Chapter 296-46B WAC

Electrical safety standards, administration, and installation

Note: Only sections containing proposed revisions are shown

Part A – NEC installation amendments, standards, inspections, and definitions

WAC 296-46B-010 General.

Adopted standards.

(1)The 2017 edition of the National Electrical Code (NFPA 70 - 2017) including Annex A, B, and C; Commercial Building Telecommunications Cabling Standard (ANSI/TIA-568-C series, February 2009); Commercial Building Standard for Telecommunications Pathway and Spaces (TIA-569-B, October 2004); Commercial Building Grounding and Bonding Requirements for Telecommunications (ANSI/TIA-607-B, August 2011); Residential Telecommunications Cable Standard (ANSI/TIA/EIA 570-B-2004); and the National Electrical Safety Code (NESC C2-~~2012~~ 2017) excluding Appendixes A and B) are hereby adopted by reference as part of this chapter.

On July 1, 2020, the 2020 edition of the National Electrical Code (NFPA 70-2020 including Annex A, B, and C is hereby adopted by reference as part of this chapter and replaces the 2017 edition.

This chapter will be followed where there is any conflict between this chapter and the above adopted standards.

The National Electrical Code will be followed where there is any conflict between the National Electrical Code and ANSI/TIA/EIA 568-C, ANSI/TIA/EIA 569-B, ANSI/TIA/EIA 607-B, ANSI/TIA/EIA 570-B, or the NESC C2.

Commented [MR(1]: Latest version

Commented [MR(2]: Clarifies to stakeholders the schedule for adoption of the 2020 NEC and gives time between publication in August 2019 and adoption for stakeholders to provide input to the department regarding proposed changes.

WAC 296-46B-100 General definitions.

"Household appliance" means utilization equipment installed in a dwelling unit that is built in standardized sizes or types and is installed or connected as a unit to perform one or more household functions such as food preparation, cooking, and cleaning. Includes~~and other~~ equipment appliances typically installed in a dwelling unit kitchen, clothes washing, drying,~~, clothes washing and water heating appliances~~, portable room air conditioning units and portable heaters, etc. Fixed electric space-heating equipment covered in NEC 424 (furnaces, baseboard and wall heaters, electric heat cable, etc.) and fixed air-conditioning/heat pump equipment (NEC 440) are not household appliances. Household appliance does not mean any utilization equipment that:

(a) Supplies electrical power, other than Class 2, to other utilization equipment; or

(b) Receives electrical power, other than Class 2, through other utilization equipment.

Commented [MR(3]: Clarified sentence that didn't make sense. "such as cooking and other equipment…" Also clarifies water heaters are household appliances.

New Definition: A "new building" for the purposes of RCW 19.28.261 includes the setting of a manufactured, mobile, or modular building.

Commented [MR(4]: Per existing chief's policy. Property owners or leaseholders cannot install wiring for a mobile or manufactured home then offer it for rent, sale, or lease without electrical contractor licensing and worker certification.
See also same change to WAC 296-46B-925(13)

Delete Definitions: ~~Service specific definitions replacing those found in NEC Article 100:~~

~~(a) "Service drop" means the overhead service conductors from the service point to the connection to the service-entrance conductors at the building or other structure.~~

~~(b) "Service-entrance conductors, overhead system" means the service conductors between the terminals of the service equipment and a point usually outside the building, clear of building walls, where joined by tap or splice to the service drop or service point.~~

Commented [MR(5]: These definitions were added to clarify service definitions in the 2008 NEC. NEC definitions were changed in 2011. WAC definitions no longer needed.

~~(c) "Service-entrance conductors, underground system" means the service conductors between the terminals of the service equipment and the point of connection to the service lateral or service point. Where the service equipment is located outside the building walls, there may be no service-entrance conductors or they may be entirely outside the building.~~

~~(d) "Service lateral" means the underground service conductors from the service point to the point of connection to the service-entrance conductors in a terminal box, meter, or other enclosure. Where there is not a terminal box, meter, or other enclosure, the point of connection is the point of entrance of the service conductors into the building.~~

WAC 296-46B-210 Wiring and protection — Branch circuits.

008(B) Other than dwelling units – GFCI requirements.

(3) GFCI requirements. GFCI protection for personnel will not be required for:

~~(a) t~~Three-phase receptacles unless specifically required elsewhere in the NEC.

(b) Receptacles used for recreational vehicle supply equipment or for attachment of a mobile home supply cord other than 125-volt, single phase, 15- or 20-ampere receptacles.

Commented [MR(6]: Per chief's existing policy. RV supply equipment is listed equipment with 250V, 30A and 50A receptacles that are typically factory-installed without GFCI protection.

For the purposes of NEC 210.8(B), kitchen means any area where utensils, dishes, etc., are cleaned or where food or beverages are prepared or cooked.

WAC 296-46B-215 Wiring and protection — Feeders.

002 Minimum rating and size

(6) For other than one- or two-family dwelling feeders rated up to 400 amperes, if the feeder conductors have a lesser ampacity than the equipment rating that they terminate in or on, an identification plate showing the ampacity of the conductors must be installed on the equipment at the load end of the feeder conductors.

Commented [MR(7]: Large feeders have the same potential for overloading as services.

WAC 296-46B-225 Wiring and protection — Outside branch circuits and feeders.

019 Clearances from buildings for conductors

(1) For the purposes of NEC 225.19 and 230.24, a residential patio cover, that is not over one story and not over 12 feet in height and is used only for recreation or outdoor living purposes and not as a carport, garage, storage room or habitable room as described in Appendix Chapter I in the IBC and Appendix Chapter H in the IRC, is not considered a roof. Overhead conductor spans must maintain a minimum 36 inches clearance above these covers.

Commented [MR(8]: Current allowance is in WAC 230 referencing 225. Added here for ease of use.

WAC 296-46B-230 Wiring and protection — Services.

042 Service conductor - Size and rating.

(6) For other than one- or two-family dwelling feeders rated up to 400 amperes, ~~I~~if the service conductors have a lesser ampacity than the overcurrent protection, permitted by NEC 230.90 or NEC 310.15, or the equipment rating that they terminate in or on, an identification plate showing the ampacity of the conductors must be installed on the service equipment.

Commented [MR(9]: Per department policy in May 2017 Electrical Currents. Excludes one- and two- family dwelling service up to 400 amperes from marking requirements.

070 Service equipment – Disconnecting means.

~~(10) In addition to the requirements of NEC 230.70(A), service equipment, subpanels, and similar electrical equipment must be installed so that they are readily accessible and may not be installed in clothes closets, toilet rooms, or shower rooms. All indoor service equipment and subpanel equipment must have adequate working space and be adequately illuminated.~~

Commented [MR(10]: Relocated this requirement to WAC 296-46B-408 because current requirement applies to sub-panels as well as service equipment.

WAC 296-46B-250 Wiring and protection — Grounding and bonding.

052 Grounding electrodes.

(2) Except for mobile/manufactured homes, a concrete encased grounding electrode must be installed and used at each new building or structure that is built upon a permanent concrete foundation. The electrode must comply, with NEC 250.52(A)(3). Inspection of the electrode may be accomplished by the following methods:

(a) At the time of inspection of other work on the project, providing the concrete encased electrode is accessible for a visual inspection;

(b) At the time of the service inspection providing the installer has provided a method so the inspector can verify the continuity of the electrode conductor along its entire length, with a minimum 20 foot linear span between testing points (e.g., attaching a length of copper wire to one end of the electrode that reaches the location of the grounding electrode conductor that will enable the inspector to measure the resistance with a standard resistance tester). The concrete encased electrode does not have to be accessible for a visual inspection; or

(c) Other method when prior approval, on a job site basis, is given by the inspector.

If a special inspection trip is required to inspect a grounding electrode conductor, a trip fee will be charged for that inspection in addition to the normal permit fee.

Exception:

If the concrete encased grounding electrode is not available for connection, a ground ring must be installed per NEC 250 or other grounding electrode installed per NEC 250 verified to measure 25 ohms or less to ground. Resistance verification testing must be performed by an independent firm having qualified personnel and proper equipment. A copy of the testing procedures used and a written resistance test record signed by the person performing the test must be available at the time of inspection. The resistance test record must include test details including, but not limited to, the type of test equipment used, the last calibration date of the test equipment, and all measurements taken during the test.

053(A)(2) Resistance of rod, pipe, and, plate electrodes

(3) For rod, pipe, and plate electrodes other than those installed in accordance with the exception in subsection (2) of this section, if a ground resistance test is not performed to ensure a resistance to ground of 25 ohms or less, two or more electrodes as specified in NEC 250.52 must be installed a minimum of 6 feet apart. A temporary construction service is not required to have more than one made electrode.

(4) For services only, when multiple buildings or structures are located adjacent, but structurally separate from each other, any installed rod, pipe, or plate electrodes used for those services must be installed so that each building's or structure's electrodes are not less than 6 feet apart from the adjacent building's or structure's electrodes.

Commented [MR(11]: Subsection 2 exception requires an electrode to be verified to measure 25 ohms to ground.

WAC 296-46B-408 Switchboards, switchgear, and Panelboards

In addition to the requirements of NEC 230.70(A), service equipment, subpanels, and similar electrical equipment must be installed so that they are readily accessible and may not be installed in clothes closets, toilet rooms, or shower rooms. All indoor service equipment and subpanel equipment must have adequate working space and be adequately illuminated.

Commented [MR(12]: This requirement was moved from WAC 296-46B-230 because the current requirements applies to sub-panels as well as service equipment. This adds the requirement to the appropriate place to cover all panelboards.

WAC 296-46B-410 Equipment for general use — Luminaires.

056 Protection of conductors and insulation

(3) Requirements for stranded conductors in NEC 410.56(E) do not apply to branch-circuit conductors installed on luminaire supports.

Commented [MR(13]: Branch-circuit conductors typically installed on jack-chain to supply luminaires are not subject to excessive movement to warrant stranded conductors. This requirement applies to fixture wires, not branch-circuit conductors.

WAC 296-46B-430 Motors, motor circuits, and controllers.

007 Marking on motors and multimotor equipment.

Except as required by the National Electrical Code, there is no requirement for motors to be identified for use or listed/field evaluated by a laboratory. All motors must be manufactured according to National Electrical Manufacturer's Association (NEMA), or International Electrotechnical Commission (IEC) standards for motors except motors that:
(1) Are a component part of equipment listed or field evaluated by a laboratory; or
(2) Are a component part of industrial utilization equipment approved by the department per WAC 296-46B-903.

Commented [MR(14]: IEC standards are acceptable for industrial utilization equipment under WAC 296-46B-903(6)

WAC 296-46B-440 ~~Fixed electric space heating~~Air conditioning and refrigerating equipment.

Commented [MR(15]: Correction: Title did not match NEC article number and content.

014 Disconnecting means.

In one and two-family dwelling units, a disconnecting means is required for the indoor unit(s) of a split system HVAC/R system, unless the outside unit's disconnecting means is lockable, disconnects the indoor unit(s), identifies the location of all indoor units, and an indoor disconnecting means is not required by the manufacturer.

Commented [MR(16]: Coordinates with policy in November 2013 Electrical Currents newsletter.

WAC 296-46B-501 Special occupancies — NEC Class I locations.

001 Sewage disposal systems.

(8) On-site sewage disposal systems using pumps must have audible and visual alarms designed to alert the resident of a malfunction. The alarm must be placed on a circuit independent of the pump circuit.

Commented [MR(17]: Required per Department of Health rule WAC 246-272A-0240(1)(c)

WAC 296-46B-514 Special occupancies — Motor fuel dispensing facilities.

011 Emergency disconnecting means - Dispensing and service stations.

(3) An emergency disconnecting means or operator must be provided to disconnect the pump or dispensing equipment serving gasoline, volatile flammable liquids, or liquefied flammable gases. The emergency disconnecting means or operator must disconnect all conductors of the circuit supplying all station dispensers and/or pumps (including the grounded conductor) simultaneously from the source(s) of supply.
(4) For installations with only one dispensing device, the emergency disconnecting means/operator may be used to satisfy subsection (3) of this section.
(5) For multicircuit installations, an electrically held normally open contactor operated by a push-button may serve as the disconnecting means to satisfy subsection (3) of this section. If a disconnecting pushbutton is used, the pushbutton may not function as the resetting mechanism for the electrically held contactor. The resetting means must be:
    (a) Located at least 15 feet or out of sight from the disconnecting pushbutton;
    (b) Installed behind a cover or guard; and
    (c) Identified with an identification plate that is substantially black in color.
(6) The disconnecting means satisfying subsection (3) of this section must be labeled with an identification plate, with letters at least 1 inch high, as the emergency disconnecting means. The disconnecting means or operator must be~~:~~
~~(a) Substantially~~ substantially red in color~~.; and~~
~~(b) For attended facilities - Must be readily accessible and must be located outdoors and within sight of the pump or dispensing equipment it controls; or~~
~~(c) For unattended facilities - Must be readily accessible and must be located within sight, but at least 20 feet from the pump or dispensing equipment it controls.~~

Commented [MR(18]: NEC is now clear regarding location of emergency disconnecting means

013 Maintenance and service of dispensing equipment.

The means to remove all external voltage sources for maintenance and service of dispensing equipment required by NEC 514.13 must be capable of isolating each dispenser individually from all external voltage sources including the grounded conductor, while all other dispensers remain operational.

Commented [MR(19]: Per May 2018 Electrical Currents newsletter, clarifies individual isolation of dispensers including the neutral is required.

WAC 296-46B-600 Special equipment — Electric signs and outline lighting.

001 Electrical signs - General.

(1) All electrical signs and outline lighting, regardless of voltage, must be listed or field evaluated by a testing laboratory accredited by the department to the applicable ANSI UL Standard. Installations will be inspected for compliance with installation instructions and the NEC.

Commented [MR(20]: Clarifies that field evaluation is an option for electric sign certification.

WAC 296-46B-620 Special equipment – Elevators

051 Disconnecting means

In accordance with Elevator section WAC 296-96-02460:

(1) The main line disconnect(s) must be located per NFPA 70, Article 620.51(C) and:
    (a) Inside the machine room door on the strike side of the machine or control room door;
    (b) Not more than twenty-four inches from the door to the operating handle; and
    (c) Be at a height not less than thirty-six inches nor more than sixty-six inches above the finish floor as measured centerline to the disconnect handle.
(2) For multicar machine rooms the switches shall be grouped together as close as possible to that location.
(3) For machine rooms with double swing doors, the doors must swing out and the switch(es) shall be located on the wall adjacent to the hinge side of the active door panel.
(4) Shunt-trip breakers, where provided shall be located in the elevator machine room or control room.
(5) Where shunt-trip breakers are also being used as a main line disconnect, they shall comply with subsections (1) through (3) of this section.

Commented [MR(21]: Coordinates elevator disconnecting means requirements with existing rules of elevator inspection section.

WAC 296-46B-690 Solar Photovoltaic Systems.

~~**053 Direct-current photovoltaic power source.**~~

~~(7) All photovoltaic equipment and disconnecting means must be permanently identified as to their purpose, maximum voltages, and type of current within the system with an identification plate. All photovoltaic circuits must be identified at each overcurrent protection device(s) and panel directory(ies).~~

Commented [MR(22]: This requirement has been added to the NEC.

WAC 296-46B-700 Emergency systems.

(4) All boxes and enclosures, for Article 700 NEC systems, larger than 6 inches by 6 inches, including transfer switches, generators, and power panels for emergency systems and circuits must be permanently identified with an identification plate that is substantially orange in color, except in existing health care facilities the existing nameplate identification color scheme can be retained for transfer switches, generators, and power panels for existing emergency systems that are not being replaced or modified. All other device and junction boxes for emergency systems and circuits must be substantially orange in color, both inside and outside. The cable or raceway, and receptacle marking required by NEC 700.10(A) must be substantially orange in color.

Commented [MR(23]: Per existing policy in June 2018 Electrical Currents newsletter.

WAC 296-46B-705 Interconnected electric power production sources.

031 Location of overcurrent protection.

(2) In addition to the requirements of NEC 705.31, electric power production source conductors connected to the supply side of the service disconnecting means must be installed using wiring methods specified for service conductors in WAC 296-46B-230(7). The disconnecting means providing overcurrent protection for the electric power production source conductors is not required to be grouped with the service disconnecting means for the building or structure. Grounding and bonding must be in accordance with all applicable requirements for an additional service disconnect.

Commented [MR(24]: Supply-side interconnections for alternate power production sources are similar to an additional service, but NEC requirements regarding grounding and bonding are not clear. This is current department policy per July 2018 Electrical Currents newsletter article.

WAC 296-46B-900 Electrical plan review.

(3) Electrical plan review.

(a) Electrical plan review is not required for:

(v) Modifications to existing electrical installations where all of the following conditions are met:

(A) Service or distribution equipment involved is rated not more than 400 amperes and does not exceed 250 volts or for lighting circuits not exceeding 277 volts to ground;

(B) Does not involve emergency systems other than listed unit equipment per NEC 700.12(F);

(C) Does not involve branch circuits or feeders of an essential electrical system as defined in NEC 517.2; and

(D) Service or feeder loads ~~calculations~~ are not increased by more than 5% ~~or less~~of the rated capacity of the electrical equipment supplying the modified load(s).

Commented [MR(25]: Clarifies that the 5% increase in load is an increase of 5% of the rated capacity of the equipment. For equipment that has a very light existing load, the increase of 5% of the existing load would require plan review for very small load increases.

WAC 296-46B-901 General — Electrical work permits and fees.

Permit - Requirements for.

(7) As required by chapter 19.28 RCW or this chapter, an electrical work permit is required for the installation, alteration, or maintenance of all electrical systems or equipment except for:

(c) The following types of systems and circuits are considered exempt from the requirements for licensing and permitting described in chapter 19.28 RCW. The electrical failure of these systems does not inherently or functionally compromise safety to life or property.

(i) Low-voltage thermocouple derived circuits

(ii) Low-voltage circuits for residential garage doors and built-in residential vacuum systems;

(iii) Low-voltage circuits for underground: landscape sprinkler systems, landscape lighting, and antennas for wireless animal containment fences;

~~(iv) Low-voltage circuits for underground landscape lighting; and~~

~~(v) Low-voltage circuits for residential garage doors.~~

Commented [MR(26]: Combined items on list and added antennas for wireless pet fences. Common installations use a radio signal transmitted over the conductor underground with the receiver on the animal.

For these types of systems and circuits to be considered exempt, the following conditions must be met:

(A) The power supplying the installation must be derived from a listed Class 2 power supply;

(B) The installation and termination of line voltage equipment and conductors supplying these systems is performed by appropriately licensed and certified electrical contractors and electricians;

(C) The conductors of these systems do not pass through fire-rated walls, fire-rated ceilings or fire-rated floors in other than residential units; and

(D) Conductors or luminaires are not installed in installations covered by the scope of Article 680 NEC (swimming pools, fountains, and similar installations).

WAC 296-46B-906 Inspection fees.

To calculate inspection fees, the amperage is based on the conductor ampacity or the overcurrent device rating. The total fee must not be less than the number of progress inspection (one-half hour) units times the progress inspection fee rate from subsection (8) of this section, PROGRESS INSPECTIONS.

The amount of the fee due is calculated based on the fee effective at the date of a department assessed fee (e.g., plan review or fee due) or when the electrical permit is purchased.

(e) Mobile homes, and modular homes, ~~mobile home parks, and RV parks~~.

Commented [MR(27]: The fees for mobile home parks and RV parks are below in (f)

(i) Mobile home or modular home service or feeder only	$62.00
(ii) Mobile home service and feeder	$101.60

(f) Mobile home park sites and RV park sites.

Note:

For master service installations, see subsection (2) COMMERCIAL/INDUSTRIAL of this section.

(i) First site service or site feeder	$62.00
(ii) Each additional site service; or additional site feeder inspected at the same time as the first service or feeder	$39.20

Part E – Class B permits.

WAC 296-46B-908 – Class B permits.

Class B electrical work permit - Use.

(10) Class B work includes the following:

(b) Single like-in-kind replacement of:

(iii) An electric/gas/oil furnace not exceeding 240 volts and 100 amps and associated Class 2 low voltage wiring (e.g., altered or new low-voltage control wiring from the furnace to an existing or new thermostat, heat pump, air conditioner, condenser, etc.), when the furnace is connected to an existing branch circuit. For the purposes of this section, a boiler is not a furnace; or

(iv) An individually controlled electric room heater (e.g., baseboard, wall, fan forced air, etc.), air conditioning unit, heat pump unit, or refrigeration unit not exceeding 240 volts, 40 minimum circuit amps and associated Class 2 low voltage wiring when the unit is connected to an existing branch circuit; or

(v) Circuit modification required to install not more than five residential load control devices in a residence where installed as part of an energy conservation program sponsored by an electrical utility and where the circuit does not exceed 240 volts and 40 amps; or

(vi) A single, line-voltage flexible supply whip associated with (b)(i), (iii), or (iv) of this subsection, not over 6 feet in length, provided there are no modifications to the branch circuit/feeder load being supplied by the whip. May be done on the same Class B label with the replacement unit if done at the same time.

Commented [MR(28]: Clarifies all associated low-voltage wiring, including new low-voltage wiring to a new heat pump or a/c unit is included in the same Class B label.

WAC 296-46B-909 Electrical/telecommunications contractor's license, administrator certificate and examination, master electrician certificate and examination, electrician certificate and examination, copy, and miscellaneous fees.

(d) Certificate renewal **(nonrefundable)**

(vii) Trainee update of hours submitted more than 30 days after expiration of a training certificate. ~~outside of renewal period (i.e. submission of affidavit of experience outside of the timeline in WAC 296-46B-942(8)(d))~~ $53.40

Commented [MR(29]: Proposal to extend timeline to 180 days in WAC 296-46B-942(8)(d), but this will keep fees the same as currently.

WAC 296-46B-915 Civil penalty schedule.

Notes:

- Each day that a violation occurs on a job site may be a separate offense.
- Once a violation of chapter 19.28 RCW or chapter 296-46B WAC becomes a final judgment, any additional violation within three years becomes a "second" or "additional" offense subject to an increased penalty as set forth in the following tables.
- In case of serious noncompliance or a serious violation of the provisions of chapter 19.28 RCW or as described in WAC 296-46B-990, the department may double the penalty amount, up to ten thousand dollars shown in subsections (1) through (13) of this section.
- A person, firm, partnership, corporation or other entity who violates a provision of chapter 19.28 RCW or chapter 296-46B WAC is liable for a civil penalty based upon the following schedule.

(1) Offering to perform, submitting a bid for, advertising, installing or maintaining cables, conductors or equipment:

(a) That convey or utilize electrical current without having a valid electrical contractor's license; or

(b) Used for information generation, processing, or transporting of signals optically or electronically in telecommunications systems without having a valid telecommunications contractor's license.

First offense:	$~~500~~ 1,000
Second offense:	$~~1,500~~ 2,000
Third offense:	$3,000
Each offense thereafter:	$~~6,000~~ 10,000

Commented [MR(30]: Penalty amounts have been at this amount for over thirty years. Increasing penalty for unlicensed contracting may provide a greater incentive to comply with the law. $10,000 is the statutory limit.

(11) Failing to get an inspection or obtain an electrical/telecommunications work permit or post a provisional electrical work permit label prior to beginning the electrical/telecommunications installation or alteration.

Exception:
In cases of emergency repairs, for owners, to existing electrical/telecommunications systems, this penalty will not be charged if the permit is obtained and posted no later than the business day following beginning work on the emergency repair.

(a) Standard/provisional permit offenses:

First offense:	$250
Second offense:	$1,000
Each offense thereafter:	$2,000

Commented [MR(31]: Separate into subsections for clarification

(b) Class B offenses:

Failure to post a Class B label or number for Class B eligible work:

First offense:	$100
Second offense:	$250
Each offense thereafter:	$1,000

(c) For other Class B offenses:

First offense:	$100
Second offense:	$250
Each offense thereafter:	$1,000

(14) Violating any of the provisions of chapter 19.28 RCW or chapter 296-46B WAC which are not identified in subsections (1) through (12) of this section.

(a) RCW 19.28.161 through 19.28.271 and the rules developed pursuant to them.

First offense:	$250
Each offense thereafter:	$500

(b) All other chapter 19.28 RCW provisions and the rules developed pursuant to them.

First offense:	$250
Second offense:	$750
Each offense thereafter:	$2,000

Commented [MR(32]: Separate into subsections for clarification

WAC 296-46B-925 Electrical/telecommunications contractor's license.

Electrical/telecommunications contractor exemptions.

(8) The following types of systems and circuits are considered exempt from the requirements for licensing and permitting described in chapter 19.28 RCW. The electrical failure of these systems does not inherently or functionally compromise safety to life or property.

Low-voltage thermocouple derived circuits and low-voltage circuits for:

(a) Built-in residential vacuum systems and garage doors; and

(b) Underground: landscape sprinkler systems, landscape lighting, and antennas for wireless animal containment fences;

~~(c) Underground landscape lighting; and~~

~~(d) Residential garage doors.~~

Commented [MR(33]: Common installations use a radio signal transmitted over the conductor underground with the receiver on the animal.

For these types of systems and circuits to be considered exempt, the following conditions must be met:

(e) The power supplying the installation must be derived from a listed Class 2 power supply;

(f) The installation and termination of line voltage equipment and conductors supplying these systems is performed by appropriately licensed and certified electrical contractors and electricians;

(g) The conductors of these systems do not pass through fire-rated walls, fire-rated ceilings or fire-rated floors in other than residential units; and

(h) Conductors or luminaires are not installed in installations covered by the scope of Article 680 NEC (swimming pools, fountains, and similar installations).

(13) Leaseholders. For electrical installations, maintenance, or alterations to existing buildings only, any person, firm, partnership, corporation, or other entity holding a valid, signed lease from the property owner authorizing the leaseholder to perform electrical work, on the property the leaseholder occupies, will be allowed to purchase an electrical permit(s) and do electrical work on or within the property described in the lease. The lessee and/or his or her regularly employed employees must perform the electrical installation, maintenance and alteration.

The lessee who performs the electrical maintenance or installation work must be the sole occupant of the property or space. Property owners or leaseholders cannot perform electrical work on new buildings for rent, sale, or lease, without the proper electrical licensing and certification. For the purposes of this section, electrical work associated with setting a manufactured, mobile, or modular building is considered electrical work on a new building. Refer to RCW 19.28.261 for exemptions from licensing and certification.

Commented [MR(34]: Per chief's policy. Property owners or leaseholders cannot install wiring for a mobile or manufactured home then offer it for rent, sale, or lease without electrical contractor licensing and worker certification. See new definition of "new building" in WAC 296-46B-100.

Exemptions - Manufacturers of electrical/telecommunications products.

(22) Manufacturers of electrical/telecommunications systems products will be allowed to utilize a manufacturer's authorized factory-trained technician to perform initial calibration, testing, adjustment, modification incidental to the startup and checkout of the equipment, or replacement of components within the confines of the specific product, without permit or required licensing:

(a) Provided the product:

(i) Has not been previously energized;

(ii) Has been recalled by the Consumer Product Safety Commission;

(iii) Is within the manufacturer's written warranty period, a period not to exceed one year from date of original installation of the new product; or
(iv) The manufacturer is working under the written request and supervision of an appropriately licensed electrical contractor.
(b) Except for the replacement of individual components, as allowed above, this exemption does not include the initial assembly, installation, removal, or replacement of the electrical product. Modifications to the equipment, as designated above, must not include any changes to the original intended configuration nor changes or contact with external or field-connected components or wiring.
(c) The manufacturer will be responsible for obtaining any required reapproval/recertification from the original listing or field evaluation laboratory.
(d) The manufacturer must notify the department if any modifications have been made or reapproval/recertification is required.

Commented [MR(35]: Clarifies initial electrical assembly of a product is not allowed under this exemption.

(25) Coincidental electrical/plumbing work. See RCW 19.28.091(8) for the plumber exemption. For the purposes of RCW 19.28.091(8), the like-in-kind replacement includes the appliance or any component part of the appliance such as, but not limited to, the thermostat in a water heater.
(26) Nothing in this section will alter or amend any other exemptions from or requirement for licensure or inspection, chapter 19.28 RCW or this chapter.

Commented [MR(36]: Not a new allowance. This was copied here from WAC 296-46B-920(1) and (2) for clarity. See also same change in WAC 296-46B-940(16).

WAC 296-46B-940 Electrician/certificate of competency required.

Electrician - Certificate of competency required.

(3) To work in the electrical construction trade, an individual must possess, wear, and visibly display on the front of the upper body, a current valid:
(a) Master journey level electrician certificate of competency issued by the department;
(b) Journey level electrician certificate of competency issued by the department;
(c) Master specialty electrician certificate of competency issued by the department;
(d) Specialty electrician certificate of competency issued by the department; or
(e) Electrical training certificate, learning the trade in the proper ratio, per RCW 19.28.161, under the supervision of a certified master journey level electrician, journey level electrician, master specialty electrician working in their specialty, or specialty electrician working in their specialty.

The certificate may be worn inside the outer layer of clothing when outer protective clothing (e.g., rain gear when outside in the rain, arc flash, welding gear, etc.) is required. The certificate must be worn inside the protective clothing so that when the protective clothing is removed, the certificate is visible. A cold weather jacket or similar apparel is not protective clothing.

The certificate may be worn inside the outer layer of clothing when working in an attic or crawl space or when operating equipment (e.g., drill motor, conduit threading machine, etc.) where wearing the certificate may pose an unsafe condition for the individual.

The certificate must be immediately available for examination at all times.

When working as a certified electrician, the electrician must not display a training certificate.

When supervising a trainee(s), the supervising electrician's certificate must be appropriate for the work being performed by the trainee(s). For the purposes of this section, supervising a trainee is considered to be working in the electrical construction trade.

Commented [MR(37]: Clarifies certificate must be displayed by supervising electrician while supervising trainees.

Any person working as an electrician or trainee must also possess a government issued photo identification and immediately present that identification when requested by the inspector.

Exemptions - Plumbers.

(16) Coincidental electrical/plumbing work. See RCW 19.28.091(8) for the plumber exemption. For the purposes of RCW 19.28.091(8), the like-in-kind replacement includes the appliance or any component part of the appliance such as, but not limited to, the thermostat in a water heater.

Commented [MR(38]: This is not a new allowance. This was copied here from WAC 296-46B-920(1) and (2) for clarity. See also same change in WAC 296-46B-925(25).

WAC 296-46B-942 Training certificate required.

General.

(1) To work in the electrical construction trade as an electrical trainee, an individual must possess, wear, and visibly display a current valid electrical training certificate, learning the trade in the proper ratio, per RCW 19.28.161, under the supervision of a certified master journey level electrician, journey level electrician, master specialty electrician working in their specialty, or specialty electrician working in their specialty.

The trainee must meet all the requirements of WAC 296-46B-940 related to visibly displaying a current certificate and having a valid photo identification on his/her person.

Beginning July 1, 2023, unless working in a specialty, apprentices and individuals learning the electrical construction trade must have in their possession proof of apprenticeship or journey level training program registration. They must show their apprenticeship or training program registration documents to an authorized representative of the department at the representative's request.

Commented [MR(39]: Effective date of 2018 Substitute Senate Bill 6126. Gives notice to WAC users of coming requirements for apprenticeship or training school registration.

(8) All applicants for training certificate renewal must:

(a) Submit a complete renewal application;

(b) Pay all appropriate fees; and

(c) Complete the approved basic trainee classes required by WAC 296-46B-970. Basic trainee classes are only valid when all the requirements of WAC 296-46B-970 are completed.

(d) Within ~~thirty one~~ hundred eighty days after ~~renewing~~the expiration date of an electrical training certificate, the individual, if not enrolled in a department approved apprenticeship program, must submit a completed, signed, and notarized affidavit(s) of experience for all hours of experience gained since the individual's last training certificate was effective.

Commented [MR(40]: Align with department policy per November 2017 and October 2018 Electrical Currents newsletters and RCW 19.28.161(2).

Employers are required to provide the necessary documentation and signed affidavit of experience to the trainee within twenty days after the trainee requests the affidavit. See WAC 296-46B-942(12). See WAC 296-46B-985(4) for the penalty for providing a false or inaccurate affidavit of experience. If the individual is enrolled in a department approved apprenticeship program, the program may submit the required affidavit(s) of experience upon the individual's completion of the required experience hours without cost to the individual. The affidavit of experience must accurately attest to:

(i) The electrical installation work performed for each employer the individual worked for in the electrical trade during the previous period;

(ii) The correct electrical category the individual worked in; and

(iii) The actual number of hours worked in each category under the proper supervision of a Washington certified, master journey level electrician, journey level electrician or appropriate master specialty electrician or specialty electrician under that specific training certificate. If a trainee possesses multiple training certificates, an affidavit must be submitted for each training certificate for the hours worked under that specific training certificate.

If the individual is enrolled in a department approved apprenticeship program, the program may submit the required affidavit(s) of experience upon the individual's completion of the required experience hours without cost to the individual.

~~(9) An individual who has not completed the required hours of basic trainee class education can renew a training certificate if the individual applies for renewal before the training certificate expires and pays the appropriate renewal fee. However, the training certificate will be placed in an inactive status. The inactive training certificate will be returned to current status upon validation, by the department, of the required basic trainee class education.~~

Commented [MR(41]: Eliminates inactive/no CEU status. RCW 19.28.161(2) has no provision for inactive status. Basic trainee classes are a vital part of learning the electrical construction trade.

WAC 296-46B-945 Qualifying for master, journey level, specialty electrician examinations.

Qualifying for the journey level electrician competency examination.

(4) Until July 1, 2023, Aan individual may take the journey level electrician's certificate of competency examination if the individual held a current electrical training certificate and has worked for an employer who employs at least one certified master electrician, journey level, or specialty electrician on staff and the individual:

(a) Has been employed, in the electrical construction trade, under the direct supervision of a master electrician, journey level electrician or specialty electrician working in the appropriate specialty in the proper ratio, per RCW 19.28.161, for four years (eight thousand hours). Of the eight thousand hours:

(i) At least two years (four thousand hours) must be in new industrial and/or new commercial electrical installation (excluding all work described for specialty electricians or technicians) under the direct supervision of a master journey level electrician or journey level electrician while working for a general electrical contractor; and

(ii) Not more than a total of two years (four thousand hours) may be for work described as an electrical specialty in WAC 296-46B-920(2).

(b) Has completed a four-year apprenticeship program in the electrical construction trade that is registered with the state apprenticeship council while working under the direct supervision of a master journey level or journey level electrician in the proper ratio, per RCW 19.28.161; or

(c) Has completed a two-year electrical construction training program as described in RCW 19.28.191 for journey level electricians, and two years (four thousand hours) of work experience in new industrial and/or new commercial electrical installations (excluding work described for specialty electricians or electrical technicians) under the direct supervision of a journey level electrician while working for a general electrical contractor in the proper ratio, per RCW 19.28.161. See WAC 296-46B-971 for additional training school information.

Beginning July 1, 2023, to qualify to take the journey level electrician's certificate of competency examination, an individual must have successfully completed an apprenticeship program approved under chapter 49.04 RCW or equivalent apprenticeship program approved by the department for the electrical construction trade in which the applicant worked in the electrical construction trade for a minimum of eight thousand hours. Four thousand of the hours must be in industrial or commercial electrical installation under the supervision of a master journey level electrician or journey level electrician and not more than a total of four thousand hours in all specialties under the supervision of a master journey level electrician, journey level electrician, master specialty electrician working in that electrician's specialty, or specialty electrician working in that electrician's specialty.

Electrical construction training hours gained in specialties requiring less than two years (i.e., four thousand hours) will not be credited towards qualification for journey level electrician.

The trainee and their employer and/or apprenticeship training director must attest to the accuracy of all information contained on affidavits of experience and apprenticeship graduation certificates used to verify eligibility for the examination.

Qualifying for the journey level/specialty electrician competency examination when work was performed in a state requiring electrician certification for the work performed.

(9) After review and approval by the department, an individual may be granted on-the-job work experience towards qualifying to take the journey level/specialty electrician's competency examination for hours worked in the other state when the state certifies to the department:

(a) The type and number of hours of work performed within that state. Credit will not be allowed for work not done within the certifying state.

(b) That the work was legally performed under the other state's licensing and certification requirements; and

(c) The other state's certificate of competency was obtained by examination.

If the experience is for other than a new commercial or industrial installation, the individual must identify the specialty credit desired and provide verifiable documentation identifying the other state's allowed scope of work for the specialty, see subsection (~~6~~7) ~~above~~) of this section.

Qualifying for the journey level/specialty electrician competency examination when work was performed in a state that does not require electrician certification for the work performed.

Commented [MR(42]: Effective date of 2018 Substitute Senate Bill 6126. Gives notice to WAC users of coming requirements for apprenticeship completion.

Commented [MR(43]: Effective date of 2018 Substitute Senate Bill 6126. Gives notice to WAC users of coming requirements for apprenticeship completion.

Commented [MR(44]: Clarifies this section applies to work that the state requires a certificate for, not that the state requires certification for other types of work.

Commented [MR(45]: Corrected this print version only to align with current WAC rule.

Commented [MR(46]: Clarifies this section applies to work that the state requires a certificate for, not that the state requires certification for other types of work.

Military/~~shipyard~~ experience.

(11) After review and approval by the department, an individual who has worked in the electrical construction trade performing work described in WAC 296-46B-920 while serving in the armed forces of the United States may be eligible to take the examination for the certificate of competency as a journey level or specialty electrician. Credit may be allowed for hours worked or training received.

If an individual has military experience in a specialized electrical field (e.g., rating) that is similar to a specialty electrician category listed in WAC 296-46B-920, credit may be allowed toward the appropriate specialty certificate. Nuclear, marine, shipyard, shipboard, radar, weapons, aeronautical experience, or similar experience may be acceptable for no more than fifty percent of the minimum required work experience for qualifying for electrician examination.

The department will evaluate and determine whether the submitted experience is related specifically to the electrical construction/maintenance trade regulated by chapter 19.28 RCW.

Commented [MR(47]: This section is exclusive to military experience (see text of rule). The title is confusing folks who have non-military shipyard experience.

WAC 296-46B-960 Administrator and electrician certificate of competency examinations.

Failing an administrator certificate exam or electrician certificate of competency examination.

(8) Anyone failing an administrator or electrician competency examination may retake the examination by making arrangements with the testing agency and paying the retesting fee.

(9) If the individual makes a failing score, the individual must wait two weeks before being eligible to retest.

(10) If the individual fails ~~an~~ a part of an electrician, ~~examination or a part of an~~ administrator, or master electrician examination three times within a one-year period, the individual must wait three months to retake the failed portion of the examination.

Commented [MR(48]: Electrician examinations are given in multiple parts as well as admin and master exams.

WAC 296-46B-990 Failure to comply with the electrical contractor licensing, administrator certification, or electrician certification laws

Suspension or revocation - Of an electrical contractor's license, administrator's certificate, master electrician's certificate of competency, electrician's certificate of competency, or training certificate.

(2) The department may revoke or suspend, for such time as it determines appropriate, an electrical contractor's license, administrator's certificate, master electrician's certificate of competency, electrician's certificate of competency, or training certificate if:

(a) The license, certificate, or permit was obtained through error or fraud;

(b) The license, certificate, or permit holder is judged to be incompetent to work in the electrical construction trade as an electrical contractor, administrator, master electrician, journey level electrician, specialty electrician, electrical technician, or electrical trainee;

(c) For serious noncompliance as described below. See RCW 19.28.241 and 19.28.341 for other grounds and procedures.

(d) The license or certificate holder incompletely or inaccurately reported continuing or basic trainee class education units on an application for renewal; or

(e) The certificate holder falsely, incompletely, or inaccurately reported previous work experience.

The department will deny an application for any license/certificate during the period of revocation or suspension of the same or another license/certificate under chapter 19.28 RCW.

(3) For the purposes of this section, serious noncompliance includes, but is not limited to, any of the following:

(a) Causing or failing to correct a serious violation. A serious violation is a violation of chapter 19.28 RCW or chapter 296-46B WAC that creates a hazard of fire or a danger to life safety. A serious violation is also a violation that presents imminent danger to the public. Imminent danger to the public is present when installations of wire and equipment that convey or utilize electric current have been installed in such a condition that a fire-hazard or a life-safety hazard is present. Imminent danger to the public is also present when unqualified, uncertified, or fraudulently certified electricians or administrators; or

Commented [MR(49]: Aligns with the first sentence of the subsection. Clarifies electrical contractors and administrators can be suspended for incompetence.

unlicensed or fraudulently licensed contractors are continuously or repeatedly performing or supervising the performance of electrical work covered under chapter 19.28 RCW. For the purposes of this section, a certified electrician is considered qualified, provided the electrician is working within his or her certification;

(b) The license or certificate was obtained, used, or allowed to be used through error or fraud;

(c) Submitting a fraudulent document to the department;

(d) Continuous noncompliance with the provisions of chapter 19.28 RCW or this chapter. For the purposes of this section, continuous noncompliance will be defined as three or more citations demonstrating a disregard of the electrical law, rules, or regulations within a period of three years, or where it can be otherwise demonstrated that the contractor, master electrician, electrician, or administrator has continuously failed to comply with the applicable electrical standards;

(e) Failure to make any books or records, or certified copies thereof, available to the department for an audit to verify the hours of experience submitted by an electrical trainee;

(f) Making a false statement or material misrepresentation on an application, statement of hours, or signed statement required by the department;

(g) The certificate holder falsely or inaccurately reported continuing or basic trainee class education units on an application for renewal;

(h) Installing a shortened rod/pipe grounding electrode, improper splicing of conductors in conduits/raceways or concealed within walls, or installing a fake equipment grounding conductor.

(i) Refusing to present a government issued photo identification when requested by an electrical inspector while working as an electrician or trainee as required by WAC 296-46B-940(3).

(j) Cheating on an electrical certification examination.

For any act of serious noncompliance, the person, firm, partnership, corporation, or other entity may be referred to the county prosecutor for criminal prosecution under chapter 9A.72 RCW. The department may also file a civil action under chapter 19.28 RCW.

Commented [MR(50]: This would apply to two recent cases where a license or certificate was used fraudulently by someone other than to whom it was issued. It would clarify that using or allowing the use of the fraudulent license or certificate makes this violation eligible for higher penalty amounts and possible suspension or revocation of license or certificate.

Commented [MR(51]: Both (i) and (j) would be new additions to the definition of serious non-compliance and would allow the department to assess higher penalty amounts for these violations and pursue suspension or revocation of a certificate.

WAC 296-46B-995 Electrical board - Appeal rights and hearings

Appeals

(14) Appeals of penalty decisions issued through an appellate process of a city or town.

(a) A party may appeal a decision pursuant to chapter 19.28.010(4) RCW to the board. The appeal must be filed within twenty days after service of the decision and must be made by filing a written notice of appeal with the chief electrical inspector, as secretary to the board.

b) The notice of appeal must be received in the office of the chief electrical inspector, as secretary to the board, at least forty-five days before a regularly scheduled board meeting. If you want the board to consider written argument, briefs, testimony, or other documents, it must be submitted at least forty-five days prior to the scheduled hearing.

Commented [MR(52]: Provides appeal process to the electrical board for decisions issued by a city pursuant to 2018 Engrossed Substitute House Bill 1952.