

2017

NATIONAL
ELECTRICAL CODE



City of Sioux Falls



City of Sioux Falls
**PLANNING AND
BUILDING SERVICES
DEPARTMENT**

2017 National Electrical Code NFPA 70

City of Sioux Falls

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2017 *National Electrical Code (NEC)* City Ordinance and Commentary

Introduction

To be consistent with the South Dakota State Electrical Commission, this ordinance adopts the world's most widely adopted and most up-to-date electrical code, the *2017 National Electrical Code (NEC)*. The NEC is promulgated and published by the National Fire Protection Association, an international codes and standards organization. The NEC, which is revised and published during a three-year code cycle, establishes minimum standards for the installation of all facets of electrical systems and features the latest and most technological advancement in industry standards for the practical safeguarding for the public and property from hazards arising from the use of electricity.

Prior to adoption by the state, public meetings were held on behalf of the International Association of Electrical Inspectors, a state chapter of state and local electrical inspectors affiliated with NFPA, in January of 2017 and was followed by a hearing on behalf of the Sioux Electrical Council, a local organization of local contractors, wholesalers, and suppliers in February of 2017. Approximately 250 apprentice, journeymen, electrical contractors, and tradesmen attended the local hearings to review the changes to the latest edition of the *NEC*.

This ordinance incorporates those changes to the *NEC* that have been in effect by the South Dakota State Electrical Commission since July 1, 2017, and includes and carries over local administrative and technical modifications to the electrical ordinance. The Electrical Board of Appeals has reviewed the ordinance and moved on June 28, 2017, to recommend adoption by the City Council.

Based on the adoption of the 2017 *NEC*, including state rules by the South Dakota State Electrical Commission, the City of Sioux Falls Electrical Inspection Division began enforcing the *2017 National Electrical Code* on jobs that building permits were issued on or after July 1, 2017. Where building permits are not required, the 2017 *NEC* has been applied for all electrical inspection requests on or after July 1, 2017. This ordinance proposes to bring the City of Sioux Falls up-to-date with the previous action of the South Dakota State Electrical Commission.

Significant Changes to the 2017 *National Electrical Code (NEC)*

Overall, there were 4,012 public inputs submitted to NFPA recommending changes to the 2017 *NEC* and more than 1,200 first revisions resulted. In addition, nine articles were proposed and five new articles appear in the 2017 edition. The five include:

- Article 425—Fixed Resistance and Electrode Industrial Process Heating Equipment.
- Article 691—Large-Scale Photovoltaic Electric Supply Stations.
- Article 706—Energy Storage Systems.
- Article 701—Stand-Alone Systems.
- Article 712—Direct Current Microgrids.

Below are a few of the most noteworthy changes that have been incorporated into the 2017 *NEC*.

New: 110.14(D)—Electrical Equipment—Tightening Torque. A new requirement was recommended to mandate the use of a torque tool to achieve the indicated torque value at electrical equipment.

New: 110.16(B)—Arc-Flash Hazard Warning—Service Equipment. A new sublevel (B) was added to 110.16 to require additional information to be included in the arc-flash hazard warning label specifically addressing service equipment, rather than the broader application of the current text at 110.16 [proposed as 110.16(A)].

New: 110.21(A)(2)—Equipment Marking—Reconditioned Equipment. A new 110.21(A)(2) is being proposed to require reconditioned equipment to be marked with the name, trademark, or other descriptive marking, identifying the organization responsible for reconditioning the electrical equipment.

New: 110.26(A)(4) Working Space About Electrical Equipment—Limited Access. A new provision for “Limited Access” was added to address equipment “located in a space with limited access,” such as above a suspended ceiling or in a crawl space. This new provision has four restrictions: (1) where equipment is located above a lay-in ceiling, (2) width of the limited access working space, (3) doors or hinged panels being capable of opening a minimum of 90 degrees, and (4) space in front of the enclosure.

Revision: 210.8(A)—GFCI Protection—Nondwelling Units. GFCI protection has been proposed to be expanded in dwelling units to include not only all 125-volt, but all 250-volt, single-phase, 15- and 20-ampere receptacles installed in the locations specified in 210.8(A), as a shock hazard exists with utilization equipment at these higher voltage levels as well.

New: 210.8(B)(2)(a)—SPGFCI Protection. The opening of paragraph of 210.8(B), Other Than Dwelling Units, has been revised by adding references to new subsections, and has been subdivided into 210.8(B)(1) and 210.8(B)(2). Section 210.8(B)(1) provides the requirements for the traditional “Class A” ground-fault circuit-interrupter (GFCI) protection for personnel.

New: 210.11(C)(4)—Dwelling Units—Garage Branch Circuits. A new requirement has been proposed to require at least one 20-ampere-rated branch circuit to supply dwelling unit garage 125-volt receptacle outlet(s). Previously, this branch circuit could be rated 15- or 20-ampere.

New: 210.71—Meeting Room Receptacles. New requirements for a minimum number of nonlocking-type 125-volt, 15- and 20-ampere receptacles to be installed in nondwelling unit meeting rooms have been proposed. For meeting rooms with fixed walls, the proposed receptacle outlet provisions are similar to a dwelling unit as 210.52(A)(1) through (A)(4) are referenced. A meeting room that is at least 3.6 m (12 ft) wide and has a floor area of at least 21 m² (225 ft²) but not more than 70 m² (760 ft²)

would have to have at least one floor receptacle at a distance not less than 1.8 m (6 ft) from any fixed wall.

Revision: 230.29—Overhead Service Conductors—Supports Over Building.

Revisions to 230.29 will require metal support racks or structures to be bonded by means of a bonding jumper and listed connector to the grounded overhead service conductor for grounded systems.

New: 240.67—Arc Energy Reduction (Fuses). New provisions have been proposed to provide arc energy reduction methods of incident energy reduction for fusible switches and will be effective on January 1, 2020.

Revision: 250.30(A)(4)—Grounding Separately Derived AC Systems—Grounding

Electrode System. Revisions were accepted for the acceptable methods of providing a grounding electrode system for a separately derived system from a grounded system. The new proposed text at 250.30(A)(4) will allow any of the building or structure grounding electrodes described at 250.52(A) to be used as the grounding electrode for the separately derived system without an order of preference. The revised language also recognizes the water pipe and the structural metal frame as covered in 250.68(C) are not actually grounding electrodes but rather are conductors extending the grounding electrode connection.

Revision: 250.52(A)(2)—Grounding Electrodes—Metal In-Ground Support

Structure(s). Section 250.52(A) describes the conducting objects that are required to be used in a grounding electrode system with the prevailing conditions for each electrode described. The proposed text for the 2017 *NEC* leaves only one condition: one or more metal in-ground support structure(s) in direct contact with the earth vertically for 3.0 m (10 ft) or more, with or without concrete encasement.

New: 250.52(B)(3)—Not Permitted for Use as Grounding Electrodes. Decisive language was proposed that would prohibit the structures and/or structural reinforcing steel of an in-ground swimming pool described at 680.26(B)(1) and (B)(2) from being used as a grounding electrode for a building or structure.

Revision: 310.15(B)(7)—Sizing Dwelling Unit Services and Feeders. For the decades that this dwelling unit service conductor sizing provision has existed in the *NEC*, it has always applied to 120/240-volt, single-phase services and limited feeders only. For the 2017 *NEC*, a first revision will allow the reduction in size for dwelling unit service conductors and a feeder that supplies the entire dwelling to also include systems of a 120/208-volt system to qualify as well.

New: 314.27(E) Outlet Boxes—Separable Attachment Fittings. A new subsection (E) has been proposed for 314.27 to address new technology incorporating listed power supply devices, and listed locking support, and mounting receptacles and supporting means for luminaires and ceiling-suspended paddle fans to be installed in or to boxes designed for the purpose. These fittings may now be used to support and power the luminaire or ceiling-suspended paddle fan directly, thus facilitating replacement of the luminaire or ceiling-suspended paddle fan when attached in or to the box described at 314.27.

New: 320.6—Listing Requirements—Cable Wiring Methods. New provisions have been proposed to be added at .06 of several of the cable-type wiring method articles that would require the wiring method (cable) and associated fittings to be listed and labeled.

Revision: 338.10(B)(4) Uses Permitted—Type SE Cable. Provisions have been proposed to limit the restriction of service-entrance (SE) cables ampacity ratings to the 60°C (140°F) conductor temperature rating to only 10 AWG sizes and smaller, where the Type SE cable is installed in thermal insulation as a branch circuit or feeder. This change will align smaller Type SE cables with Type NM cables as related to heat dissipation when installed in thermal insulation.

New: 366.20 Auxiliary Gutters—Conductors Connected in Parallel. New language was proposed for Article 366 with specific instruction on installing conductors in parallel auxiliary gutters. There have been documented failures of parallel phase conductors due to inductive heating, where installed in wire ways or auxiliary gutters. In addition to the requirement of each parallel phase conductor being the same length, the proper grouping of phases can reduce inductive heating and result in a more balanced load between each conductor of a parallel phase. Specific language requires parallel conductors to be installed in groups consisting of not more than one conductor per phase, neutral, or grounded conductor to prevent current imbalance in the paralleled conductors due to inductive reactance. The same parallel provisions were also proposed for metal wire ways at 376.20 and for nonmetallic wire ways at 378.20.

The following includes the ordinance adopting the 2017 National Electrical Code (NEC), which includes the state and local amendments to the 2017 NEC, and the remaining ordinance concerning administrative provisions, electrical inspection fees, inspection provisions, electrical licensure provisions, Electrical Board of Appeals and Examiners, and assigned inspection areas:

Underscores and overstrikes the actual changes made to the 2017 NEC and the City ordinance. The overstrikes are those provisions that are eliminated and underscores are those provisions that are added to 2017 NEC by either the State Electrical Commission or the City of Sioux Falls and to the City ordinance.

The majority of code changes are carried over from the previous code cycle. The highlighted “Commentary” sections reference new changes to the code language from the 2014 to the 2017 NEC.

At the end of each section, there is provided a brief “Commentary” (italicized), which explains the intent of the modified code provision.

Each “Commentary” references whether the amended NEC code provision originates from a “State” rule from the South Dakota Electrical Commission, or is a local or “City” modification from the Sioux Falls Electrical Inspection Division of Building Services.

2017 ELECTRICAL CODE ORDINANCE

Section 150.201. Electrical Code Adopted.

(a) The *National Electrical Code*, 2017 edition (NFPA No. 70-2014), published by the National Fire Protection Association, and amendments and additions thereto is hereby adopted by the city to regulate the design and construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use, or maintenance for all electrical systems and installations in the city of Sioux Falls. The provisions of the 2017 *National Electrical Code* are applicable for work permitted on July 1, 2017, and thereafter.

(b) A printed copy of the code shall be filed with the city clerk.

Commentary—City: To be consistent with the South Dakota State Electrical Commission, this section of City ordinance adopts the world’s most widely adopted and most up-to-date electrical code, the 2017 National Electrical Code (NEC). The NEC is promulgated and published by the National Fire Protection Association, an international codes and standards organization. The NEC, which is revised and published during a three-year code cycle, establishes minimum standards for the installation of all facets of electrical systems and features the latest and most technological advancement in industry standards to safeguard the public health and safety for electrical design and construction.

Section 150.201.1 AMENDMENTS TO THE NATIONAL ELECTRICAL CODE.

The following articles and subsections of the *National Electrical Code*, 2017 edition, shall be amended as follows. All other sections or subsections of the *National Electrical Code*, 2017 edition, as herein before published shall remain the same.

ARTICLE 100 Definitions. Part 1. Equipment. A general term, including fittings, devices, appliances, luminaires, apparatus, and the like used as a part of, or in connection with, an electrical installation.

Commentary—State: The State Electrical Commission removed “machinery” to eliminate the listing requirements for industrial machinery, which is otherwise covered under Article 670 of the NEC. This provision is carried over from the 2008 NEC.

ARTICLE 100. Definitions. Part 1. Kitchen. An area with a sink and permanent provisions for food preparation and cooking. A fixed or portable single microwave does not constitute a permanent cooking facility.

Commentary—City: This local modification continues to clarify that a single microwave in a room does not mandate that the room be provided with ground fault circuit interrupters, which are otherwise required in a kitchen.

ARTICLE 100. Part 1. Definitions. Strict Liability Offense. An offense in which the prosecution in a legal proceeding is not required to prove criminal intent as a part of its case. It is enough to prove that the defendant either did an act which was prohibited, or failed to do an act which the defendant was legally required to do.

Commentary—City: This term brings the code in line with the current legal terminology used in other codes with regard to the prosecution of violations. With this term, the prosecutor is not required to prove that code violations were intended by a defendant or were even due to negligence. It is difficult to prove such intentions or negligence in a court of law.

110.2 Approval. The conductors and equipment required or permitted by this Code shall be acceptable only if approved.

The local electrical inspector shall enforce all rules and specifications in this article as necessary to determine conformity of electrical materials, devices, or appliances with approved methods of construction in order to protect life and property. The label of a nationally recognized electrical testing laboratory, inspection agency, or other organization concerned with product evaluation that maintains periodic inspection during production of equipment or materials, whose label indicates compliance with nationally recognized standards or tests to determine suitable usage in a specified manner, is prima facie evidence that the electrical materials, devices, or appliances are conforming and listed for installation under the provisions of this article.

Only those materials, devices, or appliances which are approved for the purpose intended may be installed to use electricity for light, heat, or power. This includes all materials used to install the materials, devices, or appliances. The manufacturer's name, trademark, or other identification symbol must be placed on or provided with the materials, devices, or appliances, together with rated voltage, current, wattage, or other applicable ratings necessary to determine the purpose and use for which they are intended in accordance with Article 670. It is not the local electrical inspector's responsibility to enforce nationally recognized testing laboratory listings on equipment.

Informational Note: See 90.7, Examination of Equipment for Safety, and 110.3, Examination, Identification, Installation, and Use of Equipment. See definitions of *Approved*, *Identified*, *Labeled*, and *Listed*.

Commentary—State: These additions to Article 110.2 continue to eliminate the liability of the electrical inspector to accept the termination of industrial machinery which is not listed by a National Recognized Testing Laboratory (NRTL); as long as the industrial machinery is in conformance with Article 670, Industrial Machinery, NEC, which was determined by the State Electrical Commission. Article 670 calls for nameplate designations.

110.3 Examination, Identification, Installation, Use, and Listing (Product Certification) of Equipment.

(A) Examination. In judging equipment, considerations such as the following shall be evaluated:

(1) Suitability for installation and use in conformity with the provisions of this *Code*.

Informational Note No. 1: Equipment may be new, reconditioned, refurbished, or remanufactured.

Informational Note No. 2: Suitability of equipment use may be identified by a description marked on or provided with a product to identify the suitability of the product for a specific purpose, environment, or application. Special conditions of use or other limitations and other pertinent information may be marked on the equipment, included in the product instructions, or included in the appropriate listing and labeling information. Suitability of equipment may be evidenced by listing or labeling.

(2) Mechanical strength and durability, including, for parts designed to enclose and protect other equipment, the adequacy of the protection thus provided.

(3) Wire-bending and connection space.

(4) Electrical insulation.

(5) Heating effects under normal conditions of use and also under abnormal conditions likely to arise in service.

(6) Arcing effects.

(7) Classification by type, size, voltage, current capacity, and specific use.

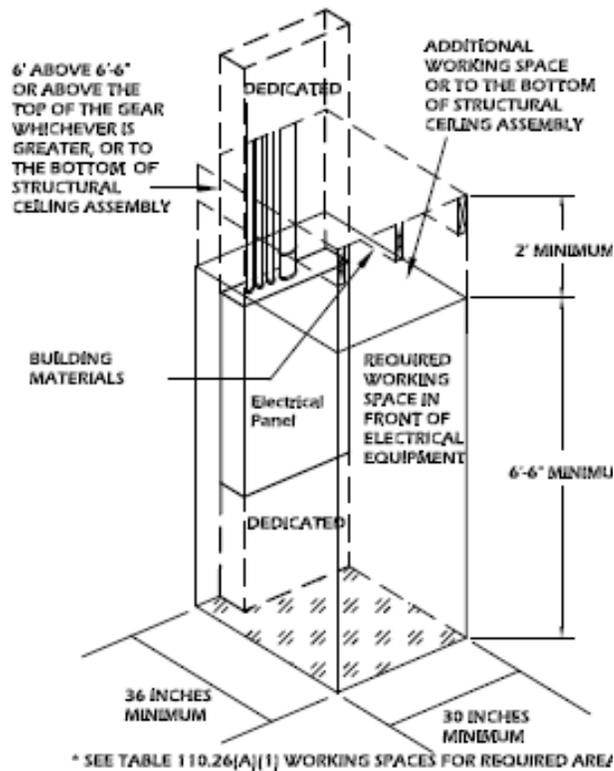
(8) Other factors that contribute to the practical safeguarding of persons using or likely to come in contact with the equipment.

The local electrical inspector may grant special approval of materials, devices, or appliances if no standard has been prepared or adopted to which they should conform. Special approval applies only to the particular sample approved and not to the line as manufactured, stored, sold, installed, or attached and may be granted only for those materials, devices, or appliances which, in the opinion of the local electrical inspector, are safe for the use intended. The details of decisions made by the electrical inspector shall be recorded and entered into the files of the electrical inspection division. Any decisions made by the local electrical inspector may be reviewed for consideration by the Electrical Board of Appeals and Examiners. The city does not assume any liability for damage or injury to persons or property because of the use of those materials, devices, or appliances.

Commentary—State: This continues to maintain the State provisions which allow the Electrical Inspector to grant special approval for equipment that is not provided with an NRTL standard.

110.26 Spaces About Electrical Equipment. (1) Depth of Working Space. The depth of the working space in the direction of live parts shall not be less than that specified in Table 110.26(A)(1) unless the requirements of 110.26(A)(1)(a), (A)(1)(b), or (A)(1)(c) are met. Distances shall be measured from the exposed live parts or from the enclosure or opening if the live parts are enclosed.

In new structures, additional working space for switchboards, panelboards, switchgear, and motor control centers operating at 600 volts, nominal or less to ground, shall extend up 2 feet above the required working space from the front face of the switchboard, panelboards, switchgear, and motor control centers. This applies only to equipment not part of the electrical installation. Building construction materials shall be allowed in the 2-foot area.



(a) *Dead-Front Assemblies.* Working space shall not be required in the back or sides of assemblies, such as dead-front switchboards, switchgear, or motor control centers, where all connections and all renewable or adjustable parts, such as fuses or switches, are accessible from locations other than the back or sides. Where rear access is required to work on nonelectrical parts on the back of enclosed equipment, a minimum horizontal working space of 762 mm (30 in) shall be provided.

(b) *Low Voltage.* By special permission, smaller working spaces shall be permitted where all exposed live parts operate at not greater than 30 volts rms, 42 volts peak, or 60 volts dc.

(c) *Existing Buildings.* In existing buildings where electrical equipment is being replaced, Condition 2 working clearance shall be permitted between dead-front switchboards, switchgear, panelboards, or motor control centers located across the aisle from each other where conditions of maintenance and supervision ensure that written procedures have been adopted to prohibit equipment on both sides of the aisle from being open at the same time and qualified persons who are authorized will service the installation.

Table 110.26(A)(1) Working Spaces			
Nominal Voltage to Ground	Minimum Clear Distance		
	Condition 1	Condition 2	Condition 3
0–150	914 mm (3 ft)	914 mm (3 ft)	914 mm (3 ft)
151–600	914 mm (3 ft)	1.0668 m (3 ft 6 in)	1.22 m (4 ft)
600–1000	914 mm (3 ft)	1.22 m (4 ft)	1.524 m (5 ft)

Note: Where the conditions are as follows:

Condition 1—Exposed live parts on one side of the working space and no live or grounded parts on the other side of the working space, or exposed live parts on both sides of the working space that are effectively guarded by insulating materials.

Condition 2—Exposed live parts on one side of the working space and grounded parts on the other side of the working space. Concrete, brick, or tile walls shall be considered as grounded.

Condition 3—Exposed live parts on both sides of the working space.

Commentary—State: *This maintains the required height of the working space in front of serviceable electrical equipment including switchgear.*

110.27 Guarding of Live Parts. (D) Electric Fences. Electric fencing is not allowed to be installed in the city except as approved by the Electrical Board of Appeals and Examiners.

Commentary—City: *This maintains the elimination of electric fences within the city of Sioux Falls, except as otherwise approved by the Electrical Board of Appeals and Examiners.*

210.52 Dwelling Unit Receptacle Outlets. (C) Countertops and Work Surfaces. In kitchens, pantries, breakfast rooms, dining rooms, and similar areas of dwelling units, receptacle outlets for countertop and work surfaces shall be installed in accordance with 210.52(C)(1) through (C)(5).

(1) Wall Countertop and Work Surface. A receptacle outlet shall be installed at each wall countertop and work surface that is 300 mm (12 in) or wider. Receptacle outlets shall be installed so that no point along the wall line is more than 600 mm (24 in) measured horizontally from a receptacle outlet in that space. Wall counter space receptacle outlet requirements shall apply to island and peninsula counter spaces provided with backsplash and permanent vertical wall components.

Exception: Receptacle outlets shall not be required on a wall directly behind a range, counter-mounted cooking unit, or sink in the installation described in Figure 210.52(C)(1).

(2) Island Countertop Spaces. At least one receptacle shall be installed at each island countertop space with a long dimension of 600 mm (24 in) or greater and a short dimension of 300 mm (12 in) or greater.

(3) Peninsular Countertop Spaces. At least one receptacle outlet shall be installed at each peninsular countertop long dimension space with a long dimension of 600 mm (24 in) or greater and a short dimension of 300 mm (12 in) or greater. A peninsular countertop is measured from the connected perpendicular wall.

Commentary—City: *This inserts a local clarification to (1) Wall Countertop Spaces, resulting from an appeal to the Electrical Board of Appeals, to require receptacles on an island or peninsula counter space that is configured with a backsplash and/or a vertical wall component.*

Commentary—State: *The two deletions maintain the State rule to eliminate the requirement for a receptacle located on an island or peninsula countertop space.*

210.52 Dwelling Unit Receptacle Outlets. (J.) Water softening equipment. In one- and two-family dwellings, a receptacle outlet shall be installed within 3 feet of the water softener loop or 3 feet of the water heater if no loop exists for water softening equipment.

Commentary—City: *This maintains the requirement to install a receptacle to accommodate the future installation of a water softener. This provision has added the requirement of a receptacle to be located within 3 feet of the water softener loop or 3 feet of the water heater if no loop exists.*

210.52 Dwelling Unit Receptacle Outlets. (K.) Sump pit. In one- and two-family dwellings, a receptacle outlet shall be installed within 3 feet of the sump pit on an individual circuit.

Commentary—City: *This maintains the requirement to ensure that a sump pump is on an individual circuit to ensure that any other item on the circuit does not trip the breaker when the sump needs to run.*

210.52 Dwelling Unit Receptacle Outlets. (L) Gas Ranges. In one- and two-family dwellings, a receptacle outlet shall be installed within 3 feet of the gas range on an individual circuit.

Commentary—City: *This is a new requirement to ensure that a gas range has sufficient ampacity and is on an individual circuit to ensure that the circuit is not tripped when operating the gas range.*

230.28 Service Masts as Supports. Only power service-drop or overhead service conductors shall be permitted to be attached to a service mast. Service masts used for the support of service drop or overhead service conductors shall be installed in accordance with 230.28(A) and (B).

(A) Strength. The service mast shall be of adequate strength or be supported by braces or guys to withstand safely the strain imposed by the service-drop or overhead service conductors. Hubs intended for use with a conduit that serves as a service mast shall be identified for use with service-entrance equipment.

To gain height, a perpendicular mast shall be installed for the support of service drops to low buildings. This mast must be installed according to the following requirements:

- (1) If conduit is used, it must be not less than 2-inch trade-size galvanized, rigid conduit, or intermediate metal conduit.
- (2) If a wood mast is used, it must be not smaller in cross section than 4 inches by 6 inches.
- (3) If the mast extends more than 48 inches above its last support, the mast must be at least 96 inches long, attached to the structure at a minimum of two locations, and guyed with 1/4-inch minimum guy strand or equivalent, or braced with guy fittings and approved according to Article 90-4 of the *National Electrical Code*.
- (4) If the mast extends more than 72 inches above its last support, the mast must be at least 120 inches long, attached to the structure at a minimum of three locations, and guyed with fittings in two directions to provide support.
- (5) Only the power company's service drop conductors shall be attached to a service mast. Phone loops, cable TV conduits, grounding clamps, and the like shall not be attached to the service mast. Conduit couplings shall not be installed above the roof line.

(B) Attachment. Service-drop or overhead service conductors shall not be attached to a service mast between a weather head or the end of the conduit and a coupling, where

the coupling is located above the last point of securement to the building or other structure or is located above the building or other structure.

Commentary—City: This maintains a local amendment to meet the requirement of local power suppliers for service masts.

230.46 Spliced Conductors. Service-entrance conductors shall be permitted to be spliced or tapped by clamped or bolted connections. Splices shall be made in enclosures or, if directly buried, with a listed ground splice kit. Splices of conductors shall be made in accordance with 110.14, 300.5(E), 300.13, and 300.15.

Where service entrance conductors are tapped to supply two to six disconnection means grouped at a common location, taps shall be made with fixed lugs only.

Commentary—City: Maintains the local amendment for certain requirements of splicing service entrance conductors.

230.52 Individual Conductors Entering Buildings or Other Structures. Where individual open conductors enter a building or other structure, they shall enter through roof bushings or through the wall in an upward slant through individual, noncombustible, nonabsorbent insulating tubes. Drip loops shall be formed on the conductors before they enter the tubes.

The raceway containing conductors to the service entrance disconnect enclosure may not extend more than 5 feet inside the structure, except with the written permission of the state electrical or local electrical inspector. The raceway or cable assembly may not extend more than 5 feet once inside the structure to the main disconnect. Metering enclosures and junction boxes are not included when determining these lengths. Additional lengths in the structure may be installed only with the prior written permission of the electrical inspector or approval of the Electrical Board of Appeals and Examiners.

Commentary—City: Maintains the local amendment to restrict the length of a nonfused service entrance conductor entering into a building.

250.24 Grounding Service-Supplied Alternating-Current Systems. (A) System Grounding Connections. (1) General. The grounding electrode conductor connection shall be made at any accessible point from the load end of the overhead service conductors, service drop, underground service conductors, or service lateral to, including the terminal or bus to which the grounded service conductor is connected at the service disconnecting means. All grounding electrode conductors of the system's grounding connection must terminate on the neutral bus inside the service equipment unless they are inspected before the service is energized by the power supplier.

Informational Note: See definitions of *Service Conductors, Overhead*; *Service Conductors, Underground*; *Service Drop*; and *Service Lateral* in Article 100.

Commentary—State: Maintains a state rule for the location of grounding connections at the service, unless inspected prior to energizing.

250.53 Grounding Electrode System Installation. (D) Metal Underground Water Pipe. (1) Continuity. Continuity of the grounding path or the bonding connection to interior piping shall not rely on water meters or filtering devices and similar equipment.

A bonding jumper size in accordance with Table 250.66 shall be installed between the hot and cold waterlines at the water heater and cold hard and soft lines even if the softener is not in place.

Commentary—City: Maintains a local amendment to require the bonding of hot and cold waterlines at the water heater and softener to provide for a continuous grounding path.

300.5 Underground Installations. (D) Protection from Damage. Direct-buried conductors and cables shall be protected from damage in accordance with 300.5(D)(1) through (D)(4).

(1) Emerging from Grade. Direct-buried conductors and cables emerging from grade and specified in columns 1 and 4 of Table 300.5 shall be protected by enclosures or raceways extending from the minimum cover distance below grade required by 300.5(A) to a point at least 2.5 m (8 ft) above finished grade. In no case shall the protection be required to exceed 450 mm (18 in) below finished grade.

(2) Conductors Entering Buildings. Conductors entering a building shall be protected to the point of entrance.

(3) Service Conductors. Underground service conductors that are not encased in concrete and that are buried 450 mm (18 in) or more below grade shall have their location identified by a warning ribbon that is placed in the trench at least 300 mm (12 in) above the underground installation.

(4) Enclosure or Raceway Damage. Where the enclosure or raceway is subject to physical damage, the conductors shall be installed in electrical metallic tubing, rigid metal conduit, intermediate metal conduit, RTRC-XW, Schedule 80 PVC conduit, or equivalent.

(5) Underground Conductors to Comply with Installation Requirements. All underground conductor installations, in addition to complying with the requirements of the *National Electrical Code*, laws of the state of South Dakota, and the state electrical commission shall comply with the requirement that direct burial underground service conductors or feeders shall be installed in a raceway from the building to a point beyond any concrete or asphalt slabs, stoops, footings, or driveways, which may interfere with future conductor replacement.

Commentary—State: Maintains the state rule for the installation of exterior conduit below concrete.

300.13 Mechanical and Electrical Continuity—Conductors. (B) Device Removal. The continuity of a conductor shall not depend on device connections such as lamp

holders, receptacles, and so forth, where the removal of such devices would interrupt the continuity.

Commentary—City: Maintains local amendment requiring pigtails for all devices.

310.10 Uses Permitted. (C) Wet Locations. Insulated conductors and cables used in wet locations shall comply with one of the following:

- (1) Be moisture-impervious metal-sheathed.
- (2) Be types MTW, RHW, RHW-2, TW, THW, THW-2, THHW, THWN, THWN-2, XHHW, XHHW-2, or ZW.
- (3) Be of a type listed for use in wet locations.

For the installation of cables that are not approved for a wet location, the structure must meet the following:

- (1) Must maintain a minimum of 20 degrees Fahrenheit temperature in building.
- (2) Must have a weatherproofed roof.
- (3) Must be totally enclosed.

Exception. Areas located outside of an area measured from the top and sides of an opening at a 1 to 1 ratio.

Commentary—City: This mandates that the use of wiring systems that are not approved for a wet location must be located in a structure that has a weatherproofed roof and that a minimum of 20 degrees F must be maintained to eliminate the exposure to rain, and to ensure that Romex and MC cable are not subject to cracking due to temperature. In addition, it gives the specific areas wires not rated for weather exposure can be installed in reference to an opening prior to the opening being enclosed.

334.30 Securing and Supporting. Nonmetallic-sheathed cable shall be supported and secured by nonconductive insulated staples; cable ties listed and identified for securement and support; or straps, hangers, or similar fittings designed and installed so as not to damage the cable, at intervals not exceeding 1.4 m (4 1/2 ft) and within 300 mm (12 in) of every cable entry into enclosures such as outlet boxes, junction boxes, cabinets, or fittings. Flat cables shall not be stapled on edge.

Sections of cable protected from physical damage by raceway shall not be required to be secured within the raceway.

Commentary—City: This maintains the local amendment to ensure that if staples are used to support and secure nonmetallic sheathed cable, that the staples are nonconductive.

358.12 Uses Not Permitted. EMT shall not be used under the following conditions:

- (1) Where subject to severe physical damage.
- (2) For the support of luminaires or other equipment except conduit bodies no larger than the largest trade size of the tubing.
- (3) Electrical metallic tubing may not be used in concrete below grade or in concrete slab or masonry in direct contact with earth nor embedded in earth or fill. The use of a vapor barrier has no effect on the requirements of this section.

Commentary—State: *This maintains the state rule that electrical metallic tubing cannot be installed below a slab at grade level, due to the deterioration that occurs with the cabling.*

408.36 Overcurrent Protection. In addition to the requirement of 408.30, a panelboard shall be protected by an overcurrent protective device having a rating not greater than that of the panelboard. This overcurrent protective device shall be located within or at any point on the supply side of the panelboard. Installation of 120-volt plug-in circuit breakers in three-phase, four-wire panelboard on a delta system is prohibited.

Exception No. 1: Individual protection shall not be required for a panelboard used as service equipment with multiple disconnecting means in accordance with 230.71. In panelboards protected by three or more main circuit breakers or sets of fuses, the circuit breakers or sets of fuses shall not supply a second bus structure within the same panelboard assembly.

Exception No. 2: Individual protection shall not be required for a panelboard protected on its supply side by two main circuit breakers or two sets of fuses having a combined rating not greater than that of the panelboard. A panelboard constructed or wired under this exception shall not contain more than 42 overcurrent devices. For the purposes of determining the maximum of 42 overcurrent devices, a 2-pole or a 3-pole circuit breaker shall be considered as two or three overcurrent devices, respectively.

Exception No. 3: For existing panelboards, individual protection shall not be required for a panelboard used as service equipment for an individual residential occupancy.

Commentary—City: *Maintains a local amendment to eliminate the accidental connection of 120-volt circuits to a higher voltage phase.*

410.117 Wiring. (B) Circuit Conductors. Except for end-to-end installation or prefabricated flexible systems, branch-circuit conductors that have an insulation suitable for the temperature encountered shall be permitted to terminate in the luminaire.

Commentary—City: *Maintains a local requirement to ensure that fixtures are not used as a raceway.*

422.12 Central Heating Equipment. Central heating equipment other than fixed electric space-heating equipment shall be supplied by an individual branch circuit and a disconnect shall be provided in sight and within 6 feet of the unit.

Exception No. 1: Auxiliary equipment, such as a pump, valve, humidifier, or electrostatic air cleaner directly associated with the heating equipment, shall be permitted to be connected to the same branch circuit.

Exception No. 2: Permanently connected air-conditioning equipment shall be permitted to be connected to the same branch circuit.

Commentary—State: Maintains a state rule to require a disconnect at an appliance for safety during servicing.

517.13 Grounding of Receptacles and Fixed Electrical Equipment in Patient Care Spaces. (B) Insulated Equipment Grounding Conductors and Insulated Equipment Bonding Jumpers. (1) General. All receptacles installed in a patient care area shall be listed “Hospital Grade” and shall be so identified and the identification shall be visible after installation. The following shall be directly connected to an insulated copper equipment grounding conductor that is clearly identified along its entire length by green insulation and installed with the branch circuit conductors in the wiring methods as provided in 517.13(A):

- (1) The grounding terminals of all receptacles other than isolated ground receptacles.
- (2) Metal outlet boxes, metal device boxes, or metal enclosures.
- (3) All noncurrent-carrying conductive surfaces of fixed electrical equipment likely to become energized that are subject to personal contact, operating at over 100 volts.

Exception No. 1: For other than isolated ground receptacles, an insulated equipment bonding jumper that directly connects to the equipment grounding conductor is permitted to connect the box and receptacle(s) to the equipment grounding conductor. Isolated ground receptacles shall be connected in accordance with 517.16.

Exception No. 2: Metal faceplates shall be permitted to be connected to the equipment grounding conductor by means of a metal mounting screw(s) securing the faceplate to a grounded outlet box or grounded wiring device.

Exception No. 3: Luminaires more than 2.3 m (7 1/2 ft) above the floor and switches located outside of the patient care vicinity shall be permitted to be connected to an equipment grounding return path complying with 517.13(A) or (B).

Commentary—State: Maintains the state and local rule to require the use of hospital grade receptacles in patient care areas.

600.1 Scope. This article covers the installation of conductors, equipment, and field wiring for electric signs, retrofit kits, and outline lighting, regardless of voltage. All installations and equipment using neon tubing, such as signs, decorative elements, skeleton tubing, or art forms, are covered by this article.

Informational Note: Sign and outline lighting illumination systems include, but are not limited to, cold cathode neon tubing, high-intensity discharge lamps (HID), fluorescent or incandescent lamps, light-emitting diodes (LEDs), and electroluminescent and inductance lighting.

Permanently installed electric signs, outline lighting, and field-assembled skeletal neon systems shall be listed and labeled by a nationally recognized testing laboratory. Branch circuit wiring and primary electrical connection of the above shall be completed by a licensed electrical contractor. The electrical contractor shall be responsible for obtaining the electrical permit, scheduling an inspection, and the installations shall not be energized prior to approval by the electrical inspector.

Commentary—City: Maintains local amendment to ensure that outdoor signs are appropriately listed and labeled by a nationally recognized testing laboratory.

Administrative Provisions of the Electrical Ordinance

150.202 Title. This chapter, hereinafter also referred to as this code, shall be known as the “Sioux Falls electrical code,” and may so be cited.

150.203 Purpose. The purpose of this code is to provide minimum standards to safeguard life, limb, health, property, and public welfare by regulating and controlling persons qualified to perform electrical work and the design, construction, installation, quality of materials, location, operation, and maintenance of electrical systems, apparatus, wiring, or equipment for electrical light, heat, power, fire alarms, and associated controls within the jurisdictional limits of the city.

150.204 Scope. The provisions of this code shall apply to the installation, alteration, repair, relocation, replacement, addition to, use, or maintenance of any electrical system, apparatus, wiring, or equipment for electrical light, heat, power, fire alarms, and associated controls within the jurisdictional limits of the city.

150.205 New Electrical Work. All new electrical work shall be installed in conformance with this code and all relevant ordinances, laws, rules, and regulations of this city and the state.

150.206 Application to Existing Electrical Systems.

(a) Additions, alterations, or repairs.

- (1) Additions, alterations, or repairs to any building, structure, or premises may be made to any electrical system or equipment without requiring the existing electrical system to comply with all the requirements of this code, provided the addition, alteration, or repair conforms to that required for a new electrical system or equipment. Additions, alterations, installations, or repairs shall not cause an existing system to become unsafe, create unhealthy or overloaded conditions, or shall not adversely affect the performance of the building as determined by the authority having jurisdiction. Electrical wiring added to an existing service, feeder, or branch circuit shall not result in an installation that violates the provisions of the code in effect at the time the additions are made.
- (2) Provisions of the *International Existing Building Code* may apply to electrical modifications of buildings undergoing additions, alterations, repairs, and changes of occupancy.

- (b) *New electrical service entrances in existing single-family and multiple-family dwellings.*
- (1) When adding a new service entrance with increased amperage, the existing electrical system shall, at a minimum, comply with the following:
- A. *Kitchens.* Each kitchen shall have a minimum of one 20-ampere circuit serving a countertop receptacle and a grounded receptacle serving a refrigerator.
 - B. *Overcurrent device location.* In multifamily dwellings, each occupant shall have access to his or her branch circuit overcurrent devices without going outdoors or through another occupancy.
 - C. *Habitable areas.* All habitable areas, other than closets, kitchens, basements, garages, hallways, laundry areas, utility areas, storage areas, and bathrooms, shall have minimum of two duplex receptacle outlets, or one duplex receptacle outlet and one ceiling or wall-type lighting outlet.
 - D. *Minimum lighting outlets.* At least one lighting fixture shall be provided in every habitable room, bathroom, hallway, stairway, attached garage and detached garage with electrical power, in utility rooms, and basements where the spaces are used for storage or contain equipment requiring service and to illuminate outdoor entrances and exits.
 - E. *Ground fault circuit interrupters.* Ground fault circuit interrupter protection shall be provided for all receptacles in bathrooms, laundry, above kitchen counters, attached and detached garages provided with power, at readily accessible receptacles within 6 feet of sinks, unfinished basements, and at outdoor locations. The exceptions of the *National Electrical Code* §§ 210.8(A)3 and 5 shall apply.
 - F. *Laundries.* Each laundry shall be provided with at least one individual branch 20-ampere circuit.
 - G. *Heat sources.* Any heat source shall be provided with an individual branch circuit.
 - H. *Exposed wiring methods.* All exposed wiring methods shall be installed in accordance with the applicable *National Electrical Code* article.
 - I. *Bathrooms.* Each bathroom shall have one receptacle outlet located within three feet of the basin. Any new bathroom receptacle outlet shall have ground fault circuit interrupter protection.
- (2) Minor additions, alterations, and repairs to existing electrical systems or equipment may be installed in accordance with the law in effect at the time the original installation was made, when approved by the electrical inspector.

- (c) *Existing installations.* Electrical systems or equipment lawfully in existence at the time of the adoption of this code may have their use, maintenance, or repair continued if the use, maintenance, or repair is in accordance with the original design and location and no hazard to life, health, or property has been created by the electrical system.
- (d) Changes in building occupancy. Electrical systems or equipment that are a part of any building or structure undergoing a change in occupancy, use, or character of use as defined in the building code shall comply with all requirements of this code which may be applicable to the new occupancy, use, or character of use. Provisions of the International Existing Building Code may apply to buildings undergoing a change of occupancy.
- (e) *Maintenance.* All electrical systems, equipment materials, and appurtenances, both existing and new, and all parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe and hazard-free condition. All devices or safeguards which are required by this code shall be maintained in conformance with the code edition under which installed. The owner or the owner's designated agent shall be responsible for maintenance of electrical systems and equipment. To determine compliance with this division (e), the building official may cause an electrical system or equipment to be reinspected.
- (f) Moved buildings. Single, modular, or multifamily residential units moved from one location to another must have at least a 100-ampere service at the new location and must meet the ground-fault circuit-interrupter protection and arc-fault circuit interrupter protection requirements of the *National Electrical Code*.

Commentary—City: With reference to (b)(1)(B) Overcurrent Device Locations, this clarifies that access to overcurrent devices is applicable to multifamily dwellings only. With reference to (b)(1)(E) Ground Fault Circuit Interrupters, this adds laundry to the list as to where GFCIs are required.

150.207 Powers and Duties of Building Official.

- (a) *General.*
 - (1) The building official is hereby authorized and directed to enforce all the provisions of this code. For these purposes the building official shall have the powers of a law enforcement officer.
 - (2) The building official shall have the power to adopt and enforce rules and regulations to the administrative provisions of this code. The rules and regulations shall be in conformity with the intent and purpose of this code.
 - (3) In accordance with the prescribed procedures and with the approval of the city council, the building official may appoint a number of licensed electrical inspectors and other employees as shall be authorized from time to time. The building official may deputize licensed electrical inspectors or employees as

may be necessary to carry out the functions of the code enforcement agency. Licensed electrical inspectors shall have the power to render interpretations of the *National Electrical Code*. The interpretations shall be in conformity with the intent and purpose of this code and other pertinent state laws or rules.

- (b) *Right of entry.* When it is necessary to make an inspection to enforce the provisions of this code, or when the building official has reasonable cause to believe that there exists in a building or upon a premises a condition which is contrary to or in violation of this code which makes the building or premises unsafe, dangerous, or hazardous, the building official may enter the building or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if the building or premises be occupied that credentials be presented to the occupant and entry requested. If the building or premises be unoccupied, the building official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the building official shall have recourse to the remedies provided by law to secure entry.
- (c) *Stop orders.* When any work is being done contrary to the provisions of this code, the building official may order the work stopped by notice in writing served on any persons engaged in the doing or causing the work to be done, and those persons shall forthwith stop work until authorized by the building official to proceed with the work.
- (d) *Authority to disconnect utilities in emergencies.* The building official or the building official's authorized licensed electrical inspectors shall have the authority to disconnect electrical utility service, or energy supplies to a building, structure, premises, or equipment regulated by this code in case of emergency where necessary to eliminate an immediate hazard to life or property. The building official or licensed electrical inspectors shall, whenever possible, notify the serving utility, the owner, and occupant of the building, structure, or premises of the decision to disconnect prior to taking action, and shall notify the serving utility, owner, and occupant of the building, structure, or premises in writing of the disconnection immediately thereafter.
- (e) Authority to condemn electrical systems, apparatus, wiring, or equipment.
 - (1) When the electrical inspector ascertains that any electrical systems, apparatus, wiring, or equipment, or portion thereof, regulated by this code has become hazardous to life, health, or property, the electrical inspector shall order in writing that the equipment either be removed or restored to a safe condition, as appropriate. The written notice shall contain a fixed time limit for compliance with the order. Persons shall not use or maintain defective equipment after receiving a notice.
 - (2) When electrical systems, apparatus, wiring, or equipment or an installation is to be disconnected, written notice of the disconnection and causes therefor shall be given within 24 hours to the serving utility, the owner, and occupant of the building, structure, or premises. When any equipment is maintained in

violation of this code, and in violation of a notice issued pursuant to the provisions of this section, the building official shall institute an appropriate action to prevent, restrain, correct, or abate the violation.

- (f) *Connection after order to disconnect.* Persons shall not make connections from a source of electrical energy to any building or portion thereof or equipment regulated by this code which has been disconnected or ordered to be disconnected by the electrical inspector or the use of which has been ordered to be discontinued by the electrical inspector until the electrical inspector authorizes the reconnection and use of the equipment.
- (g) *Modifications.* Whenever there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases upon application of the owner or owner's representative, provided that the code official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and does not lessen health, life and fire safety requirements. The details of action granting modifications shall be recorded and entered in the files of the electrical inspection department.
- (h) *Alternative materials, methods, equipment, and appliances.* The provisions of this code are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by this code, provided that any alternative has been approved. An alternative material or method of construction shall be approved where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, durability, and safety.

150.208 Liability.

- (a) The building official, member of the board of appeals, or employee of the city charged with the enforcement of this electrical code, acting in good faith and without malice in the discharge of his or her duties required by this code or other pertinent laws or ordinances, shall not thereby be rendered personally liable for damages that may accrue to persons or property as the result of an act or by reason of an act or omission in the discharge of these duties. Any suit instituted against the building official or employee in the enforcement of any provision of the code or other pertinent laws or ordinances implemented through the enforcement of this code or enforced by the code enforcement agency shall be afforded all the protection provided by the city's insurance pool, immunities, and any immunities and defenses provided by other applicable state and federal laws and shall be defended by legal representative of the jurisdiction until the final termination of the proceedings. The building official, member of the board of appeals, or employee of the city shall not be liable for cost in any action, suit, or proceeding that is instituted in pursuance of the provisions of this code.

- (b) This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating, or controlling any equipment regulated herein for any damages to persons or properties caused by defects, nor shall the code enforcement agency or its parent jurisdiction be held as assuming any liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

150.209 Cooperation of Other Officials and Officers.

The building official may request and shall receive the assistance and cooperation of other officials of this jurisdiction so far as is required in the discharge of the duties required by this code or other pertinent law or ordinance.

150.210 Unsafe Electrical Systems, Apparatus, Wiring, or Equipment.

- (a) *General.* Unsafe electrical systems, apparatus, wiring, or equipment regulated by this code, which is unsafe or which constitutes a fire or health hazard or is otherwise dangerous to human life is, for the purpose of this section, unsafe. Use of unsafe electrical systems, apparatus, wiring, or equipment regulated by this code constituting a hazard to safety, health, or public welfare by reason of inadequate maintenance, improper operating condition, improper location, dilapidation, obsolescence, fire hazard, disaster, damage, or abandonment is, for the purpose of this section, an unsafe use. Unsafe equipment is hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition, or removal.
- (b) *Uncompleted or uninspected installations.* When electrical work has commenced and the owner, occupant, or contractor has neglected or refused to make arrangements for the electrical inspector to make a final inspection of the installation at a mutually agreeable time, the installation may be presumed unsafe, and the building official shall have recourse to the remedies provided by law to secure entry and abate any violations.

150.211 Electrical Board of Appeals and Examiners.

There shall be and is hereby created an Electrical Board of Appeals and Examiners consisting of five members that are qualified by experience and training and able to pass on matters pertaining to electrical systems. The building official or electrical inspector shall be an ex officio member and shall act as secretary of the board. The board shall be appointed by the mayor with the advice and consent of the city council and shall hold office for a term of three years. The board shall have the power to examine applicants for licensing and determine the suitability of alternate materials, methods of installation and provide for reasonable interpretations of this code, and licensing determinations of the chief building services official.

The board of appeals and examiners shall have no authority relative to interpretation of the administrative provisions of this code nor shall the board be empowered to waive requirements of this code. The board shall adopt reasonable rules and regulations for

conducting its business and shall render all decisions and findings in writing to the appellant with a duplicated copy to the building official.

150.212 Violations and Prosecution Thereof.

- (a) It shall be unlawful for a person, firm, or corporation to install, replace, enlarge, alter, repair, move, improve, remove, convert, connect, or demolish, equip, use, or maintain electrical systems or equipment, or cause to permit the same to be done in violation of this code.
- (b) If the notice of violation is not complied with promptly, the building official is authorized to request the legal counsel of the jurisdiction to deem the violation as a strict liability offense and institute the appropriate proceeding at law or in equity to restrain, correct, or abate the violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

150.213 Permits Required.

- (a)
 - (1) Except as otherwise permitted herein, it shall be unlawful for any person to install, alter, repair, replace, or connect any electrical system or equipment regulated by this chapter or cause the work to be done without first obtaining a separate electrical permit for each building or structure.
 - (2) Exception: Factory representatives may repair or maintain fire alarm systems which they have been trained and certified to work on.
 - (3) Whenever any work for which a permit is required by this code has been commenced without first obtaining the permit, or when an inspection as required in 150.219 is failed to be requested, a special investigation shall be made before a permit may be issued for the work. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is then or subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by 150.218 but not more than \$100. The payment of the investigation fee shall not exempt any person from compliance with all other provisions of this code nor from any penalty prescribed by law.
- (b) An electrical permit shall be required for the following:
 - (1) Installation of five or more outlets, switches, receptacles, fixtures, or two new electrical circuits 30 amps or less or one new electrical circuit greater than 30 amps;
 - (2) Connection of a sign to a new or existing circuit;
 - (3) Installation of receptacle for, or connection to, any appliance or equipment totaling more than 5 kilowatts;

- (4) Installation of service entrance or addition to service entrance equipment. Any change in service conductors or service entrance equipment shall require a permit;
- (5) Connection to a fixed motor or equipment with total rating of two horsepower or more;
- (6) Connection to a capacity bank;
- (7) Connection to a transformer rated more than 5 kilovolt-amperes;
- (8) Construction of an electric sign;
- (9) Installation of all Class I fire alarm systems;
- (10) Connection to a spa, hot tub, hydromassage bathtubs, swimming, wading, therapeutic or decorative pools, or any equipment listed in Article 680 of the *National Electrical Code*;
- (11) Installation of a circuit or connection of any equipment to a hazardous location defined by Article 500 of the *National Electrical Code*; and
- (12) Connections to branch circuits for commercial air conditioners and furnaces.

Editor's note:

- (1) *Permits for class II and III power limited fire alarm systems shall be obtained pursuant to the fire code.*
- (2) *A request for inspection is required for connections to an air conditioner and a branch circuit for a furnace. A permit is required only upon making corrections found during the initial mechanical inspection for connections to an air conditioner and branch circuits for a furnace.*

Commentary: To allow the mechanical inspectors to review the electrical hookups for residential furnaces and air conditioners, the previous references as a mandatory inspection by the Electrical Division for an air conditioner and furnace hookup has been eliminated for residential hookups. Electrical inspections are still required for commercial hookups.

150.214 Permit Application.

- (a) For the purpose of clarification an inspection is synonymous whenever the word permit occurs.
- (b) To obtain a permit, the licensed contractor shall first request an inspection as required in § 150.219 inspection requests, or in the case of a homeowner shall file

an application therefor in writing on a form furnished by the building official for that purpose. Every application shall:

- (1) Identify and describe the work to be covered by the permit for which the application is made;
- (2) Describe the land in which the proposed work is done by legal description, street address, or similar description that will readily identify and definitely locate the proposed building or work;
- (3) Indicate the use or occupancy for which the proposed work is intended;
- (4) Be accompanied by plans, diagrams, computations, and specifications;
- (5) Be signed by the applicant or the authorized agent of the applicant for the issuance of a homeowners permit; and
- (6) Give other data and information as may be required by the building official.

150.215 Plan Review Fees.

- (a) When the building official determines that the wiring is of a technical nature that plans and data are required to demonstrate that the work will be in conformance with applicable regulations, a plan review fee may be charged at the time of submitting plans and specifications for review. The plan review fee shall be on an hourly rate as set forth in 150.218.
- (b) The plan review fees specified in this section are separate fees from the permit fees specified in 150.218 and are in addition to permit fees.
- (c) When plans are incomplete or changed so as to require additional plan review, an additional plan review fee shall be charged.

150.216 Homeowner Permit Expiration.

- (a) After the work has commenced, the owner shall make arrangements for the electrical inspector to inspect the installation. Failure to arrange for an inspection shall cause the permit to expire by limitation and become null and void and the work shall be presumed unsafe pursuant to 150.210.
- (b) All homeowner permits shall expire by limitation and become null and void if the work authorized is not completed within two years from the date of the permit, and all work which has not received a final inspection shall be presumed unsafe pursuant to 150.010.
- (c) The building official is authorized to establish a refund policy for homeowner electrical permits.

150.217 Permit Suspension or Revocation.

The building official may, in writing, suspend or revoke a permit issued under the provisions of this code whenever the permit is issued in error or on the basis of incorrect information supplied or in violation of other ordinance or regulation.

Electrical Inspection Fees

150.218 Fees. The following fees shall be charged for electrical permits and inspections except for existing circuits reconnected to new service.

(1) Inspection fees for new residential installations.

- A. The cost for inspections of all new single-family and new two-family residential electrical services, including associated wiring, apparatus, and equipment, is based on the service ampere capacity as follows:

0 through 200 amperes	\$100
201 through 400 amperes	\$200
401 amperes and over	\$250
Plus circuits as provided in division (3) A., inspection fees for circuit installation or alterations	

- B. The fees in this division B. include one service inspection, one rough-in inspection, and one final inspection. Additional inspections will be charged the minimum inspection fee. Three inspections will be made for the applicable fee in this division B.

(2) Inspection fees for service connections on other installations.

- A. The cost of inspections for service connections on other installations, such as replacement service installations for existing homes, all commercial installations, and all service installations not covered in this chapter, is based on service equipment ampere capacity as follows:

0 through 200 amperes	\$45
201 through 400 amperes	\$60
401 through 800 amperes	\$85
801 through 1,600 amperes	\$140
1,601 amperes and over	\$250

- B. These fees are in addition to the fees required by division (3) A. below. When remodeling single-family and two-family residences, these fees shall not exceed the flat rate fee for comparable new single-family residential electrical service.

(3) Inspection fees for circuit installation or alterations.

A. Inspection fees for circuit installations or alterations, including all commercial installations, new work in existing homes, and all other installations not covered by this chapter shall be charged for each single circuit in a cabinet or panel, not counting spares and spaces, as follows:

0 through 30 amperes	\$6
31 through 60 amperes	\$12
61 through 100 amperes	\$15
Each additional 100 amperes or fraction thereof	\$10

B. Circuits in new homes are included in fees under division (1) B. above.

(4) *Inspection fees for remodeling work.* Inspection fees for remodeling work, including remodeling work in existing homes, where the service and branch circuits are not changed, are based upon the following schedule:

First 40 openings or connections	\$1
Each additional opening or connection	\$0.50
First 40 lighting fixtures	\$1
Each additional lighting fixture	\$0.50
Each motor or special equipment	\$6

(5) Inspection fees for apartment buildings.

A. Inspection fees for the wiring of each apartment, including the feeder, in apartment buildings with three or more units are \$35 per unit.

B. When each apartment is served individually, the service is included in the flat rate fee. All other service entrances are subject to division (2) A. above and all other circuits and feeders are subject to division (3) A. above.

(6) Inspection fees for outdoor signs or area lighting. The inspection fee for outdoor signs or area lighting is calculated as follows:

Outdoor signs	\$45 for each outdoor sign, feeder or branch circuits; or pursuant to division (2) A., (3) A. above, whichever is greater
Area lighting	\$25 for each lighting standard (pole or tower); or pursuant to division (2) A. or (3) A. above, whichever is less

(7) Inspection fees for mobile home service and feeders.

A. The inspection fee for mobile home service for each lot or location, whether on or off a mobile home court, is as follows:

First unit, service only	\$50
Each additional unit, service only	\$25

(8) Inspection fees for recreational vehicle service.

A. The inspection fee for mobile home service for each lot or location, whether on or off a mobile home court, is as follows:

First pedestal	\$40
Remaining pedestals, each	\$25

B. The service to the recreational vehicle park itself is not considered part of the pedestals covered by this section, and the fee is computed under division (2) A. above.

(9) Inspection fees for swimming pools. Inspection fees for swimming pools are as follows:

Residential pools	\$125
All other pools	Pursuant to division (2) A. and (3) A.

(10) Inspection fees for nonpower limited fire alarm systems. Inspection fees for fire alarm systems shall be as follows:

Fire alarm panel and power source	\$20
Each zone	\$3
Each device or opening in a multiplex or point annunciation system or an additional device or opening to an existing installation	
For up to six, each	\$1
For each additional device or opening	\$0.25

(11) Homeowner's permit fee.

Homeowner's permit fee	\$25
State wiring permit	\$5

(12) Minimum inspection fee.

Minimum inspection fee for any permit requiring inspection except for energy load saver switch equipment	\$20
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(13) Energy saver switch equipment.

One- and two-family dwellings, per saver switch	\$10
Multiple-family dwellings	
First saver switch	\$15
Per saver switch for remaining saver switches	\$6

(14) Transient and migratory events. Inspection of transient or migratory events, including, but not limited to, carnivals and circuses shall be as follows:

General inspection fee	\$95
State wiring permit	\$5

(15) Other inspections and fees. **Other inspections and fees shall be as follows:**

Inspections outside of normal business hours (minimum charge, one hour), per hour	\$70*
Reinspection fees assessed under provisions of § 55.019 (minimum charge, one hour), per hour	\$70*
Inspections for which no fee is specifically indicated (minimum charge, one hour), per hour	\$70*
Additional plan review required by changes, additions, revisions to approved plans (minimum charge, one hour), per hour	\$70*

Fee for late corrections	If corrections listed on an inspection report are not completed within the specified time, the inspector shall issue a correction order and assess a \$100 administrative fee. The inspector shall also assess a reinspection fee.
Fee for failure to request a required inspection	Where electrical work is completed without a request for an inspection, an administrative fee of \$250 may be charged.
Appeals	Before any action is taken by the board, the party or parties requesting the hearing shall deposit with the secretary of the board or his or her authorized agent, the sum of \$65 to cover the approximate cost of the procedure. Under no condition shall the sum or any portion thereof be refunded for failure of the request to be approved.
Examination fee; all classes, per examination	\$75
Mileage fee	Current rate as established by the finance department shall be charged for any inspection occurring outside the city limits.
Delinquent accounts	The building official may refuse to issue permits or conduct inspections for any delinquent account.
Bond claims; an administrative fee shall be charged to cover the administrative cost of filing a claim	\$150
*Or the total hourly cost to the city, whichever is the greatest. This cost shall include supervision, overhead, equipment, hourly wages and fringe benefits of the employees involved.	

Inspections

150.219 Inspections.

(a) General. Electrical systems, apparatus, wiring equipment, and signs for which a permit is required by this code shall be subject to inspection by the electrical inspector and the electrical systems, apparatus, wiring equipment, and signs shall remain accessible and exposed for inspection purposes until approved by the electrical inspector. It shall be the duty of the licensed contractor defined herein or designated electrician to cause the electrical system to remain accessible and exposed for inspection purposes. Neither the electrical inspector nor the city shall be liable for expense entailed in the removal or replacement of any material required to permit inspection. The following required inspections shall be made:

- (1) *Service.* When the service entrance equipment has been permanently and securely attached to the finished building structure.
- (2) *Rough-in.* After all electrical raceways, underground conduit, or wiring have been installed, and before any interior walls, floors, ceilings, or trenches are covered with insulation, sheetrock, lath, paneling, earth, concrete, asphalt, or other materials, the class B electrician, the fire alarm contractor, the electrical contractor, or his or her authorized representative shall notify the electrical inspector for a rough-in inspection of the wiring to determine whether all requirements relative to rough-in wiring have been installed to comply with this chapter.

Exception: Class II and III power limited fire alarm systems are exempt from this inspection but shall be inspected by the fire prevention division in accordance with the fire code and electrical code.

- (3) *Final.* After all raceways or wiring have been installed and all interior walls are covered with insulation, sheetrock, lath, paneling, or other approved materials, the fire alarm contractor, the class B electrician, the electrical contractor, or his or her authorized representative shall notify the electrical inspector for a final inspection of the wiring to determine whether all requirements relative to a final wiring have been installed to comply with the code for permanent power connection. Electrical systems regulated by this code shall not be connected to the source of electrical energy until approved by the electrical inspector.

Exception: Class II and III power limited fire alarm systems are exempt from this inspection but shall be inspected by the fire prevention division in accordance with the fire code and electrical code.

- (4) *Electric signs.*

A. Electric signs shall be inspected in the shop by the electrical inspector prior to installation. Signs will also be inspected after installation by the electrical inspector.

- B. Exception: Electric signs which are labeled by an approved testing laboratory are only subject to inspection upon installation.
- (5) *Grid work and related apparatus of a swimming pool.* All grid work and related apparatus of a swimming pool must be inspected prior to pouring the cement or other covering of the pool.
- (b) Inspection requests.
- (1) It shall be the duty of the licensed contractor as defined herein or designated electrician doing the work authorized by a permit to notify the electrical inspector that the work is ready for inspection. The building official may require that every request for inspection be filed at least one working day before the inspection is desired. The request may be in writing or by telephone at the option of the building official.
 - (2) It shall be the duty of the person requesting inspections required by this code to provide access to and means for inspection of the work.
- (c) Other inspections. In addition to the called inspections required by this code, the building official may make or require other inspections of electrical work to ascertain compliance with the provisions of this code.
- (d) Reinspections.
- (1) A reinspection fee may be assessed for each inspection or reinspection when the portion of work for which inspection is requested is not complete or when required corrections have not been made.
 - (2) This provision is not to be interpreted as requiring reinspection fees the first time a job is rejected for failure to comply with the requirements of this code, but as controlling the practice of calling for inspections before the job is ready for inspection or reinspection.
 - (3) Reinspection fees may be assessed when the approved plans are not readily available to the inspector for failure to provide access on the date for which inspection is requested.

150.220 Connection Approval. No person shall make a connection from a source of electrical energy to any electrical service entrance or equipment until the connection has been inspected and approved by the electrical inspector.

150.221 Temporary Connections. The electrical inspector may authorize temporary connection of electrical systems or equipment to the source of energy for the purpose of testing the equipment or for use under a temporary certificate of occupancy.

Electrical Licensure

Commentary: *There are no changes to these administrative licensing provisions of the electrical ordinance.*

150.222 Definitions. For the purposes of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

Apprentice Electrician. A person who is learning the electrical trade under the supervision of an electrical contractor, class B contractor, or journeyman electrician and is licensed with the city and registered with the State Electrical Commission.

Building Official. The person charged with the administration and enforcement of this code or the building official's duly designated representative.

Class B Contractor. A person who has the necessary qualifications, training, experience, and technical knowledge to plan, layout, and supervise the proper installation and repair of electrical wiring, fire alarm systems, apparatus, and equipment for electric light, heat, and power in residential and farm occupancies, and who undertakes or offers to undertake, to plan, layout, supervise, or install, or make additions, alterations, and repairs to the work and who is licensed by the city and the State Electrical Commission.

Class I Maintenance License. A public or private entity which obtains a *Class I Maintenance License* from the city to perform electrical work on land and facilities owned or leased by the entity and who employs a full-time contractor who shall be responsible for the personal supervision of all electrical work.

Class II and III, Power Limited Fire Alarm System. A power limited fire protective signaling circuit which derives its power from either an alternating or direct current (AC-DC) source, which is inherently limited requiring no overcurrent protection or limited by a combination of a power source and overcurrent protection as covered by Articles 725, 760, and 800 of the *National Electrical Code* and Chapter 9 of the 2000 *International Fire Code*. The primary 120-volt power source is required to be installed by a locally licensed electrical contractor.

Class II Maintenance License. A public or private entity which obtains a *Class II Maintenance License* from the city to perform maintenance electrical work on land and facilities owned or leased by the entity and who employs a full-time journeyman electrician who shall be responsible for the personal supervision of all maintenance electrical work.

Electrical Contractor. A person who has the necessary qualifications, training, experience, and technical knowledge to plan, layout, and supervise the proper installation and repair of electrical wiring, fire alarm systems, apparatus, and equipment for electric light, heat, and power, and who undertakes or offers to undertake, to plan, layout, supervise, or install or make additions, alterations, and repairs to the work and who is licensed by the city and the State Electrical Commission.

Electrical Work. All installation, alteration, repair, replacement, or maintenance of electrical wiring, apparatus, or equipment for electric light, heat, or power, fire alarms, and associated controls.

Employee. A person whose compensation for electrical work is reported by the employer on an Internal Revenue Service W-2 form, and is also otherwise considered an employee under applicable law.

Fire Alarm Contractor. A person who has the necessary qualifications, training, experience, and technical knowledge to plan, layout, and supervise the proper installation and repair of class II and III power limited fire alarm systems, and who undertakes or offers to undertake, to plan, layout, supervise, or install or make additions, alterations, and who is licensed by the city.

Inactive Class B Contractor. A person who holds an active or inactive class B electrician's license issued by the State Electrical Commission. No person holding an inactive class B contractor's license may perform work requiring a class B contractor's license. This person may activate a class B contractor's license by paying the appropriate fee and providing proof that he or she holds an active class B electrician's license from the State Electrical Commission.

Inactive Electrical Contractor. A person who holds an active or inactive electrical contractor's license issued by the State Electrical Commission. No person holding an *Inactive Electrical Contractor's License* may perform work requiring an electrical contractor's license. This person may activate an electrical contractor's license by paying the appropriate fee and providing proof that he or she holds an active electrical contractor's license from the State Electrical Commission.

Journeyman Electrician. A person who has the necessary qualifications, training, experience, and technical knowledge to do electrical installations in accordance with the standard rules and regulations governing the installations and who is licensed by the city and the State Electrical Commission.

Maintenance Electrical Work. Is limited to electrical maintenance work, which is repair or replacement of existing wiring devices and electrical utilization equipment using material with the same capacity and characteristics as the material replaced. *Maintenance Electrical Work* does not include addition to or alteration of feeders, services, fixtures, or motors which affects the loading of the feeder, circuit, or system and repair, replacement, or extension of existing circuits; changing motor sizes, adding fixtures or a complete change-out of lighting, motors, receptacles or electrical equipment, repair or replacement of any electrical equipment, or components associated with Hazardous Locations Article 500-516, Health Care Facilities Article 517, Exit and Emergency Systems Article 700, Legally Required Standby Systems Article 701 and Fire Alarm Systems Article 760 of the *National Electrical Code*, and any other act which changes electrical characteristics of the existing system.

Owner. A natural person who physically performs electrical work on the premises the person owns and actually occupies as a resident or owns and will occupy as a residence upon completion of the construction.

Personal Supervision. An electrical contractor, class B contractor, sign wiring contractor, fire alarm contractor, and journeyman electrician oversees and directs the work for which they are licensed and that:

- (1) He or she is immediately available to his or her electricians or installers; and
- (2) He or she is able to and does determine that all work performed is in compliance with this chapter.

Point of Service Attachment. The point where the power supplier's conductors connect to the consumer's conductors. The point of attachment may not be located beyond the load side terminals of the meter or current transformer for service installations of 600 volts or less or at the distribution transformer secondary terminals for service installations with over 600 volts metering.

Residential Occupancy. A lot containing one dwelling unit and accessory buildings.

Sign Wiring Contractor. Any person licensed by the city having the necessary qualifications to execute the work of manufacturing, maintaining, repairing, and installing sockets and luminous gaseous tubes energized by transformers or ballasts, in and on signs and outline lighting on buildings, or as decorative lighting inside buildings, but not including connections to the source of a primary electrical power supply.

150.223 License Required.

- (a) Electrical contractor. Except as otherwise provided herein, no person other than an employee, partner, or officer of a licensed electrical contractor as defined in § 150.222 shall undertake or offer to undertake electrical work with or without compensation unless the person obtains an electrical contractor's license from the city.
- (b) Class B contractor. Except as otherwise provided herein, no person other than an employee, partner, or officer of a licensed Class B contractor as defined in § 150.222 shall undertake or offer to undertake Class B work with or without compensation unless the person obtains a Class B contractor's license from the city.
- (c) Sign wiring contractor. Except as otherwise provided herein, no person other than an employee, partner, or officer of a licensed sign wiring contractor as defined in § 150.222 shall undertake or offer to undertake sign wiring work with or without compensation unless the person obtains a sign wiring contractor's license from the city.
- (d) Fire alarm contractor. Except as otherwise provided herein, no person other than an employee, partner, or officer of a licensed fire alarm contractor as defined in

§ 150.222 shall undertake or offer to undertake fire alarm work with or without compensation unless the person obtains a fire alarm contractor's license from the city.

- (e) Journeyman electrician. Except as otherwise provided herein, no person shall perform electrical work unless the person is:
 - (1) Licensed by the city as a journeyman electrician;
 - (2) The electrical work is for a licensed electrical contractor or Class B contractor and the person is an employee, partner, or officer of the licensed electrical contractor and the work is performed under the personal supervision of the electrical contractor or Class B contractor; and
 - (3) The electrical work is for the holder of a Class I or Class II maintenance license and the person is a full-time employee, partner, or officer of the license holder.

- (f) Apprentice electrician. Except as otherwise provided herein, no person shall perform electrical work unless the person is:
 - (1) Licensed by the city and the state electrical commission as an apprentice electrician; and
 - (2) The electrical work is for a licensed electrical contractor or Class B contractor and the person is an employee, partner, or officer of a licensed electrical contractor or Class B contractor and the work is performed in the presence of the electrical contractor and/or journeyman electrician or Class B contractor also employed by the person's employer.

- (g) Class I maintenance license. Except as otherwise provided herein, no employee shall perform electrical work on an employer's premises unless:
 - (1) The employer holds a Class I maintenance license issued by the city;
 - (2) The employee is licensed by the city and the state electrical commission as an electrician; and
 - (3) The employer employs full-time an electrical contractor to provide personal supervision.

- (h) Exceptions.
 - (1) Employees of utilities engaged in the manufacture and distribution of electrical energy, when engaged in work directly pertaining to the manufacture and distribution of electrical energy. This exemption shall terminate at the first point of service attachment, except for the installing or testing of electric meters and measuring devices and the maintenance of their service;

- (2) Employees of telephone, telegraph, radio, and television communication services and pipelines or persons or companies when engaged in work pertaining directly to the services, provided the work is designed, serviced, or installed by a person qualified in the work being done;
 - (3) Electrical work and equipment in mines, ships, railways, rolling stock or automotive equipment, and in packing plants supervised and regulated by the department of agriculture;
 - (4) Replacement of lamps and connection of portable electrical devices to suitable receptacles which have been permanently installed;
 - (5) Radio and appliance service repair departments;
 - (6) Maintenance on oil burners and space heaters where installation of same has been effected by a Class B or journeyman electrician in accordance with this chapter;
 - (7) Architects, designers, and engineers engaged in the planning and laying out of electrical work; and
 - (8) Employees of electrical utilities engaged in the installation and maintenance of utility street lighting, traffic signal devices, or electric utility-owned security lights.
- (i) Class II maintenance license. Except as otherwise provided herein, no employee shall perform maintenance electrical work on an employer's premises unless:
- (1) The employer holds a Class II maintenance license;
 - (2) The employer employs a full-time journeyman electrician to provide personal supervision; and
 - (3) The employee is licensed by the city and the state electrical commission as an electrician.

150.224 Apprentices Ratio.

There shall be a ratio of not more than three apprentices to each electrical contractor, journeyman electrician, or class B contractor on any job site.

150.225 License Use Restricted.

No licensed contractor shall allow his or her name or license to be used by any other person directly or indirectly, either to obtain a permit for the installation or construction of any electrical system, equipment, or sign, or to install any system, equipment, or sign.

150.226 Bond Required.

- (a) As a condition of his or her license, each fire alarm contractor and sign wiring contractor shall give and maintain a surety bond in the penal sum of \$10,000 in a form approved by the city.
- (b) The bond shall be conditioned upon the faithful and lawful performance of all work entered upon by the contractor within the city and for compliance with all the provisions of this chapter. The bond shall be in lieu of all other license bonds to any political subdivision or government agency. The bond shall be written by a corporate surety licensed to do business in the state.

150.227 Vehicle Identification.

Any vehicle used by a contractor while performing electrical work for which a license is required shall have the contractor's business name and city and state license numbers as they appear on the license in contrasting color with characters 1 1/2 inches high by 1 1/2 inches wide affixed to each side of the vehicle.

150.228 License Application.

Any person desiring to engage in the business of electrical contracting, fire alarm contracts, sign wiring contractor, journeyman electrician, or apprentice electrician shall first make an application for a license therefor to the building official on forms furnished.

150.229 License Term and Renewal.

- (a) All city licenses issued under the provisions of this chapter shall expire biennially in even years, 60 days after the renewal date established by the State Electrical Commission. All city renewal fees shall be paid prior to the expiration of the license.
- (b) Any person who shall fail to renew a license within 60 days after it has lapsed shall pay in addition to the license fee a reinstatement fee equal to 50% of the renewal fee.
- (c) Licenses not renewed within one year of the date of expiration shall not be renewed until the applicant has submitted and passed the examination and paid all fees required for a new license.

150.230 Examinations.

- (a) Before an electrical contractor, class B contractor, sign wiring contractor, or fire alarm contractor license shall be issued, the applicant shall be required to submit to and pass an examination as to his or her qualifications and fitness to install electrical wiring. The applicant shall have a current South Dakota electrical license of the same type before making application for city electrical examination. The examination shall be given under the direction of the electrical board of appeals and examiners. Any applicant who fails to pass the examination shall not be eligible

to take another examination until at least 30 days shall have elapsed from the date of the last examination.

- (b) Applications for examination shall be made at least one week prior to the examination date which shall be as determined by the building official. After passing the examination, applicants shall secure the license within 90 days from the exam date.
- (c) Applicants shall pay the examination fee for each exam given.

Commentary—City: This was added to clarify that prior to examination that the applicant must have the same state license. This was relocated from Rules of the Board of Appeals and Examiners to be in the actual ordinance.

150.231 Existing Master Electricians.

Existing master electricians may exercise one of the following options:

- (a) Existing licensed masters who hold a state electrical contractor's license or electrical inspector's license may convert their license to an electrical contractor's license upon payment of the appropriate license fee; or
- (b) Existing licensed masters, after paying the appropriate fee, may be issued an inactive electrical contractor's license. At the time as a person holding an inactive license desires to change to a contractor's license, he or she shall pay the appropriate license fee and hold a state electrical contractor's license.

150.232 Bond Required.

- (a) Commencing January 1, 2012, as a condition of his or her license, each licensed electrical, class B, sign wiring, and fire alarm contractor shall maintain and deliver to the chief building services official a continuous bond in the penal sum of \$10,000 in a form approved by the city with the contractor as principal on the bond and the city as obligee for its benefit and that of consumers dealing with the contractor.
- (b) The bond shall be conditioned upon the faithful and lawful completion of all work entered into by the contractor within the city and for compliance with all the provisions of this chapter. The bond shall be in addition to all other license bonds to any political subdivision or government agency. The bond shall be written by a corporate surety authorized to transact business in the state.
- (c) Claims upon the bond shall be filed by the city by reason of the principal's failure to perform his or her obligation under the bond. The aggregate liability of the surety, regardless of the number of claims made against the bond or the number of years the bond remains in force, shall not exceed \$10,000. Any revision of the bond amount shall not be cumulative.

- (d) Suspension or revocation of the license of the principal shall not by itself affect the liability of either the principal or the surety on the bond, except that the liability of the surety shall not extend to acts or omissions of the principal occurring after the effective date of his or her license suspension or revocation.

150.233 Installation By Owner.

Owners may install electrical work in a single-family residence which they occupy as their own home or will occupy as their own home. All equipment installed by the owners shall be for themselves without compensation or pay from or to any other person for the labor or installation. The installations by owners shall comply with the requirements of this code. The owner shall be required to file plans, apply for and secure a permit, pay fees, and call for all inspections in a manner provided in this code.

150.235 Suspension or Revocation of License.

The chief building services official may suspend, revoke, or refuse to renew a license if he or she finds:

- (a) In his or her discretion that the order is in the public interest; and
- (b) Based upon substantial evidence presented, the applicant or licensee:
 - (1) Has violated any applicable provision of this code, city ordinance, rule, regulation, or state law;
 - (2) Has engaged in any fraudulent, deceptive, or dishonest act or practice;
 - (3) Has filed an application for a license which is incomplete in any material respect or contains statements which are false or misleading;
 - (4) Fails to file with the chief building services official the necessary bonds or certificate of insurance;
 - (5) Fails to provide copies of records in the person's possession related to a matter under investigation;
 - (6) Fails to pay inspection and permit fees in a timely manner as determined by the chief building services official; and/or
 - (7) Fails to respond to a directive or lawful order of the building official.

150.236 Administrative Appeal of License Suspension, Revocation, or Refusal to Renew.

A party whose license is suspended, revoked, or refused renewal may appeal that decision to the electrical board of appeals and examiners. Appeals shall be commenced by filing written appeal with the department within ten days of the decision. The appeal

shall include a statement of the action complained of, why the same should be modified or rescinded, whether the appellant desires an open or closed hearing, and an address where the appellant can be mailed notice of hearing. The department shall immediately deliver a copy of the appeal to the city attorney who will act as legal counsel.

150.237 Time of Hearing and Notice.

A public hearing, or a closed hearing if the board determines it is necessary, shall be held on all appeals within 15 working days after the filing of the appeal, unless a later date is agreed upon by the appellant and the board. The department shall cause written notice of the date, time and place of the hearing to be served upon the appellant by personal service or certified mail to the address set forth in the appeal at least five days before the hearing date.

150.238 Hearing Procedures.

The following rules shall govern the procedures for an administrative hearing on matters concerning license suspension, revocation, or refusal to renew.

- (a) Hearings and administrative appeals need not be conducted according to the technical rules relating to evidence and witnesses.
- (b) Oral evidence shall be taken only on oath or affirmation.
- (c) The chairperson of the board or the board recorder shall administer oaths or affirmations to witnesses.
- (d) Any relevant evidence shall be admitted if it is the type of evidence upon which reasonable persons are accustomed to rely in the conduct of serious affairs, regardless of the existence of any common law or statutory rule which might make improper the admission of the evidence after objection in civil actions in courts of competent jurisdiction in this state.
- (e) Irrelevant and unduly repetitious evidence and evidence that lacks trustworthiness shall be excluded.
- (f) The appellant, the major organization unit or agency, and any other party to an appeal shall have these rights among others:
 - (1) To call and examine witnesses on any matter relevant to the issue of the hearing;
 - (2) To introduce documentary and physical evidence;
 - (3) To cross examine opposing witnesses on any matter relevant to the issues of the hearing; and
 - (4) To rebut evidence.

- (g) After each appeal hearing, the board or hearing examiner shall perform the following:
 - (1) Make written findings of fact; and
 - (2) Based upon the written findings, sustain, remand for further hearing or action, or rescind the complained action or decision. The board may in its discretion waive the payment of any reinstatement or late penalty fee.
- (h) A written report of the decision, including the findings of fact, shall be furnished to the appellant and the chief building services official within 15 working days from the date the appeal hearing is closed. The city and the appellant shall bear their own respective costs of the appeal proceeding. The decision of the board shall be final.

150.239 Appeal to Circuit Court.

The decision of the board or the hearing examiner is subject to judicial review as provided by law.

150.999 Penalty.

- (a) Any person violating any provision of this chapter, for which no other penalty is provided, shall be subject to the penalty provisions of § 10.999.
- (b) Any person violating any provision of §§ 150.155 through 150.161 or providing false information to the city shall be punished as provided in the general penalty section, §10.999, of this Code.

License Fees

Commentary: There are no changes to these administrative licensing fees of the electrical ordinance.

110.028 Licenses Issued By Planning and Building Services.

The following licenses shall be issued by the chief building services official:

License	Fee
<i>Electricians.</i> The biennial license fee for the various classes of electricians licensed by the city shall be as follows:	
Apprentice electrician	\$20
Renewal	\$20
Class I maintenance, new	\$200
Renewal	\$100
Class II maintenance, new	\$200
Renewal	\$100
Class B electrician, new	\$200
Renewal	\$100
Electrical contractor	\$200
Renewal	\$100
Fire alarm contractor, new	\$200
Renewal	\$100
Inactive electrical contractor	\$10
Journeyman electrician	\$40
Renewal	\$40
Sign wiring contractor, new	\$200
Renewal	\$100

2017–2019 Electrical Examination Dates

Electrical Examinations are given at **8 a.m.** in the **Building Services Conference Room** in City Hall, 224 West Ninth Street, Sioux Falls, SD.

Examinations are scheduled the first Wednesday of every month. Filing deadline to apply for examination is the Wednesday prior to the exam. Schedule and location are subject to change; please contact Building Services to verify at 367-8670.

Exam Dates	Filing/Application Deadline
March 1, 2017	February 22, 2017
April 5, 2017	March 29, 2017
May 3, 2017	April 26, 2017
June 7, 2017	May 31, 2017
July 5, 2017	June 28, 2017
August 2, 2017	July 26, 2017
September 6, 2017	August 30, 2017
October 4, 2017	September 27, 2017
November 1, 2017	October 25, 2017
December 6, 2017	November 29, 2017
January 3, 2018	December 27, 2017
February 7, 2018	January 31, 2018
March 7, 2018	February 28, 2018
April 4, 2018	March 28, 2018
May 2, 2018	April 25, 2018
June 6, 2018	May 30, 2018
July 11, 2018*	June 27, 2018
August 1, 2018	July 25, 2018
September 5, 2018	August 29, 2018
October 3, 2018	September 26, 2018
November 7, 2018	October 31, 2018
December 5, 2018	November 28, 2018
January 2, 2019	December 26, 2018
February 6, 2019	January 30, 2019
March 6, 2019	February 27, 2019
April 3, 2019	March 27, 2019
May 1, 2019	April 24, 2019
June 5, 2019	May 29, 2019
July 3, 2019	June 26, 2019
August 7, 2019	July 31, 2019
September 4, 2019	August 28, 2019
October 2, 2019	September 25, 2019
November 6, 2019	October 30, 2019
December 4, 2019	November 27, 2019

*Indicates date change due to schedule conflict.

Electrical Boards of Appeals and Examiners

Electrical Board of Appeals and Examiners

The Electrical Board of Appeals and Examiners presides over hearings to decide appeals of orders, decisions, and determinations made by the electrical official relative to the applications of and interpretations to the National Electric Code and City Ordinance; determines the suitability of alternate materials or methods of construction relating to electrical systems; investigates and presides over hearings on electrical licensing determinations; and reviews modifications or changes to the electrical codes and City Ordinance and submits recommendations to the City Council. The board shall have no authority relative to the administrative provisions nor shall the board be empowered to waive requirements of the electrical code.

Qualifications

The Board shall consist of five members that are qualified by experience and training and able to pass on matters pertaining to electrical systems.

Summary of Duties

Hear and decide appeals of orders, decisions, or determinations made by the electrical official and chief building services official relative to the application and interpretation of this code, licensing determinations, and to examine applicants for licensing.

Rules of the Electrical Board of Appeals and Examiners

Rule 1. *Chairperson of the Board.* In the month of May of each year, the Board shall select one of their members as Chairperson and one as Vice Chairperson, who shall serve one (1) year or until their successors have been selected. In the absence of the Chairperson, the Vice Chairperson shall act as Chairperson of the Board.

Rule 2. *Clerk of the Board. Records.* The Electrical Inspector shall act as Clerk of the Board. The Clerk will keep a minute book which shall be kept posted to date. The Clerk will enter the number of the appeal, the name of the applicant, description by street number or legal description of the premises, the nature of the application, and the final disposition of the case.

The Clerk shall, under the direction of the Board and its Chairperson, conduct all correspondence of the Board; send out all notices required by these rules and the order of the Board; attend all meetings of the Board and all hearings; review all appeals and applications for variations for compliance with the Board's rules; keep the minutes of the Board's proceedings; compile all required records; maintain the necessary files and indexes and generally supervise all the clerical work of the Board; and retain in the records the original papers acted upon by the Board.

The Clerk shall see that all plans and specifications are properly prepared, make a personal inspection of any premises involved, research code standards, seek legal or professional opinions, and be prepared to advise the Board on the physical conditions of the property affected by such appeal.

The Clerk shall obtain for the applicant such additional information and data as may be required to fully advise the Board with reference to any appeal, product, or method. Failure or refusal on the part of the applicant to furnish such additional information shall be grounds for denial by the Board.

Rule 3. *Meetings of the Board.* The regular scheduled meetings of the Board shall be held on the first (1st) Wednesday of each month. Three (3) members of the Board shall constitute a quorum for the transaction of business. Each member shall be notified of a meeting twenty-four (24) hours in advance, unless such notice is waived by the member. All meetings will be conducted according to Robert's Rules of Order except where preempted by City ordinance or state law.

Rule 4. *Applications and Appeals to the Board.* Applications to the Board shall be filed with the Clerk of the Board in accordance with the Code of Ordinances of the City of Sioux Falls except where preempted by state law.

Rule 5. *Hearings.* Upon the proper filing of an appeal, the same shall be set for hearing at the next regular meeting of the Board except where preempted by City ordinance or state law.

Rule 6. *Action by Resolution.* The final disposition of any appeal shall be in the form of a resolution affirming, modifying, or reversing any decision by the Chief Building Official, and setting forth what variations or modifications are permitted and what conditions, if any, shall be complied with.

The final disposition of any appeal shall contain written findings of fact.

Rule 7. *Amendments.* These rules may be amended by resolution at any meeting of the Board.

Rule 8. *Licenses.* Application for examination which requires a South Dakota Electrical License. The applicant shall have a current South Dakota Electrical License of the same type before making application for City electrical examination. All applications must be received by the clerk seven (7) days prior to examination date. Examination dates are the first (1st) Wednesday of each month.

- A. Examinations. The examination shall consist of memory and open book questions and must be completed in four (4) hours. Examinations will be graded by the Board and certified if the grade point is seventy-five (75) points or higher. All test scores will be recorded in the minutes of the Board.

Certified examinations will be destroyed after thirty (30) days. Examinations with a failing grade point will be retained for thirty (30) days and be available for review by the applicant. An applicant who receives a failing grade is eligible to be reexamined in thirty (30) days.

- B. Test Completion and New Licenses. After successful completion of any required test, the applicable license shall be applied for within thirty (30) days or the test

grade becomes null and void and the applicants will be required to retest. Application for a license for which a state license is also required shall show proof of a current state license prior to issuance of a City license.

- C. Inactive State License. A license issued by the state which becomes inactive, either by request or failure to renew, will cause revocation of the City license. The City license may be renewed if the state license is reactivated within one (1) year.

Current Members of the Electrical Board of Appeals and Examiners

- Craig Odens Term Expires June 2018*
- Bob Jarding Term Expires July 2019
- Brad Shoup Term Expires August 2019
- Jeremy Van Well Term Expires July 2019
- Chad Van Ede Term Expires August 2018

* Second Term

**Application to the Electrical Board of Appeals and
Examiners of the City of Sioux Falls**

Fee: \$65

Appeal No. _____

Print or Type

1. Name (Applicant): _____ Phone: _____

Address: _____

2. Address and/or general location of property for which this request is made:

3. Legal description of property affected: _____

4. Brief statement of relief sought or the modification desired: _____

- 5. Additional information and records may be requested by the Chairperson or Secretary.
- 6. To be placed on the agenda, this application, along with all necessary plans and specifications, must be filed with the City Building Services Department no later than five (5) days prior to the scheduled public hearing. If you have any questions, please call 367-8250.
- 7. The applicant is responsible for bringing plans to the meeting.

This application is authorized by the owner, and authorization to enter the property for inspection purposes is given to the Board.

Owner Contractor Owner's Representative

Applicant's Signature

Date

2. Please list education or training relevant to your choice(s):

Please list work experience relevant to your choice(s):

Please list community volunteer service relevant to your choice(s):

3. I would like to serve in the indicated position(s) because:

4. The following references may be contacted:

Name: _____

Name: _____

Address: _____

Address: _____

Phone: _____

Phone: _____

5. **Please submit a resume and/or a brief autobiography.**

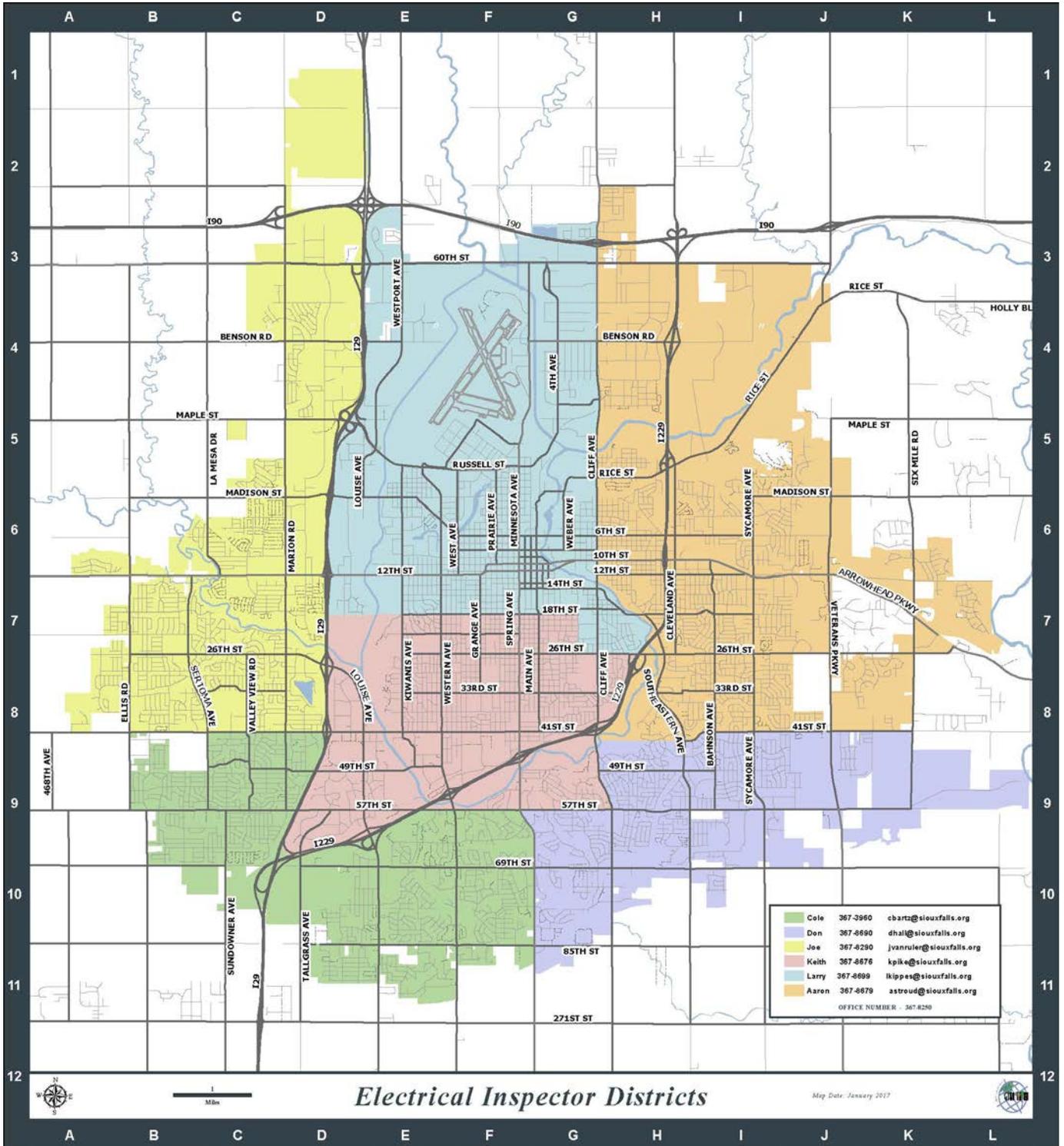
6. I understand the role and responsibility of membership on these Boards or Commissions and am willing to serve. In applying for appointment, I understand that the Mayor may contact the references listed. I also understand that I might be contacted by citizens or other Board members at the address I indicated on the other side of this application.

Signature

Please return application to the Mayor's Office, 224 West Ninth Street, Sioux Falls, South Dakota 57104-6407. Your application will be kept on file for three years. Thank you for applying.

Staff Assignments

Electrical Inspectors' Districts (Assigned Areas)



Requesting an Inspection. It is the responsibility of the permit applicant to provide accessibility to the work. All wiring is required to be exposed for required rough-in inspection. Anything covering up the wiring will be required to be removed. The City of Sioux Falls is not liable for expense entailed in the removal or replacement of any material required to allow inspection.

The licensed electrical contractor must notify the Electrical Inspection Division of Building Services when the work is ready for inspection. An inspection may be requested by any of the following methods.

1. Via your online CSS account (www.sioxfalls.org/permits).
2. Emailing the request to buildingpermits@sioxfalls.org.
3. Calling in the request to 605-367-8250 or 605-367-8670.

The inspection requests must be made one business day prior to the inspection. Inspections taken after 5 p.m. will not be scheduled for the following day, but will be scheduled for the second subsequent day after the request was made for.

When scheduling an inspection, the following status options are available:

Ready After: The project will be ready for inspection after the scheduled time.

Ready Anytime: The project will be ready for inspection anytime (morning or afternoon) on the scheduled date.

Scheduled: The project will be ready for inspection on the scheduled date either in the a.m. or the p.m. as requested (a.m. start is 9 a.m. and p.m. start is 1 p.m.).

Call Contact: The contact requested a call from the inspector prior to the inspection.

When calling for inspections, be prepared to give the following information:

- Building permit number.
- Electrical contractor's name.
- Owner's or building contractor's company name.
- Type of inspection needed.
- The inspection status needed.
- Name and daytime phone number you can be reached at.
- Street address.
- Inspectors will not enter the living portion of an occupied dwelling unless an adult or contractor with authority over the dwelling is present and gives permission.

Types of Electrical Inspections in EnerGov:

Electrical underground service	Where the utility company makes its connection to the ground-mounted transformer
Electrical overhead service	Where the utility company makes its connection to the pole/mast
Electrical temporary service	Not the permanent service for the building or structure
Electrical panel update	Replacing panel with a change in size (example 100a-150a) along with the updates required by the City ordinance
Electrical panel replacement	Replacing the panel size for size (100a fuse to 100a breakers)
Electrical meter/mast replacement	When replacing only the meter or the mast or both
Electrical rough-in	When calling in inspections, please give the type of rough-in and location such as the 1st floor, garage, lower level, walls, ceiling, fire alarm, etc.
Electrical pre-final	When the job is not complete and the inspection is only for certain areas of the job
Electrical final	Final inspection on permit when the job is complete
Electrical underground	Outside the building for underground installations
Electrical under slab	Pipes buried inside of a building structure
Electrical circuit revisions	Only when making alterations to circuits (remodel)
Electrical circuit additions	Adding new circuits to panel
Electrical in-floor heat	Electrical cable type, not hot water type of in-floor heat (need to know area being installed)
Electrical furnace	When adding a new circuit or commercial installations
Electrical AC	When adding a new circuit or commercial installations

Electrical AC & furnace	When adding a new circuit or commercial installations
Electrical RTU	Rooftop unit (heating & air-conditioning combination unit on roof)
Electrical boiler	When adding a new boiler with more than 2 circuits, 1 circuit over 30 amps, or if it is the central heating equipment for building
Electrical unit heater	Electric heater over 30 amps or 2 or more circuits
Electrical survey	For the inspector to meet on the job to discuss issues about the job
Electrical swimming pool	Underground pipes/pool bonding rough-in
Electrical swimming pool	Final on the swimming pool permit final

Questions and Scheduling. For direct questions with an Electrical Inspector for your area, call 367-8250 between the hours of 8 to 8:30 a.m. or 4:30 to 5 p.m., Monday through Friday, and follow the prerecorded instruction for:

Joe Van Ruler 1 or call direct line 605-367-8290; or email @ jvanruler@siouxfalls.org

Don Hall 2 or call direct line 605-367-8690; or email @ dhall@siouxfalls.org

Aaron Stroud 3 or call direct line 605-367-8679; or email @ astroud@siouxfalls.org

Keith Pike 4 or call direct line 605-367-8676; or email @ kpik@siouxfalls.org

Larry Kippes 5 or call direct line 605-367-8699; or email @ lkippes@siouxfalls.org

Cole Bartz 6 or call direct line 605-367-3960; or email @ cbartz@siouxfalls.org

For inspection request, dial 0.