Preface

This document comprises the Southern Nevada Amendments to the 2005 National Electrical Code as published by the National Fire Protection Association. It was developed by the jurisdictions listed on the cover page as a document to be adopted by reference. These provisions are not code unless adopted and codified by governmental jurisdictions. These amendments are not intended to prevent the use of any material or method of construction not specifically prescribed herein, provided any alternate has been approved and its use authorized by the Building Official (Authority Having Jurisdiction). This document is available to be adopted as code by any jurisdiction without permission or approval from the jurisdictions listed.

Table of Contents

Chapter 6 Special Equipment

Chapter 7 Special Conditions

Chapter 1 General

100 Definitions.

Add a new Definition to Article 100 to read:

Bedroom. A room or area which may be used for sleeping with clothes storage, provisions for privacy and meeting Building Code requirements for emergency escape and rescue.

110.12 Mechanical Execution of Work.

Add a new Sentence to the end of 110.12 to read as follows:

Every contractor shall provide qualified supervision while performing electrical installations. To meet this requirement, the individual leading or directing the installation shall have a current approved Clark County electrical certification.

Add a new Subsection (D) to Article 110.12 to read as follows:

(D) Abandoned Conductors and Cables. No electrical conductors or cables shall be abandoned in place. Such conductors or cables shall be removed from the building or structure back to the panelboard unless otherwise approved by the Building Official or designated representative based upon consideration of safety and combustibility.

Add a new Subsection (E) to Article 110.12 to read as follows:

(E) Old, Used or Damaged Material and Equipment. Old, used or damaged materials or equipment shall not be installed or used in any work without the prior approval of the Building Official or designated representative.

110.26 Spaces About Electrical Equipment

Add a new Sentence to the end of 110.26(C)(2) to read as follows:

When more than one entrance is required by this section both entrances shall open to the exterior of the building or into an approved means of egress that is not under the control of an individual tenant.

110.33 Entrance and Access to Work Space

Add a new Sentence to the end of 110.33(A)(1) to read as follows:

When more than one entrance is required by this section both entrances shall open to the exterior of the building or into an approved means of egress that is not under the control of an individual tenant.

Chapter 2 Wiring and Protection

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

Add a new Subsection (6) to Article 210.8(B) to read as follows:

(6**)** Commercial Bars **—** Where the receptacles are installed to serve the countertop surfaces

Add a new Subsection (D) to Article 210.8 to read as follows:

(D) All Occupancies.

(1) All 125-volt, single-phase, 15-and 20-ampere receptacles installed within 1.8 m (6 ft) of sinks or basins shall have ground-fault circuit-interrupter protection for personnel.

(2) All luminaires (lighting fixtures) permitted to be installed within the zone defined in Article 410.4(D) shall be ground-fault circuit-interrupter protected.

210.23 Permissible Loads.

Add a new Subsection (E) to Article 210.23 to read as follows:

(E) Dwelling Branch Circuits.

(1) Maximum Number. The maximum number of outlets on a 15-ampere, 125-volt (nominal) lighting fixture circuit shall be twelve (12) and shall not contain general purpose outlets.

Exception No 1: Dedicated branch circuits feeding only IC rated recessed fixtures may use Article 220.14(D) for maximum number of lighting outlets.

Exception No 2: In branch circuits serving smoke detectors the smoke detectors outlets need not be counted with the other lighting outlets

(2) Maximum Number. The maximum number of outlets on a 20-ampere, 125-volt (nominal) circuit used either exclusively for receptacles, for lighting outlets or for any combination of receptacles and lighting outlets shall be twelve (12).

Exception No 1: Dedicated branch circuits feeding only IC rated recessed fixtures may use Article 220.14(D) for maximum number of lighting outlets.

Exception No 2: In branch circuits serving smoke detectors the smoke detectors outlets need not be counted with the other lighting outlets.

(3) Counter Receptacles. No more than five (5) duplex receptacle outlets serving the required counter top receptacles shall be installed on any small appliance branch circuit.

Exception: Receptacles installed to provide power for electric ignition systems or clock timers for gas-fired ranges, ovens or counter-mounted cooking units.

(4) Individual Branch Circuits. The following fastened-in-place appliances are required to have a separate minimum 20-ampere circuit: dishwasher, trash compactor, microwave oven, and hydromassage bathtub. The required laundry circuit may serve one (1) additional outlet in the laundry area.

210.52 Dwelling Unit Receptacle Outlets.

Add a new sentence to the end of Subsection 210.52(A)(2) (2**) to read as follows:**

Where panels consist of multiple sliding panels only the first panel in each direction may be excluded.

Add a new sentence to the end of Subsection 210.52(A)(2) (3**) to read as follows:**

Where room dividers consist of multiple moving panels only the first moving panel in each direction may be excluded as a wall space.

Delete the exception to 210.52(C)(1) and Figure 210.52:

Add a new statement to the end of Subsection 210.52(C)(2) to read as follows:

This outlet shall serve the first 1.22 m (4 ft) of counter space, measured horizontally, in the long dimension. An additional outlet shall be required to serve each additional 1.22 m (4 ft) or fraction thereof, of counter space in the long dimension.

Add a new statement to the end of Subsection 210.52(C)(3) to read as follows:

This outlet shall serve the first 1.22 m (4 ft) of counter space, measured horizontally, in the long dimension. An additional outlet shall be required to serve each additional 1.22 m (4 ft) or fraction thereof, of counter space in the long dimension.

Add a new Exception No. 3 to Subsection 210.52(F) to read as follows:

Exception No. 3: In structures more than four (4) stories in height where the configuration of a laundry area is such that only an electrically heated stackable type washer/dryer unit utilizing 208 volt or 240 volt power can be accommodated, the receptacle may be considered as meeting the laundry circuit requirement.

Add a new Subsection (I) to Article 210.52 to read as follows:

(I) Stairwell Landings. Stairwell landings, which are 3.66 m (12 ft) or more from a receptacle outlet, shall have at least one receptacle.

210.62 Show Windows.

Add a new statement to the end of 210.62 to read as follows:

The receptacle outlet shall be located within 450mm (18 inches) of the top of the show window. Show windows that exceed 3.0 m (10 feet) in height shall require a receptacle at the first available structural member above the height of 3.0 m (10 feet) measured from the floor.

210.70 Lighting Outlets Required.

Add a new statement to the end of Article 210.70(A)(1) to read as follows:

Unless prohibited by structural design a wall switch shall be located within 1.8 m (6 ft) of the point of entry, and shall not be located behind an active door in the fully open position.

Add a new statement to the end of Article 210.70(A)(2)(a**) to read as follows:**

Hallways of 3.0 m (10 ft) or more in length shall have wall switches at every end. There shall be a wall switch within 1.8 m (6 ft) of each bedroom door unless prohibited by structural design.

Add a new statement to the end of 210.70(A)(2)(b**) to read as follows:**

At least one wall switch that controls an interior lighting outlet shall be located at each keyed exterior entry. This switch shall be located within 1.8 m (6 ft) of the latching jamb side, unless prohibited by structural design, and not behind an active door in the fully open position.

Add a new Subsection (A)(4) to Article 210.70 to read as follows:

(4) Closet. All walk-in closets or storage areas of 1.86 sq. m (20 square feet) or more in floor area shall contain a light fixture controlled by a wall switch.

Add a new Subsection (D) to Article 210.70 to read as follows:

(D) Mini Storage. All mini storage units shall have illumination as required in the Building Code for egress illumination.

220.5 Calculations.

Add a new Subsection (C) to Article 220.5 to read as follows:

220.5 (C) Calculated Loads. The calculated load of a new single family dwelling service shall allow a minimum of 4800 volt-amperes for future expansion. These 4800 volt-amperes shall be added to the total net computed load.

220.84 Optional Calculations – Multifamily Dwelling.

Delete 220.84(C)(5)and add a new Subsection (D) to read as follows:

(D) Heating and Air Conditioning Load. The largest of the following six selections (load in kVA) shall be included:

(1) 100 percent of the nameplate rating(s) of the air conditioning and cooling.
(2) 100 percent of the nameplate rating(s) of the heating when a heat pump is used without any supplemental electric heating.
(3) 100 percent of the nameplate ratings of electric thermal storage and other heating systems where the usual load is expected to be continuous at the full nameplate value. Systems qualifying under this selection shall not be calculated under any other selection in 220.84(D).
(4) 100 percent of the nameplate rating(s) of the heat pump compressor and 65 percent of the supplemental electric heating for central electric space heating systems. If the heat pump compressor is prevented from operating at the same time as the supplementary heat, it does not need to be added to the supplementary heat for the total central space heating load.
(5) 65 percent of the nameplate rating(s) of electric space heating if less than four separately controlled units.
(6) 40 percent of the nameplate rating(s) of electric space heating if four or more separately controlled units.

225.32 Location.

Delete Article 225.32 and add a new Article 225.32 to read as follows:

225.32 Location. The disconnecting means shall be installed as described in 230.70 of these amendments. For the purposes of this section the requirements in 230.6 shall be utilized.

Exception No. 5: For accessory buildings to one and two-family dwellings the disconnecting means may be installed either inside or on the exterior of the accessory structure.

230.11 Location of Customer Owned Service Lateral or Drop.

Add a new Article 230.11 to read as follows:

230.11 Location of Customer Owned Service Lateral or Drop. All conductors shall traverse only the property to be served except through recorded power easements.

230.70 General.

Delete Article 230.70 and add a new Article 230.70 to read as follows:

230.70 General. Means shall be provided to disconnect all ungrounded service entrance conductors to a building or structure.

(A) Location. The service disconnecting means shall be installed in accordance with 230.70(A)(1), (2), (3), (4) and (5).

(1) **Exterior of the Building.** The service disconnecting means shall be installed in a readily accessible exterior location and within 3.7 m (12 ft.) of the building or structure. Where the distance is greater than 3.7 m (12 ft.) from the building or structure the service disconnecting means shall be considered as a separate structure.

Exception No1: A fire pump and its associated electrical equipment.

(2) **Electrical Equipment Room.** The service disconnecting means may be installed within a dedicated electrical equipment room with a readily accessible direct access on the exterior of a building or structure. Such rooms shall be separated from all other rooms or spaces within the building by a minimum of one (1) hour fire resistive construction and shall have approved Fire Department access.

FPN: A recessed 3200 series Knox Box may serve as the approved Fire Department access in some jurisdictions.

(3) **Bathrooms.** Service disconnecting means shall not be installed in bathrooms.

(4) **Remote Control.** Where a remote control device(s), required by another code such as in a fire command center, is used to actuate the service disconnecting means, the service disconnecting means shall be located in accordance with 230.70(A)(1) or (2).

(5) **Emergency Systems, Information Technology Equipment and Uninterruptible Power Supplies (UPS).** Emergency Systems driven by prime movers and UPS Systems shall have separate disconnecting means with separate identification. Information Technology Equipment rooms complying with Article 645.2 shall be permitted to have their disconnecting means installed per article 645.10 and 645.11 if identified at the same location as the "Service Disconnect."

(B) Marking. Each service disconnecting means shall be marked with a sign(s). When located in a dedicated electrical room the exterior door(s) providing access to the disconnecting means located in a dedicated electrical room shall be permanently marked with a sign(s). Each sign shall be a minimum 0.093sq.m (1 sq. foot), colored yellow with 25.4mm (1 inch) high, 6.35 mm (¼ inch) stroke raised or engraved letters and/or numbers indicating the address or unit it serves and be identified as the "Electrical Service Disconnect(s)" and/or "Electrical Service Disconnect(s) Inside." Emergency Systems disconnects shall be permanently marked with sign(s), identified as "Emergency Electrical Disconnect(s)" and/or "Main Emergency Electrical Disconnect(s) Inside." When the service disconnecting means is located inside a dedicated electrical room and it is not the first service disconnect encountered or there are multiple service disconnects there shall be a directional 75mm (3inch) wide painted yellow stripe on the floor from the entry door(s) to each service disconnect. Other durable means of identification may be used with prior approval by The Authority Having Jurisdiction.

Exception: One and two family dwelling units and their associated accessory structures.

(C) Suitable for Use. Each service disconnecting means shall be suitable for the prevailing conditions. Service equipment installed in hazardous (classified) locations shall comply with the requirements of Articles 500 through 517.

240.6 Standard Ampere Ratings.

Delete "not meeting the requirements of 240.6(C)," from Subsection (B) of Article 240.6.

Delete Subsection (C) from Article 240.6.

250.32 Building or Structures Supplied by Feeder(s) or Branch Circuit(s).

Add a new statement at the end of Article 250.32 to read as follows:

For the purposes of this section all buildings or structures not joined by a continuous concrete foundation or footing and roof shall be considered as separate buildings or structures.

250.50 Grounding Electrode System.

Add a new sentence at the end the first paragraph of Article 250.50 to read as follows:
The concrete-encased electrode described in Article 250.52(A)(3) shall be required for new buildings and structures that are supplied with electrical power and have concrete foundations or footings.

250.52 Grounding Electrodes.

Delete Subsections (A)(5) and (A)(6) of Article 250.52 and add a new Subsection (A)(5) to read as follows:

(5) Rod Electrodes. Rod electrodes shall not be less than 2.44 m (8 ft) in length and shall consist of the following materials and shall be installed according to Article 250.53 (G). Electrodes shall be copper clad or their equivalent and shall not be less than 15.875 mm (5/8 inch) in diameter, or listed non-ferrous rods or their equivalent and not less than 12.7 mm (inch) in diameter.

250.53 Grounding Electrode System Installation.

Delete ", Pipe and Plate " from the title and both sentences in Subsection (A) of Article 250.53 and from Subsection (D)(2).

Delete "or (A)(6)" from the first sentence in Subsection (B) of Article 250.53.

Delete "and Pipe" from the title of Subsection (G) of Article 250.53.

1. **Delete Subsection (H) of 250.53**

250.56 Resistance of Rod, Pipe, and Plate Electrodes

Delete "Pipe, and Plate" from the title and in both sentences in Article 250.56.

250.118 Types of Equipment Grounding Conductors.

Delete Subsection (5), (6) and (8) of Article 250.118.

250.120 Equipment Grounding Conductor Installation.

Add a new Subsection (D) to Article 250.120 to read as follows:

(D) Equipment Grounding Conductor. All raceways installed on roofs with a slope less than 102 mm per 306 mm (4 inches per 12 inches) shall contain an equipment grounding conductor sized per Table 250.122 installed with the circuit conductors.

Exception No. 1: Low voltage, communication and similar type systems unless required elsewhere in the Code.

Exception No. 2: As permitted by Article 250.86 for short sections of metal enclosures or raceways.

Chapter 3 Wiring Methods and Materials

300.1 Scope.

Add a new Subsection (D) to Article 300.1 to read as follows:

(D) Wiring of Buildings.
(1) Wiring installed in the construction of buildings and structures shall be contained in a raceway or cable tray system.

Exception No. 1: AC cable, MC cable and MI cable. Articles 320, 330, and 332 respectively.

Exception No. 2: Special alarm sensing cable.

Exception No. 3: Where NM, NMC or NMS cable is permitted by this code. Article 334.

Exception No. 4: Low voltage wiring when installed exposed on walls and ceilings. Limited to Articles 725, 760, 770, 800, 810, 820 and 830.

Exception No. 5: Any listed under-carpet system. Article 324.

Exception No. 6: Per Article 645.

Exception No. 7: Listed Neon Cable Assemblies providing the equivalent mechanical protection of Liquid Tight Flexible Conduit.

(2) Raceway systems for buildings and structures of Type I or Type II A construction as defined in the Building Code shall be of metallic non-combustible materials and cable trays shall be of the fully enclosed type.

Exception No. 1: Non-metallic raceways encased in concrete, or masonry, or underground or solid grouted building components that are in compliance with the Building Code.

Exception No. 2: Liquid-tight flexible conduit in lengths of 1.8 m (6 ft) or less which comply with NEC Articles 350 and 356.

310.5 Minimum Size of Conductors.

Add a new sentence to Article 310.5 to read as follows:

Aluminum and copper clad aluminum conductors smaller than No. 6 AWG shall not be used.

314.24 Depth of Outlet Boxes.

Add the following to the end of Article 314.24 to read as follows:

All outlet, switch or junction boxes less than 200 mm (8 inches) in any dimension, shall have no more than any combination of two extension boxes and/or plaster rings.

Exception: Listed unit(s) or assembly(s).

334.10 Uses Permitted.

Delete Subsection (3) of Article 334.10 and add a new Subsection (3) to read as follows:

(3) Group R-1, R-2, R-3 and R-4 occupancies permitted to be Types III, IV, and V construction as defined in the Building Code and in buildings with accessory uses, such as: pool houses, recreation buildings, guard houses, garages, laundry rooms and offices except as prohibited in Article 334.12.
Conversions from R-3 to B occupancy as defined by the Building Code, Type NM and NMC cables may remain, provided the equipment grounding conductors are sized in accordance with Table 250.122 and are installed in accordance with this Code, or meet the requirements of Article 406.3(D).

334.12 Uses Not Permitted.

Add a new Subsection (11) to Article 334.12(A) to read as follows:

(11) In Type I or Type II construction as defined in the Building Code.

352.10 Uses Permitted.

Add a new Subsection (I) to Article 352.10 to read as follows:

(I) Exposed to Direct Sunlight. Rigid non-metallic conduit shall be a minimum Schedule 80 and identified for such use.

358.12 Uses Not Permitted.

Add new Subsection (7), (8) and (9) to Article 358.12 to read as follows:

(7) In concrete or masonry in contact with earth.
(8) Underground.
(9) In earth fills.

Chapter 4 Equipment for General Use

408.35 Number of Overcurrent Devices on One Panelboard.

Add the following paragraph to the end of Article 408.35 to read as follows:

Each panelboard or load center installed in a new one or two-family dwelling shall have a capacity for a minimum of two (2) additional full-size single pole overcurrent devices on adjacent opposite poles for expansion. All available overcurrent device spaces shall comply with Article 404.8(A).

410.4 Fixtures in Specific Locations.

Add the following sentence to the end of Subsection (D) of Article 410.4 to read as follows:

All luminaires (lighting fixtures) permitted to be installed in this zone shall be ground-fault circuit-interrupter protected.

Chapter 5 Special Occupancies

514.11 Circuit Disconnects.

Add the following to the end of Subsection (A) of Article 514.11 to read as follows:

The switch shall be a momentary contact type. The disconnect station sign shall be 0.093 sq. m (1 ft square), colored yellow and have black, 25.4 mm (1 inch) high, 6.35 mm (¼ inch) stroke permanent lettering describing it as "Emergency Pump Shutoff".

Delete Subsection (B) in its entirety.

Delete the words "Unattended Self-Service" from the title of Subsection (C).

550.30 Distribution System.

Add the following to the end of Article 550.30 to read as follows:

Electrical service to all mobile home parks and to all lots (sites, spaces, etc.) in mobile home parks, shall be provided by the franchised serving utility unless approved otherwise by the Building Official or designated representative.

590.2 All Wiring Installations.

Add the following to the end of Subsection (A) of Article 590.2 to read as follows:

Temporary power receptacle outlets installed in wet locations shall be permitted to have an enclosure that is weatherproof when the attachment plug is removed.

Chapter 6 Special Equipment

600.9 Location.

Add a new sentence to the end of (B) to read as follows:

(B) All electrical wiring and neon tubing shall be completely enclosed within an approved material or barrier to prevent physical contact up to a height of 2.44 m (8 ft) above finished grade or floor level.

680.26 Equipotential Bonding.

Delete Section 680.26(C) and add a new Section 680.26(C) to read as follows:

(C) Equipotential Bonding Grid. The parts specified in 680.26(B) shall be connected to an equipotential bonding grid with a solid copper conductor, insulated, covered, or bare, not smaller than 8 AWG or rigid metal conduit of brass or other identified corrosion-resistant metal conduit. Connection shall be made by exothermic welding or by listed pressure connectors or clamps that are labeled as being suitable for the purpose and are of stainless steel, brass, copper, or copper alloy. The following shall be bonded as part of the equipotential bonding grid:

(1) Structural Reinforcing Steel. If structural reinforcing steel is present in the deck or coping within 1m (3 ft) of waters edge it shall be bonded to the structural reinforcing steel of a concrete pool where the reinforcing rods are bonded together by the usual steel tie wires or the equivalent.

(2) Bolted or Welded Metal Pools. The wall of a bolted or welded metal pool.

(3) Alternate Means. Alternate means shall be required for non-metallic reinforced pools. This system shall be permitted to be constructed as specified in (a) through (c):

a. Materials and Connections. A grid shall be constructed of minimum 8 AWG bare solid copper conductors. Conductors shall be bonded to each other at all points of crossing. Connections shall be made as required by 680.26(D).

b. Grid Structure. The equipotential bonding grid shall be installed under or in the pool deck extending 1 m (3 ft) horizontally from the inside walls of the pool. The equipotential bonding grid shall be arranged in a 300 mm (12 in.) by 300 mm (12 in.) network of conductors in a uniformly spaced perpendicular grid pattern with tolerance of 100 mm (4 in.).

c. Securing. The below-grade grid shall be secured within or under the pool and deck media.

682 Natural and Artificially Made Bodies of Water.

Delete Article 682 in its entirety.

Chapter 7 Special Conditions

700.1 Scope

Add a third paragraph to the beginning of 700.1 to read as follows:

For the purposes of this section items considered as meeting the requirements for high rise applications (i.e. buildings over 17m (55 feet) to be placed on the emergency distribution system may include: Emergency illumination, exit signage, electric fire pumps, fire jockey or makeup pumps, fire alarm equipment, smoke control equipment, one elevator per bank of elevators, cooling and heating equipment for emergency electrical rooms and elevator machine rooms, FAA required obstruction lighting, battery chargers for emergency generating equipment, heating equipment for freeze protection of fire sprinkler systems, telecommunications equipment (i.e. for 911 applications) fire command center loads such as monitoring and display equipment and other equipment approved by the Authority Having Jurisdiction that will enhance the survivability of life safety systems.

700.9 Wiring, Emergency System.

Change Subsection (D) of Article 700.9 to read as follows:

(D) Fire Protection. Emergency systems shall meet the following additional requirements in 700.9(D)(1) and (D)(2) in any occupancy(s) of 300 or more persons or in buildings above 17 m (55 ft) in height.

Add a new Sentence to the end of Article 700.9 (D)(2) to read as follows:

This equipment shall be located in room(s) dedicated to this equipment.

Exception: System components described in Article 701 may occupy the same dedicated room(s) as emergency systems.

700.12 General Requirements.

Change the fourth paragraph of 700.12 to read as follows:

Equipment for sources of power as described in 700.12(A) through 700.12(E) shall meet the following additional requirements in any occupancy(s) of 300 or more persons or in buildings above 17 m (55 ft) in height. This equipment shall be installed in spaces fully protected by approved automatic fire suppression systems (sprinklers, carbon dioxide systems and so forth) or in spaces protected by a fire-rated assembly listed to achieve a minimum fire rating of one-hour.

Add a new Subsection (B)(7) to Article 700.12 to read as follows:

(7) The emergency generator shall not be located more than 17 m (55 ft) above the lowest level of fire department vehicle access. When the generator set is located inside a building it shall be located in a room dedicated to the Emergency Power Supply System. This room shall be separate from the interior of the building by a minimum of two-hour resistive construction or shall be in room(s) fully protected by approved automatic fire suppression systems. Unless otherwise required by Building Codes openings for generator cooling and exhaust shall not be required to be fire-resistive construction.

When a generator set is located within 1.5 m (5 ft) of a building it shall be separated from the building with a rated separation wall equal to the highest fire rating within the building that has no openings. It shall be isolated within an enclosure and protected from physical damage.

When a generator set is located more than 1.5 m (5 ft) from a building it shall be isolated within an enclosure and protected from physical damage.

700.16 Emergency Illumination.

Add the following to the end of the first sentence of Article 700.16 to read as follows:

Electrical rooms, fire control rooms, fire pump rooms, PBX rooms, public restrooms and generator rooms shall require emergency illumination.

Exception: A single user restroom shall not require emergency illumination.