet the requirements of this section, they shall be not less than six (6) feet apart. Exception: A single electrode consisting of a rod or plate may be used on temporary construction services rated 200 amperes or less.

~~(5-6)~~ **Section 250.66 Size of alternating-current grounding electrode conductor. (B) Connections to concrete-encased electrodes.** See this section of the NEC and add: the grounding electrode conductor shall not be smaller than #4 AWG copper.

(7) **Section 250.104. Bonding of piping systems and exposed structural steel. (B) Other metal piping.** See this section of the NEC and add: CSST gas piping systems shall be bonded to the electrical service grounding electrode system at the point where the gas service enters the building. The bonding jumper shall not be smaller than (6) AWG copper wire.

(8) **Section 250.106. Lightning protection systems.** See this section of the NEC and add: Where a lightning protection system is installed, the bonding of the gas piping system shall be in accordance with NFPA 780, standard for installation of lightning protection systems.

~~(6-9)~~ **Section 250.118. Types of Equipment grounding conductors.** See this section of the NEC and add the following new subsection: (15) an equipment grounding conductor shall be installed in all branch circuit and feeder raceways on or above a roof. The equipment grounding conductor shall be sized in accordance with table 250.122.

H. Article 300. Wiring Methods. See this article of the NEC except as provided below.

(1) **Section 300.11 Securing and supporting.** See this section of the NEC except as provided below.

(a) **300.11(A) Secured in place.** See this section of the NEC and add: independent support wires shall be limited to support of flexible wiring methods from the last means of support or junction box for connections within an accessible ceiling to luminaire(s) or equipment served.

(b) **300.11 (A) (1). Fire rated assemblies.** Delete the text of this section of the NEC and substitute: the ceiling support system shall be permitted to support listed junction boxes and/or support brackets that have been tested as part of a fire-rated assembly.

(c) **300.11 (A) (2). Non-fire rated assemblies.** Delete the text of the exception and substitute: the ceiling support system shall be permitted to support listed junction boxes and/or support brackets where installed in accordance with the ceiling system manufacturer's instructions.

(2) **Section 300.14. Length of free conductors at outlets, junctions and switch points.** Delete the text of this section of the NEC and substitute: at least six (6) inches of free conductor, measured from the point in the box where it emerges from its raceway or cable sheath, shall be left at each outlet, junction, and switch point for splices or the connection of luminaire (fixtures) or devices. Where the opening of an outlet, junction, or switch point is less than eight (8) inches in any dimension, each conductor shall be long enough to extend at least six (6) inches outside of the opening.

I. Article 310. Conductors for general wiring. See this article of the NEC and add the following provision to section 310.2 (B). Conductor material: the use of aluminum current carrying conductors shall be of the AA-8000 series or equivalent and shall be limited to size 8 AWG or larger. Exception: the equipment-grounding conductor shall be limited to size 10 AWG or larger if in a listed cable assembly.

J. Article 314. Outlet, device, pull, and junction boxes; conduit bodies; fittings; and handhole enclosures. See this article of the NEC except delete the exception from subsection 314.27(a) outlet boxes-boxes at luminaire (lighting fixture) outlets.

K. Article 334. Nonmetallic-Sheathed Cable: Types NM, NMC and NMS.

(1) **Section 334.10 Uses permitted.** See this section of the NEC but delete subsection (3) in its entirety.

(2) **Section 334.12 Uses not permitted. (A)Types NM, NMC, and NMS.** See this section of the NEC and add the following subsection: (11) type NM, NMC, or NMS shall not be installed in buildings, or structures such as stores, professional offices, motels, hotels, and other occupancies classified as commercial or industrial. Exception: apartment houses classified as R-2.

L. Article 340. Underground feeder and branch circuit cable: type UF. See this article of the NEC except as provided below.

(1) **Section 340.10 Installation - Uses permitted.** See this section of the NEC and add the following new subsections:

(a) (8) type UF cable shall be permitted to be imbedded in adobe construction;

(b) (9) type UF cable, or an approved electrical raceway shall be installed on straw bale residential construction.

(2) **Section 340.12 Installation - Uses not permitted.** See this section of the NEC and add the following new subsection: (12) Type UF cable shall not be installed in buildings or structures such as stores, professional offices, motels, hotels, or other occupancies classified as commercial or industrial.

M. Article 352 Rigid Polyvinyl Chloride Conduit: Type PVC. See this article of the NEC and add the following to section 352.10 uses permitted. (F) Exposed: PVC conduit, type schedule 40 shall not be used where the raceway is exposed and under eight (8) feet from finished floor or grade.

N. Article 358 Electrical Metallic Tubing: Type EMT. See this article of the NEC and add the following section to 358.12 uses not permitted: (7) electrical metallic tubing shall not be permitted to be installed underground or in concrete slabs or walls which are in contact with the earth.

O. Article 394 Concealed knob and tube wiring. See this article of the NEC and add the following to section 394.12 uses not permitted: concealed knob and tube wiring shall not be permitted to be installed except by special written permission from the electrical bureau.

P. Article 422. Appliances. See this article of the NEC and add the following to section 422.19. evaporative cooling units: where an evaporative cooler is installed, a listed raceway shall be installed during rough-in from the control point to the evaporative cooler location. The raceway shall contain an equipment-grounding conductor from the control point outlet box to the junction box at the unit. The equipment grounding conductor shall be sized in accordance with table 250.122.

Q. Article 550. Mobile Homes, Manufactured Homes and Mobile Home Parks. See this article of the NEC except as provided below.

(1) **Section 550.32 Service equipment. (A) Mobile home service equipment.** Delete the text of this section of the NEC and substitute the following: the mobile home service equipment shall be located adjacent to the mobile home and not mounted in or on the mobile home. The service equipment shall be located in sight from and not more than one hundred (100) feet from the exterior wall of the mobile home it serves. The service equipment shall be permitted to be located elsewhere on the premises, provided that a disconnecting means marked "suitable for use as service equipment" is located in sight from and not more than thirty (30) feet from the exterior wall of the mobile home it serves. Grounding at the disconnecting means shall be in accordance with 250.32.

(2) **Section 550.32 Service equipment.** See this section of the NEC and add the following new subsections.

(a) **(H) Required receptacle.** A 125 volt 15 or 20 amp receptacle outlet shall be installed with ground fault circuit interruption protection at each remote mobile home or manufactured home service equipment, or the local external disconnecting means permitted in 550.32 (A).

(b) **(I) Overhead services.** Overhead service support shall comply with the serving utility requirements or be at least six inch by six inch (6" x 6") pressure-treated timber or equivalent round poles (minimum 6" diameter crown) installed to a depth not less than four (4) feet below finish grade.

R. Article 800. Communications Circuits. See this article of the NEC and add the following to Section 800.154: applications of listed communications wires and cables and communication raceways: (H) dwelling unit communications circuits. Dwelling unit communications cable assemblies shall be a minimum of 4-pair No. 24 AWG conductors. Each 4 pair cable shall serve not more than three telephone outlets. Conductors shall terminate in a listed box or on a terminal block near the electrical service or location of telephone service. Any exterior wall penetration shall be installed in a listed raceway.

[14.10.4.11 NMAC - Rp, 14.10.4.10 NMAC, 7-1-08]

14.10.4.12 SMOKE DETECTORS. For smoke detectors, refer to the latest adopted edition of the building code. Smoke detectors installed in new single family dwellings shall be served by a single source. When two (2) or more smoke detectors are required in a dwelling unit, they shall be interconnected with a multi-conductor cable assembly. Location and power back-up requirement shall be in accordance with the latest adopted edition of the building code.

[14.10.4.12 NMAC - Rp, 14.10.4.11 NMAC, 7-1-08]

14.10.4.13 ACCESSIBILITY REQUIREMENTS FOR PERSONS WITH DISABILITIES. Add: Electrical device installation shall comply with accessibility codes adopted for New Mexico.

[14.10.4.13 NMAC - Rp, 14.10.4.12 NMAC, 7-1-08]

14.10.4.14 ENERGY CONSERVATION AND EFFICIENCY.

[A. Scope. This article sets forth minimum requirements for the design of new buildings and structures or portions thereof and additions to existing buildings that provide facilities or shelter for public assembly, educational, business, mercantile, institutional, storage and residential occupancies designed primarily for human occupancy, by regulating their illuminating systems and equipment for effective use of energy.]

[B. Exempt buildings. For exemptions see the New Mexico energy conservation code.]

[C. Lighting power budget.

(1) The interior lighting power is the upper limit of the power to be available to provide the lighting needs in accordance with the criteria and calculation procedures specified herein, and shall include the load of lamps and ballasts.

(2) The interior lighting power shall not exceed the unit power density permitted by the New Mexico energy conservation code.

(3) In lieu of the unit power density method, the interior lighting power may be calculated in accordance with the electrical power and lighting chapter of the New Mexico energy conservation code.]

[D] A. Residential [E]energy efficiency [requirements]. See chapter four of the 2009 new mexico energy conservation code and include the following:

(1) **404.3 Photovoltaic raceway.** On new construction in one and two family dwelling units, a listed, non-flexible [11/4] 3/4 inch minimum metallic electrical raceway shall be installed during rough in from an accessible location in the garage or indoor designated solar photovoltaic equipment location to: (A) the roof for roof mounted photovoltaic wiring or equipment, or (B) an outside wall for remote mounted photovoltaic wiring or equipment. The conduit shall be sealed with a listed fitting or box at each end. **404.1 Lighting equipment (Prescriptive).** A minimum of 50 percent of the permanently installed lighting fixtures shall be ENERGY STAR labeled or a minimum of 75 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps.

(2) On new construction, additions or renovations to type B office occupancies, motion detecting switching shall be installed in any conference room for control of general illumination. Exception: accent or other room lighting controlled by dimmers, or lighting systems controlled by building energy management or automatic systems.]

([3] 2) [On new construction, additions or renovations to one and two family dwelling units, fluorescent luminaires or compact fluorescent lamps (CFL) shall be installed in all laundry rooms, closets with luminaires, and attached or detached garages with electric power.] **Lighting equipment (Prescriptive).** **404.2 Lighting equipment (Mandatory).** On one and two family dwelling unit(s), in addition to a wall switch, motion sensors, daylight sensors, and/or timers shall be installed on at least 33% of the outdoor luminaires (light fixtures).

(4) In existing buildings where building wall and /or ceiling covering is replaced or disturbed replace 50% of the total luminaires (light fixtures), or lamps in those luminaires, with luminaires or lamps that qualify as ENERGY STAR. This requirement shall be limited to the area being altered, repaired or renovated.]

(5) Where penetrating the building thermal envelope, recessed luminaires (light fixtures) shall be rated for insulation contact (IC) and shall be rated airtight.]

([6] 3) **404.2 Lighting equipment (Mandatory).** On one and two family dwelling unit(s), in addition to a wall switch, motion sensors, daylight sensors, and/or timers shall be installed on at least 33% of the outdoor luminaires (light fixtures).] **404.3 Photovoltaic raceway.** On new construction in one and two family dwelling units, a listed, non-flexible ~~1/4~~ 3/4 inch **minimum metallic** electrical raceway shall be installed during rough-in from an accessible location in the garage or **indoor** designated solar photovoltaic equipment location to: (A) the roof for **roof mounted** photovoltaic wiring or equipment; or (B) an outside wall for **remote mounted** photovoltaic wiring or equipment. The conduit shall be sealed with a listed fitting or box at each end.

B. Commercial energy efficiency. See chapter five of the 2009 new mexico energy conservation code and include the following:

([4] 1) 505.1 General (Mandatory). This section covers lighting system controls, the connection of ballasts, the maximum lighting power for interior applications and minimum acceptable lighting equipment for exterior applications.

(2) [Exception:] Lighting within dwelling units shall have ~~50~~ 75 percent or more of the permanently installed interior light fixtures ~~are~~ fitted with high-efficacy lamps or a minimum of 75 percent of the permanently installed lighting fixtures shall contain only high efficacy lamps.

(i) Exception: Low-voltage lighting.

([5] 3) 505.2.2.1 Light reduction controls. Each area that is required to have a manual control shall also allow the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern by at least 50 percent. Lighting reduction shall be achieved by one of the following or other *approved* method: 1. Controlling all lamps or luminaires; 2. Dual switching of alternate rows of luminaires, alternate luminaires or alternate lamps; 3. Switching the middle lamp luminaires independently of the outer lamps; or 4. Switching each luminaire or each lamp.

(i) Exceptions:

- (a)** 1. Areas that have only one luminaire.
- (b)** 2. Areas that are controlled by an occupant-sensing device.
- (c)** 3. Corridors, storerooms, restrooms or public lobbies.
- (d)** 4. *Sleeping unit* [(see Section 505.2.3)].
- (e)** 5. Spaces that use less than 0.6 watts per square foot (6.5 W/m²).
- (f)** 6. Daylight spaces complying with Section 505.2.2.2.3 Automatic Day-lighting

Controls

([6] 4) Delete Table 505.5.2 and replace as follows:

LIGHTING POWER DENSITY		
Building Area Type^a	Whole Building	Space by Space
	(W/ft²)	
Active Storage		0.8
Atrium – First Three Floors		0.6
Atrium – Each Additional Floor		0.2
AUTOMOTIVE FACILITY	0.9	
Classroom/lecture/training		1.3
Conference/Meeting/Multipurpose		1.1
Corridor/Transition		0.5
Electrical/Mechanical		1.1
Food Preparation		1.2

Inactive Storage		0.2
Lobby		1.1
Restroom		0.8
Stairway		0.6
CONVENTION CENTER	1.2	
Exhibit Space		1.3
Audience/Seating Area		0.9
COURTHOUSE	1.2	
Audience/Seating Area		0.9
Courtroom		1.9
Confinement Cells		0.9
Judges Chambers		1.3
Dressing/Locker/Fitting Room		0.6
DINING: BAR LOUNGE/LEISURE	1.3	
Lounge/Leisure Dining		1.4
DINING: CAFETERIA/FAST FOOD	1.4	
DINING: FAMILY	1.6	
Dining		1.4
Kitchen		1.2
DORMITORY	1	
Living Quarters		1.1
Bedroom		0.5
Study Hall		1.4
EXERCISE CENTER	1	
Dressing/Locker/Fitting Room		0.6
Audience/Seating Area		0.3
Exercise Area		0.9
Exercise Area/Gymnasium		0.9
RETAIL: SUPERMARKET	1.3	
GYMNASIUM	1.1	
Dressing/Locker/Fitting Room		0.6
Audience/Seating Area		0.4
Playing Area		1.4
Exercise Area		0.9
HEALTHCARE CLINIC	1	
Corridors w/patient waiting, exam		1
Exam/Treatment		1.5
Emergency		2.7
Public & Staff Lounge		0.8
Hospital/Medical supplies		1.4
Hospital - Nursery		0.6
Nurse station		1
Physical therapy		0.9
Patient Room		0.7
Pharmacy		1.2
Hospital/Radiology		0.4
Operating Room		2.2
Recovery		0.8
Active storage		0.9
Laundry-Washing		0.6
HOTEL	1	
Dining Area		1.3

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<u>Guest quarters</u>			<u>1.1</u>
<u>Reception/Waiting</u>			<u>2.5</u>
<u>Lobby</u>			<u>1.1</u>
LIBRARY	<u>1.3</u>		
<u>Library-Audio Visual</u>			<u>0.7</u>
<u>Stacks</u>			<u>1.7</u>
<u>Card File & Cataloguing</u>			<u>1.1</u>
<u>Reading Area</u>			<u>1.2</u>
MANUFACTURING FACILITY	<u>1.3</u>		
MOTEL	<u>1</u>		
<u>Dining Area</u>			<u>1.2</u>
<u>Guest quarters</u>			<u>1.1</u>
<u>Reception/Waiting</u>			<u>2.1</u>
MOTION PICTURE THEATER	<u>1.2</u>		
<u>Audience/Seating Area</u>			<u>1.2</u>
<u>Lobby</u>			<u>1</u>
MULTI-FAMILY	<u>0.7</u>		
MUSEUM	<u>1.1</u>		
<u>Active Storage</u>			<u>0.8</u>
<u>General exhibition</u>			<u>1</u>
<u>Restoration</u>			<u>1.7</u>
OFFICE	<u>0.9</u>		
<u>Enclosed</u>			<u>1</u>
<u>Open Plan</u>			<u>1</u>
PARKING GARAGE	<u>0.3</u>		
PENITENTIARY	<u>1.0</u>		
PERFORMING ARTS THEATER	<u>1.6</u>		
<u>Audience/Seating Area</u>			<u>2.6</u>
<u>Lobby</u>			<u>3.3</u>
<u>Dressing/Locker/Fitting Room</u>			<u>1.1</u>
POLICE STATIONS	<u>1</u>		
FIRE STATIONS	<u>0.8</u>		
<u>Fire Station Engine Room</u>			<u>0.8</u>
<u>Sleeping Quarters</u>			<u>0.3</u>
<u>Audience/Seating Area</u>			<u>0.8</u>
<u>Police Station Laboratory</u>			<u>1.4</u>
POST OFFICETS/SF	<u>1.1</u>		
<u>Sorting Area</u>			<u>1.2</u>
<u>Lobby</u>			<u>1</u>
RELIGIOUS BUILDINGS	<u>1.3</u>		
<u>Lobby</u>			<u>0.6</u>
<u>Worship/Pulpit/Choir</u>			<u>2.4</u>
RETAIL	<u>1.3</u>		
<u>Department Store Sales Area</u>			<u>1.3</u>
<u>Specialty Store Sales Area</u>			<u>1.8</u>
<u>Fine Merchandise Sales Area</u>			<u>2.9</u>
<u>Supermarket Sales Area</u>			<u>1.3</u>
<u>Personal Services Sales Area</u>			<u>1.3</u>
<u>Mass Merchandising Sales Area</u>			<u>1.3</u>
<u>Mall Concourse</u>			<u>1.7</u>
SCHOOL/UNIVERSITY	<u>1.2</u>		

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Classroom		1.3
Audience		0.7
Dining		1.1
Office		1.1
Corridor		0.5
Storage		0.5
Laboratory		1.1
RETAIL: SPECIALTY b	1.6	
TOWN HALL	1.1	
TRANSPORTATION	1	
Dining Area		2.1
Baggage Area		1
Airport - Concourse		0.6
Terminal - Ticket Counter		1.5
Reception/Waiting		0.5
SPORTS ARENA	1.1	
WAREHOUSE	0.6	1
Fine Material		1.4
Medium/Bulky Material		0.6
WORKSHOP	1.4	

For SI: 1 foot = 304.8 mm, 1 watt per square foot = W/0.0929 m².

- a. In cases where both a general building area type and a more specific building area type are listed, the more specific building area type shall apply.
- b. Where lighting equipment is specified to be installed to highlight specific merchandise in addition to lighting equipment specified for general lighting and is switched or dimmed on circuits different from the circuits for general lighting, the smaller of the actual wattage of the lighting equipment installed specifically for merchandise, or additional lighting power as determined below shall be added to the interior lighting power determined in accordance with this line item.

Calculate the additional lighting power as follows:

Additional Interior Lighting Power Allowance = 1000watts + (Retail Area 1 X 0.6-4W/ft²) + (Retail Area 2 X 0.6 W/ft²) + (Retail Area 3 X 1.4 0.9 W/ft²) + (Retail Area 4 X ~~2.5~~ 1.5 W/ft²).

where:

Retail Area 1 = The floor area for all products not listed in Retail Area 2, 3 or 4.

Retail Area 2 = The floor area used for the sale of vehicles, sporting goods and small electronics.

Retail Area 3 = The floor area used for the sale of furniture, clothing, cosmetics and artwork.

Retail Area 4 = The floor area used for the sale of jewelry, crystal and china.

Exception: Other merchandise categories are permitted to be included in Retail Areas 2 through 4 above, provided that justification documenting the need for additional lighting power based on visual inspection, contrast, or other critical display is *approved* by the authority having jurisdiction.

SECTION 506

ADDITIONAL EFFICIENCY PACKAGE OPTIONS

([7] 5) 506.1 Requirements. Buildings shall comply with at least one of the following: a. 506.2 Efficient HVAC Performance Requirement: b. 506.3 Efficient Lighting System Requirement: c. 506.4 On-Site Supply of Renewable Energy

At the time of plan submittal, the *code official* shall be provided, by the permittee, documentation designating the intent to comply with Section 506.2, 506.3 or 506.4 in their entirety. Individual tenant spaces must comply with either 506.2 or 506.3 in their entirety unless documentation can be provided that demonstrates compliance with Section 506.4 for the entire building.

([8] 6) 506.3 Efficient Lighting System. Whole Building Lighting Power Density (Watts/sf) shall meet the requirements of Table 506.3, and automatic day-lighting control requirements in Section 506.3.2.

([9] 7) 506.3.1 Reduced Lighting Power Density - The total interior lighting power (watts) is the sum of all interior lighting powers for all areas in the building. The interior lighting power is the floor area for the building times the value from Table 506.3.

(10) TABLE 506.3 – REDUCED INTERIOR LIGHTING POWER

BUILDING TYPE^a	REDUCED WHOLE BUILDING (Watts/Ft²)
AUTOMOTIVE FACILITY	0.79
CONVENTION CENTER	1.16
COURTHOUSE	1.08
DINING: BAR LOUNGE/LEISURE	1.19
DINING: CAFETERIA/FAST FOOD	1.34
DINING:FAMILY	1.50
DORMITORY	0.90
EXERCISE CENTER	0.92
FIRE STATIONS	0.74
GYMNASIUM	1.07
HEALTHCARE CLINIC	0.89
HOTEL	0.90
LIBRARY	1.00
MANUFACTURING FACILITY	1.24
MOTEL	0.90
MOTION PICTURE THEATER	1.18
MUSEUM	1.04
OFFICE	0.80
PERFORMING ARTS THEATER	1.46
POLICE STATIONS	0.89
POST OFFICE	0.98
RELIGIOUS BUILDINGS	1.18
RETAIL	1.30
RETAIL: SPECIALTY	1.40
RETAIL: SUPERMARKET	1.30
SCHOOL/UNIVERSITY	1.01
TOWN HALL	0.94
TRANSPORTATION	0.85
WAREHOUSE ^b	0.60
WORKSHOP	1.20

For SI: 1 foot = 304.8 mm, 1 watt per square foot = W/0.0929 m².

a. In cases where both a general building area type and a more specific building area type are listed, the more

specific building area type shall apply.

- b. At least one half of the floor area shall be in the daylight zone. Automatic day-lighting controls shall be installed in daylit zones and shall meet the requirements of Section 505.2.2.2.3.

(14)8 506.3.2 Automatic Day-lighting Controls. Automatic day-lighting controls shall be installed in all daylight zones and shall meet the requirements of Section 505.2.2.2.

(12) 9 506.4 On-site Supply of Renewable Energy

The building or surrounding property shall supply 3% or more of the building energy use associated with systems and equipment covered by this code through on-site renewable energy. On-site power generation using nonrenewable sources does not meet this requirement.

The code official shall be provided with an energy analysis as described in Section 507 that documents on-site renewable energy production is capable of providing at least 3% of the total estimated annual purchased energy for the building functions regulated by this code, or a calculation demonstrating that on-site renewable energy production has a nominal (maximum) rating of at least 1.75 BTUs or at least 0.50 watts per square foot of conditioned floor area.

~~[E-]~~ **C. Night Sky Protection Act.** Outdoor lighting shall comply with the Night Sky Protection Act. [14.10.4.14 NMAC - N, 7-1-08, NMAC 7-1-10]

HISTORY OF 14.10.4 NMAC:

Pre-NMAC History:

The material in this part was derived from that previously filed with the commission of public records, state records center and archives under:

CIC 71-1, 1971 National Electrical Code, filed 12-01-71

CIC71-2, 1972 New Mexico Electrical Code, filed 12-1-71

CID 78-1, 1978 New Mexico Electrical Code, filed 01-31-78

CID EB 81-3, State of New Mexico Electrical Code Revised to July 24, 1981, Technical Provision based on the 1981 National Electrical Code and Related Codes and Standards, filed 11-24-81

CID EB 84-1, State of New Mexico Electrical Code, filed 05-11-84

CID NMEB 93-1, State of New Mexico Electrical Code 1993, filed 02-25-93.

History of Repealed Material:

14 NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electric Code (filed 01-15-97), repealed 07-01-99.

14 NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 06-01-99), repealed 12-01-00.

14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 10-16-2000), repealed 7-30-02.

14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 7-30-02) repealed 7-1-04.

14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 05-27-04) - part name later changed to 2002 State of New Mexico Electrical Code (filed 10-18-04) both repealed 07-01-05.

14.10.4 NMAC, Housing and Construction, Electrical Codes, 2005 New Mexico Electrical Code (filed 05-04-2005) repealed 7-1-08.

Other History:

CID NMEB, State of New Mexico Electric Code (filed 2-25-93) replaced by 14 NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electric Code, effective 01-31-97.

14 NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electric Code (filed 01-15-97) replaced by 14 NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code, effective 07-01-99.

14 NMAC 10.4, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 06-01-99) replaced by 14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code, effective 12-01-00.

14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 10-16-2000) replaced by 14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code, effective 07-30-02.

14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 07-01-02) replaced by 14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code, effective 07-01-04.

14.10.4 NMAC, Housing and Construction, Electrical Codes, State of New Mexico Electrical Code (filed 05-27-04) and part name later changed to "2002 State of New Mexico Electrical Code" (filed 10-18-04) replaced by 14.10.4 NMAC, Housing and Construction, Electrical Codes, 2005 New Mexico Electrical Code, effective 07-01-05.

14.10.4 NMAC, Housing and Construction, Electrical Codes, 2005 New Mexico Electrical Code (filed 05-04-2005) was replaced by 14.10.4 NMAC, Housing and Construction, Electrical Codes, 2008 New Mexico Electrical Code, effective 7-1-08.