

**ANSWER SHEET • RCW/WAC: Industry Related Electrical (IRE) • Course No. WA2023-440 • Washington**

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## WAC 296-46B-010 General

### **Adopted standards.**

(1) The 2020 edition of the National Electrical Code (NFPA 70—2020) including Annex A, B, and C and subsequent Errata and Tentative Interim Amendments issued by the National Fire Protection Association; 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 C2-2017 excluding Appendixes A and B) are hereby adopted by reference as part of this chapter.

### **Inspections General.**

(2) Electrical inspectors will give information as to the interpretation or application of the standards in this chapter, but will not lay out work or act as consultants for contractors, owners, or users.

(5) All required equipment grounding conductors installed in concealed cable or flexible conduit systems must be completely installed and made up at the time of the rough-in cover inspection.

(15) See WAC 296-46B-406R for tamper-resistant receptacle requirements in psychiatric patient care facilities.

### **WAC 296-46B-406R**

#### **012 Tamper-resistant receptacles.**

In addition to the requirements of NEC 406.12, listed tamper-resistant receptacles are required in all psychiatric patient care facilities where accessible to psychiatric patients and children five years of age and under.

(16) The department or city authorized to do electrical inspections will perform the electrical inspection and acceptance of traffic management systems within its jurisdiction. A traffic management system includes:

- (a) Traffic illumination systems;
- (b) Traffic signal systems;
- (c) Traffic monitoring systems;
- (d) The electrical service cabinet and all related components and equipment installed on the load side of the service cabinet supplying electrical power to the traffic management system; and
- (e) Signalization system(s) necessary for the operation of a light rail system.

A traffic management system can provide signalization for controlling vehicular traffic, pedestrian traffic, or rolling stock.

(18) Associated induction detection loop or similar circuits will be accepted by the department or city authorized to do electrical inspections without inspection.

(22) Identification of traffic management system components. Local government jurisdictions or WSDOT may act as the certifying authority for the safety evaluation of all components.

(a) An electrical service cabinet must contain only listed components. The electrical service cabinet enclosure is not required to be listed but will conform to the standards in subsection (22) of this section.



(b) The local government jurisdiction must identify, as acceptable, the controller cabinet or system component(s) with an identification plate. The identification plate must be located inside the cabinet and may be attached with adhesive.

## Exam Questions:

1. Electrical inspectors will give information as to the \_\_\_\_\_ or application of the standards in this chapter. But will not lay out work or act as consultants for contractors, owners, or users.
  - A. Budget
  - B. Contractor
  - C. Engineer
  - D. Interpretation
2. All required equipment grounding conductors installed in concealed cable are required to be \_\_\_\_\_ before cover inspection.
  - A. Made up
  - B. Identified
  - C. Left out of the box
  - D. Covered
3. What type of receptacles does Washington state required for psychiatric patient care facilities?
  - A. 50 A Dedicated
  - B. Cord and plug
  - C. Dedicated
  - D. Listed tamper-resistant
4. A traffic management system can provide signalization for controlling vehicular traffic. Pedestrian traffic, or \_\_\_\_\_.
  - A. Air traffic
  - B. Boat traffic
  - C. Rolling stock
  - D. Concerts
5. Induction detection loop circuits will be accepted by the department or city authorized to do electrical inspections without \_\_\_\_\_.
  - A. A fee
  - B. Inspection
  - C. Authorization
  - D. Permit
6. Electrical service cabinets can only contain \_\_\_\_\_ components.
  - A. Listed
  - B. Approved
  - C. Accessible
  - D. Guarded

### **WAC 296-46B-100 General definitions.**

"Board" means the electrical board established and authorized under chapter 19.28 RCW.

"Chapter" means chapter 296-46B WAC unless expressly used for separate reference.

"Field evaluated" means an electrical product to which a field evaluation mark is attached. Field evaluation must include job site inspection unless waived by the department, and may include component sampling and/or laboratory testing.

"Final judgment" means any money that is owed to the department under this chapter, including fees and penalties, or any money that is owed to the department as a result of an individual's or contractor's unsuccessful appeal of a citation.

"RCW" means the Revised Code of Washington. Copies of electrical RCWs are available from the department and the office of the code reviser.

"Variance" is a modification of the electrical requirements as adopted in chapter 19.28 RCW or any other requirements of this chapter that may be approved by the chief electrical inspector if assured that equivalent objectives can be achieved by establishing and maintaining effective safety.

## Exam Questions:

7. \_\_\_\_\_ means the electrical board established and authorized under chapter 19.28 RCW.
  - A. Chapter
  - B. Director
  - C. Entity
  - D. Board
8. An electrical product to which a field evaluation mark is attached is known as?
  - A. Field Evaluated
  - B. Field wired
  - C. Field changed
  - D. Engineer approved
9. Any money that is owed to the department under this chapter, including fees and penalties, or any money that is owed to the department as a result of an individual's or contractors unsuccessful appeal of a citation is known as?
  - A. Finished
  - B. Authorized
  - C. Final judgment
  - D. Permitted
10. Copies of electrical RCWs are available from the department and the office of the \_\_\_\_\_.
  - A. Electrical chief inspector
  - B. Administrator
  - C. Code reviser
  - D. NFPA
11. What is a modification of the electrical requirements as adopted in chapter 19.28 RCW or any other requirements of this chapter that may be approved by the chief electrical inspector if assured that the equivalent objectives can be achieved by establishing and maintaining effective safety?
  - A. Variance
  - B. Code change
  - C. Red tag
  - D. Continuing education

### **WAC 296-46B-110 General-Requirements for electrical installations.**

#### **022 Identification of disconnecting means.**

(3) For the purposes of legibly marking a disconnecting means, as required in NEC 110.22, an identification plate is required unless the disconnect is a circuit breaker/fused switch installed within a panelboard and the circuit breaker/fused switch is identified by a panelboard schedule. In other than dwelling units, the identification plate must include the identification designation of the circuit source panelboard that supplies the disconnecting means.

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

#### **008(A)(B) Dwelling units GFCI requirements.**

(1) In a garage or unfinished basement, a red receptacle, with a red cover plate, supplying a fire alarm system is not required to have ground-fault circuit-interrupter protection. The receptacle must be identified for use only with the fire alarm system by an identification plate or engraved cover with letters at least ¼" high.

(2) All fixed electrical equipment with exposed grounded metal parts within an enclosed shower area or within five feet of the top inside edge of a bathtub must have ground fault circuit interrupter protection.



**008(B) Other than dwelling units—GFCI requirements.**

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

- (a) Three-phase receptacles unless specifically required elsewhere in the NEC; or
- (b) Receptacles other than 125-volt, single phase, 15- or 20-ampere used for: recreational vehicle supply equipment or for attachment of a mobile home supply cord.

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-210 Wiring and protection—Branch circuits****011 Branch circuits.**

(4) A raceway system or one dedicated 15 ampere minimum, 120-volt circuit must be taken to all unfinished space areas adaptable to future dwelling unit living areas that are not readily accessible to the service or branch circuit panelboard. One circuit or raceway is required for each 480 square feet or less of unfinished space area. If the total adjacent unfinished space area is less than 480 square feet, the circuit can be an extension of an existing circuit. The circuits must terminate in a suitable box(es). The box must contain an identification of the intended purpose of the circuit(s). The branch circuit panelboard must have adequate space and capacity for the intended load(s).

**WAC 296-46B-210 Wiring and protection—Branch circuits****013 Ground fault protection of equipment.**

(5) Equipment ground fault protection systems required by the NEC must be tested prior to being placed into service to verify proper installation and operation of the system as determined by the manufacturer's published instructions. A firm having qualified personnel and proper equipment must perform the tests required. A copy of the manufacturer's performance testing instructions and a written performance acceptance test record signed by the person performing the test must be available at the time of inspection. The performance acceptance test record must include test details including, but not limited to, all trip settings and measurements taken during the test.

**WAC 296-46B-225 Wiring and protection—Outside branch circuits and feeders.****032 Location of outside feeder disconnecting means.**

(2) The disconnecting means required by NEC 225.32 must be provided to disconnect all ungrounded conductors that supply or pass through a building/structure in accordance with the requirements of NEC 225.32 with the following exceptions.

(a) Outside location: A feeder disconnecting means, including that required by NEC 700, 701, or 702 for a generator, is considered in the building if installed on the outside of the building/structure or within sight and within fifteen feet of the building/structure. The building disconnecting means may supply only one building/structure unless the secondary building(s)/structure(s) has a separate building disconnecting means meeting the requirements of the NEC and this subsection. The disconnecting means must have an identification plate with at least one-half-inch high letters identifying:

- (i) The building/structure served; and
- (ii) Its function as the building/structure main disconnect(s).

(b) Inside location: The feeder disconnecting means may be installed anywhere inside a building/structure when there is a feeder disconnecting means, located elsewhere on the premises, with overcurrent protection sized for the feeder conductors.

**WAC 296-46B-230 Wiring and protection—Services****001 General service requirements.**

(2) A firewall must have a minimum two-hour rating as defined by the local building official to be considered a building separation in accordance with Article 100 NEC.



**WAC 296-46B-230 Wiring and protection—Services****070 Service equipment—Disconnecting means.**

(10) The service disconnecting means must be installed at a readily accessible location in accordance with (a) or (b) of this subsection.

(a) Outside location: Service disconnecting means will be permitted on the building or structure or within sight and within fifteen feet of the building or structure served. The building disconnecting means may supply only one building/structure. The service disconnecting means must have an identification plate with one-half-inch high letters identifying:

- (i) The building/structure served; and
- (ii) Its function as the building/structure main service disconnect(s).

(b) Inside location: When the service disconnecting means is installed inside the building or structure, it must be located so that the service raceway extends no more than fifteen feet inside the building/structure.

**Exam Questions:**

- |  |   |
|--|---|
| <p>12. In other than _____, the identification plate must include the identification designation of the circuit source panelboard that supplies the disconnect.</p> <ul style="list-style-type: none"> <li>A. Schools</li> <li>B. Theaters</li> <li>C. Places of assembly</li> <li>D. Dwelling units</li> </ul>  | <p>16. A firewall must have a minimum of two-hour rating as defined by the local building official to be considered a building separation in accordance with Article ____.</p> <ul style="list-style-type: none"> <li>A. 200 NEC</li> <li>B. 334 NEC</li> <li>C. 100 NEC</li> <li>D. 250 NEC</li> </ul> |
| <p>13. One circuit or raceway is required for each ____ square feet or less of unfinished space area.</p> <ul style="list-style-type: none"> <li>A. 560</li> <li>B. 480</li> <li>C. 373</li> <li>D. 420</li> </ul>   | <p>17. A service disconnecting means must be installed so it is ____.</p> <ul style="list-style-type: none"> <li>A. Readily accessible</li> <li>B. Lockable</li> <li>C. Guarded</li> <li>D. Secured</li> </ul>  |
| <p>14. When are equipment ground fault protection systems that are required by the NEC to be tested?</p> <ul style="list-style-type: none"> <li>A. After the system is energized</li> <li>B. During system start up</li> <li>C. Prior to being placed into service</li> <li>D. After final inspection</li> </ul> | <p>18. A fire alarm system receptacle must have an engraved cover with letters at least _____ high.</p> <ul style="list-style-type: none"> <li>A. 1/8"</li> <li>B. 1/4"</li> <li>C. 3/16"</li> <li>D. No such requirement</li> </ul>  |
| <p>15. What are the minimum size letters required for an outside feeder disconnect identification plate?</p> <ul style="list-style-type: none"> <li>A. One-quarter-inch high letters</li> <li>B. One-half-inch high letters</li> <li>C. One-inch-high letters</li> <li>D. Two-inch-high letters</li> </ul>       |   |



**WAC 296-46B-230 Wiring and protection—Services****095 Ground-fault protection of equipment.**

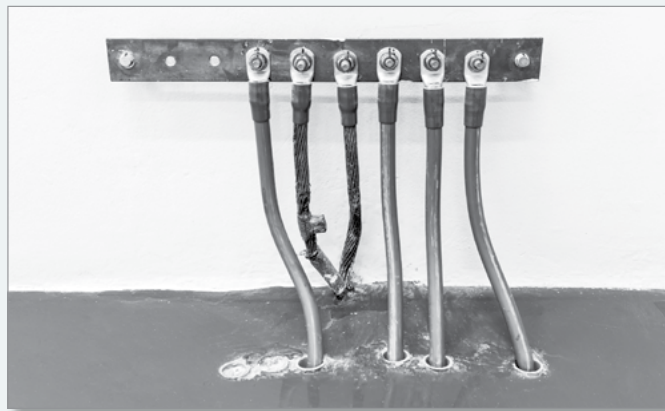
(11) Equipment ground-fault protection systems required by the NEC must be tested prior to being placed into service to verify proper installation and operation of the system as determined by the manufacturer's published instructions. This test or a subsequent test must include all service voltage feeders. A firm having qualified personnel and proper equipment must perform the tests required. A copy of the manufacturer's performance testing instructions and a written performance acceptance test record signed by the person performing the test must be provided for the inspector's records at the time of inspection. The performance acceptance test record must include test details including, but not limited to, all trip settings and measurements taken during the test.

**WAC 296-46B-250 Wiring and protection—grounding & bonding****068 Accessibility**

(6) The termination point of a grounding electrode conductor tap to the grounding electrode conductor must be accessible unless the connection is made using an exothermic or irreversible compression connection.

**WAC 296-46B-300 Wiring Methods and materials—****Wiring methods****011 Support of raceways, cables, or boxes in suspended ceilings.**

(4) Telecommunications cables must be secured in a manner that will not cause damage to the cables and at intervals not exceeding five feet. Cables are considered adequately supported when run through holes in building structural elements or other supporting elements. Telecommunications cables may be fished into inaccessible hollow spaces of finished buildings. Clamps or fittings are not required where telecommunications cables enter boxes.

**WAC 296-46B-314 Wiring methods and materials—outlet, device pull and junction boxes****001 Boxes and fittings.**

(1) Conduit bodies, junction, pull, and outlet boxes must be installed so that the wiring contained in them is accessible without removing any part of the building structure, including insulation material.

**WAC 296-46B-358 Wiring methods and materials—Electrical metallic tubing****012 Electrical metallic tubing.**

(1) In addition to complying with the provisions of Article 358 NEC, electrical metallic tubing may not be installed in direct contact with the earth or in concrete on or below grade. Also see NEC 300.6 for resistance to corrosion.

(2) Where electrical metallic tubing is installed in wet locations, an equipment grounding conductor must be provided within the raceway and sized per NEC 250.122.

**WAC 296-46B-422 Equipment for general use—Appliances****010 Water heater circuit.**

Water heaters with a rated circuit load in excess of 3,500 watts at 208 or 240 volts must be provided with branch circuit conductors not smaller than #10 AWG copper or equal. Overcurrent protection must comply with NEC 422.11(E).

**WAC 296-46B-440 Air conditioning and refrigerating equipment.****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, and an indoor disconnecting means is not required by the manufacturer.

**WAC 296-46B-500 Hazardous (Classified) Locations — Classes I, II, and III, Divisions 1 and 2.****005 Classification of Locations.**

Classification of locations may only be done by the authority having jurisdiction or a professional engineer registered in Washington who uses appropriate National Fire Protection Standards as a basis for classification. The authority having jurisdiction is allowed to make the final determination in cases of conflict.

## Exam Questions:

19. Equipment ground-fault protection systems required by the NEC must be \_\_\_\_\_ as determined by the manufacturer's published instructions.
  - A. Field installed
  - B. Tested
  - C. Covered
  - D. Inspected
20. A grounding electrode conductor tap to the grounding electrode conductor must be \_\_\_\_\_ unless using exothermic welding.
  - A. Hidden
  - B. Listed
  - C. Used
  - D. Accessible
21. Telecommunication cables must be secured at intervals not exceeding \_\_\_\_\_.
  - A. 5ft
  - B. 10ft
  - C. 6.5 ft
  - D. 84in
22. \_\_\_\_\_ must be installed so that the wiring contained in them is accessible without removing any part of the structure in which they are housed.
  - A. Switch box, junction pull, and outlet boxes
  - B. Conduit bodies, paddle fan box, outlet boxes
  - C. Conduit bodies, junction, pull, and outlet boxes
  - D. Range plug, junction pull, and outlet boxes
23. If EMT is installed in a wet location, a \_\_\_\_\_ must be installed within the raceway.
  - A. Neutral conductor
  - B. Equipment grounding conductor
  - C. Grounding electrode conductor
  - D. Ungrounded conductor
24. What is the minimum size copper conductor required for water heaters in excess of 3,500 watts at 208 or 240 volts?
  - A. Not larger than #10 AWG
  - B. Not smaller than # 10 AWG
  - C. Not smaller than #12 AWG
  - D. Not larger than # 4 AWG
25. In single and two-family dwelling units, a disconnect is required for all indoor units of a split HVAC/R system unless the outside unit's disconnecting means is?
  - A. In direct sight
  - B. NEMA 4
  - C. Rated
  - D. Lockable
26. Classification of locations may only be done by the authority having jurisdiction or a \_\_\_\_\_ registered in Washington who uses appropriate National Fire Protection Standards as a basis for classification.
  - A. Contractor
  - B. Instructor
  - C. Professional engineer
  - D. Electrician

**WAC 296-46B-505 Class I, Zone 0, 1, and 2 Locations.****007 Implementation of zone classification.**

For the purposes of NEC 505.7, qualified person means a professional engineer registered in Washington.

**WAC 296-46B-513 Special occupancies—Aircraft Hangers.****001 Scope.**

The scope for NEC 513 applies only when the property containing the building is classified or zoned as an aircraft hangar by the Authority Having Jurisdiction.

**WAC 296-46B-514 Special Occupancies—Motor fuel dispensing facilities.****001 General.**

(1) In addition to the scope included in NEC 514.1, Article 514 NEC must be complied with for all liquified flammable gas storage or transfer facilities.

**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.

**WAC 296-46B-517 Special occupancies—Health care facilities.****001 Health care facilities.**

In health care facilities, the following methods must be used to determine adequate capacity and ratings of equipment providing electrical power for the essential electrical systems defined in Article 517 NEC:

(1) Systems in new facilities:

(a) Essential electrical system: The essential electrical system must consist of three branches known as:

(i) Life safety system: The feeder conductors and equipment used to supply electrical power to the life safety branch must be determined by summation of the connected loads as determined by

Article 220 NEC and may not be subjected to any reduction due to the diversity of the loads. Feeder and equipment will be subject to a one hundred twenty-five percent multiplier for continuous loads in accordance with Article 220 NEC.

(ii) Critical branch system: The feeder conductors and equipment must be calculated in accordance with Article 220 NEC, including a level of diversity as determined by such article.

(iii) Equipment branch: The feeder conductors and equipment used to supply electrical power to the equipment branch of the essential electrical system must be calculated in accordance with Article 220 NEC, including a level of diversity as determined by such article.

(b) Generator sizing: The rating of the generator(s) supplying electrical power to the essential system of a health care facility must meet or exceed the summation of the loads determined in (a) and (b) of this subsection with no additional demand factors applied. Momentary X-ray loads may be ignored if the generator is rated at least three hundred percent of the largest momentary X-ray load connected.



(2) Existing essential systems in facilities to which additional load is to be added:

(a) Existing loads: The existing loads of the separate branches of the essential electrical system may be determined by WAC 296-46B-900(3)(j).

(b) Added loads: Added loads to the separate branches of the essential electrical system must be determined by subsection (1) of this section.

(c) Generator sizing: The rating of the generator(s) supplying electrical power to the essential electrical system must meet or exceed the summation of the loads determined by (a) and (b) of this subsection with no additional demand factors applied.

**WAC 296-46B-547 Special occupancies—Agricultural buildings.**

**001 Scope.**

NEC 547 requirements apply only when the agricultural building is greater than 1,000 square feet and is used as part of a business or commercial farming activity.

**WAC 296-46B-550 Special occupancies—Mobile homes, manufactured homes and mobile home parks.**

**001 Mobile/manufactured homes—Inspection.**

(1) All alterations to the mobile/manufactured home electrical system must be permitted and inspected.

(a) Any circuit or feeder that is fed from the pedestal or panel from an outbuilding feeding the mobile/manufactured home requires a permit from the electrical section.

(b) Any circuit or feeder that originates from the mobile/manufactured home's (i.e. red Factory Assembled Structures label) panel and feeds an addition or equipment that is attached (e.g. garage, heat pump or air conditioning unit) requires an FAS alteration permit.

(c) Any circuit or feeder that originates in the mobile/manufactured home panel and feeds an unattached structure or equipment (e.g. detached garage, hot tub, pool, well, septic system, yard lighting or generation equipment, etc.) requires two inspections. An FAS permit is required for the circuit or feeder from the panel and must terminate in a J-box located under the home's exterior wall near the rim joist. A second permit is required from the electrical section for electrical work from the J-box to the equipment or structure.

**WAC 296-46B-550 Special occupancies—Mobile homes, manufactured homes and mobile home parks**

**033 Mobile/manufactured homes—Feeder.**

(3) When the mobile or manufactured home is supplied with power using a permanent wiring method, the equipment grounding conductor will be permitted to be bare. Bare conductors used underground must be copper. For the purposes of this section, portable cord is not considered a permanent wiring method.

## Exam Questions:

27. For the purposed of NEC 505.7, \_\_\_\_\_ person means a professional engineer registered in Washington.

- A. Competent
- B. Licensed
- C. Qualified
- D. Insured

28. The scope for NEC 513 applies only when the property containing the building is classified or \_\_\_\_\_ as an aircraft hangar by the Authority Having Jurisdiction.

- A. Zoned
- B. Built
- C. Painted
- D. Assembled

29. A (An) \_\_\_\_\_ disconnecting means is required to be provided to disconnect a gas stations pump.
- Accessible
  - Emergency
  - Labeled
  - Guarded
30. A gas station pump emergency disconnection means must disconnect all conductors of the circuit supplying all station dispensers and pumps (including the \_\_\_\_\_ conductor) simultaneously from the source(s) of supply.
- Ungrounded
  - Grounding
  - Phase
  - Grounded
31. How many branch circuits make up the Essential electrical system?
- 3
  - 2
  - 1
  - No special requirement
32. Feeders and equipment in health care facilities are subject to a \_\_\_\_\_ percent multiplier for continuous loads
- 125
  - 150
  - 135
  - 75
33. The requirements of section 547 apply only when an agricultural building is greater than \_\_\_\_\_ square feet and is used as part of a business or commercial farming activity.
- 800
  - 1000
  - 900
  - 100
34. If a manufactured home is supplied with power using permanent wiring methods, the equipment grounding conductor is permitted to be \_\_\_\_\_.
- Bare
  - Solid
  - Stranded
  - Insulated
35. Any alterations made to a manufactured home electrical system must be permitted and inspected by the \_\_\_\_\_ assembled structures section of the department.
- Temporary
  - Records
  - Maintenance
  - Factory

### **WAC 296-46B-553 Special occupancies—Floating buildings**

#### **Marinas, boatyards, floating buildings, and commercial and noncommercial docking facilities.**

(8) Where shore power is provided, a disconnecting means must be located within sight of each floating building or similar facility. The disconnecting means must be installed adjacent to but not in or on the floating building or similar facility.

(9) NEC 555.53 is amended to read: The overcurrent protective device(s) that supply the floating building shall have ground-fault protection not exceeding 30 mA.

(10) Conductors operating in excess of 600 volts, nominal may not be installed on floating portions of a floating building or similar facility.



**WAC 296-46B-590 Special occupancies—Temporary installations.****004 Temporary installations—Splices.**

(3) A splice or junction box is required for all wiring splice or junction connections in a temporary installation.

**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 to the applicable ANSI UL Standard. Installations will be inspected for compliance with installation instructions and the NEC.

**WAC 296-46B-600****010 Portable or mobile outdoor electrical signs.**

(8) A GFCI receptacle outlet that is weatherproof with the supply cord connected must be installed within six feet of each portable or mobile electrical sign.

(9) Extension cords are not permitted to supply portable outdoor signs.

(10) All portable outdoor electrical signs must be listed by a qualified electrical testing laboratory accredited by the department.

**WAC 296-46B-600****030 Neon tubing.**

(11) NEC 600, Part II, Field-Installed Skeleton Tubing, will apply to the installation of all neon tubing and neon circuit conductors.

(12) Field-installed skeleton tubing is not required to be listed. Installations will be inspected for compliance with installation instructions and the NEC.

## Exam Questions:

- |  |   |
|--|---|
| <p>36. Conductors operating in excess of _____ volts, nominal may not be installed on floating portions of a floating building or similar facility.</p> <p>A. Six hundred<br/>B. Eighteen<br/>C. Twelve<br/>D. Twenty-four</p> | <p>39. A GFCI receptacle outlet that is weatherproof with the supply cord connected must be installed within _____ feet of each electrical sign.</p> <p>A. 3<br/>B. 6<br/>C. 5<br/>D. 4</p> |
| <p>37. A splice or junction box is required for all wiring splice or junction connections in a _____ installation.</p> <p>A. Portable<br/>B. Factory<br/>C. Permanently<br/>D. Temporary</p>                                   | <p>40. Field-Installed _____ Tubing, will apply to all neon tubing and neon circuit conductors.</p> <p>A. Non-Metallic<br/>B. Skeleton<br/>C. Flexible<br/>D. Metallic</p>                  |
| <p>38. All electrical signs within the scope of UL Standard 48, the electrical sign standard, must be _____.</p> <p>A. Listed<br/>B. Installed<br/>C. Complete<br/>D. Removable</p>  |   |



**WAC 296-46B-680 Special Equipment—Swimming pools, fountains and similar installations.****001 General.**

(1) Package spa or hot tubs. Electrical heating, pumping, filtering, and/or control equipment installed within five feet of a spa or hot tub must be listed or field evaluated as a package with the spa or hot tub.

(2) A factory assembled skid pack of electrical heating, pumping, filtering, and/or control equipment must be installed more than five feet from a spa or hot tub and must be listed as a package unit.

(3) The maintenance disconnect and field installed, listed electrical equipment for a hot tub, spa, or swim spa must be located at least five feet from the hot tub, spa or swim spa. Field installed listed equipment must meet the following additional requirements:

(a) The heater is listed as a "spa heater or swimming pool heater";

(b) The pump is listed as a "spa pump" or "swimming pool/spa pump" (the pump may be combined with a filter assembly); and

(c) Other listed equipment such as panelboards, conduit, and wire are suitable for the environment and comply with the applicable codes.

(4) Field installed, listed electrical equipment for a swimming pool must be located at least five feet from the swimming pool. Field installed listed equipment must meet the following additional requirements:

(a) The heater must be listed as a "swimming pool heater or a spa heater";

(b) The pump must be listed as a "swimming pool pump" or "spa pump" or "swimming pool/spa pump"; and

(c) Other equipment such as panelboards, conduit, and wire must be suitable for the environment and comply with the applicable codes.

The five-foot separation may be reduced by the installation of a permanent barrier, such as a solid wall, fixed glass windows or doors, etc. The five-foot separation will be determined by the shortest path or route that a cord can travel from the spa, hot tub, swim spa, or swimming pool to an object.

(5) The field assembly or installation of "recognized components" will not be permitted.

(6) Hydromassage bathtubs must be listed as a unit and bear a listing mark which reads "hydromassage bathtub."

(7) Manufacturers' instructions must be followed as part of the listing requirements.

(8) Electrical components which have failed and require replacement must be replaced with identical products unless the replacement part is no longer available; in which case, a like-in-kind product may be substituted provided the mechanical and grounding integrity of the equipment is maintained.

(9) Cut-away-type display models may not be sold for other than display purposes and are not expected to bear a listing mark.

**WAC 296-46B-680****040 Spas and hot tubs.**

(11) NEC 680.42(C) will apply for interior and exterior wiring to outdoor installations of spas and hot tubs.



## Exam Questions:

41. What is the minimum distance that a factory assembled skid pack with electrical equipment for a spa can be located from the spa it serves?
- A. 5'
  - B. 10'
  - C. 15'
  - D. 7'
42. Cut-away-type display models \_\_\_\_\_ be sold for other than display purposes and are not expected to bear a listing mark.
- A. Shall
  - B. Will
  - C. May not
  - D. Can
43. What section of the NEC applies for interior and exterior wiring to outdoor installations of spas and hot tubs?
- A. 680.24(B)
  - B. 680.8
  - C. 680.42(C)
  - D. 680.3

### **WAC 296-46B-690 Solar Photovoltaic Systems.**

#### **007 Maximum Voltage.**

(6) The open-circuit voltage temperature coefficients supplied in the instructions of listed photovoltaic modules will be used to determine the maximum direct current photovoltaic system voltage. Otherwise the voltage will be calculated using Table 690.7 of the NEC. For the purposes of this calculation, a temperature correction factor of 1.25 will be used unless another factor can be justified and is approved by the authority having jurisdiction.

### **WAC 296-46B-700 Emergency Systems.**

#### **010 Emergency systems—Equipment identification.**

(3) All exit and emergency lights, whether or not required by the NEC, must be installed in accordance with Article 700 NEC.

(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.

### **WAC 296-46B-701 Legally required standby systems**

#### **(027) Coordination**

(2) The requirements for selective coordination described in NEC 701.27 are not required where the legally required standby system was installed prior to June 1, 2006. For new legally required standby systems that are supplied from an



existing legally required standby system installed prior to June 1, 2006, the new portion of the legally required standby system must comply with NEC 701.27. The ground fault sensing function of overcurrent protective devices will only be required to selectively coordinate with the ground fault sensing functions of other overcurrent protective devices.

### **WAC 296-46B 760**

#### **Fire alarm systems**

Device and junction boxes for fire alarm systems other than the surface raceway type, must be substantially red in color, both inside and outside. Power-limited fire protective signaling circuit conductors must be durably and plainly marked in or on junction boxes or other enclosures to indicate that it is a power-limited fire protective signaling circuit.

### **WAC 296-46B 800 Communications systems — Communications circuits.**

#### **General.**

Chapters 1 through 7, NEC, supplement and modify the requirements of Chapters 8, NEC. If there are specific requirements or exceptions described in Chapter 8, NEC, that are different from those in Chapters 1 through 7, NEC, Chapter 8 will prevail.

## Exam Questions:

44. What is the standard temperature correction factor for PV systems?
  - A. 1.25
  - B. 1.5
  - C. 2.5
  - D. 1
45. The open circuit voltage temperature coefficients supplied in the instructions of listed photovoltaic modules will be used to determine the maximum \_\_\_\_\_ current photovoltaic system voltage.
  - A. Fault
  - B. Alternating
  - C. Stray
  - D. Direct
46. All exit and emergency lights, whether or not required by the NEC, must be installed in accordance with Article \_\_\_\_\_ NEC.
  - A. 300
  - B. 700
  - C. 500
  - D. 100
47. Selective coordination described in NEC 701.27 is not required where the Value standby system was installed prior to June 1, \_\_\_\_\_.
  - A. 2006
  - B. 2013
  - C. 2005
  - D. 1997
48. Junction boxes used for fire alarm systems must be substantially \_\_\_\_\_ in color, both inside and outside.
  - A. Orange
  - B. Blue
  - C. Red
  - D. Yellow
49. What NEC chapter deals with Communications circuits?
  - A. Chapter 2
  - B. Chapter 4
  - C. Chapter 6
  - D. Chapter 8
50. While installing communication circuits in an industrial setting according to Chapter 5 of the NEC, you discover specific rules in Chapter 8 of the NEC that are different than what is required by Chapter 5. What chapter of the NEC should be followed for the installation?
  - A. Chapter 5
  - B. Chapter 8
  - C. Chapter 3
  - D. You must install to the most stringent requirement

**WAC 296-46B-900****Definition of occupancies.**

(1) Occupancies are defined as follows:

(a) Educational facility refers to a building or portion of a building used primarily for educational purposes by six or more persons at one time for twelve hours per week or four hours in any one day. Educational occupancy includes: Schools (preschool through grade twelve), colleges, academies, universities, and trade schools.

(b) Institutional facility refers to a building or portion of a building used primarily for detention or correctional occupancies where some degree of restraint or security is required for a time period of twenty-four or more hours. Such occupancies include, but are not restricted to: penal institutions, reformatories, jails, detention centers, correctional centers, and residential-restrained care.

(v) "**Private alcoholism hospital**" means an institution, facility, building, or equivalent designed, organized, maintained, or operated to provide diagnosis, treatment, and care of individuals demonstrating signs or symptoms of alcoholism, including the complications of associated substance use and other medical diseases that can be appropriately treated and cared for in the facility and providing accommodations, medical services, or other necessary services over a continuous period of twenty-four hours or more for two or more individuals unrelated to the operator, provided that this chapter will not apply to any facility, agency, or other entity which is owned and operated by a public or governmental body.

(xiv) "**Group care facility**" means a facility other than a foster-family home maintained or operated for the care of a group of children on a twenty-four-hour basis.

(vii) "**Maternity home**" means any home, place, hospital, or institution in which facilities are maintained for the care of four or more women, not related by blood or marriage to the operator, during pregnancy or during or within ten days after delivery: provided, however, that this definition will not apply to any hospital approved by the American College of Surgeons, American Osteopathic Association, or its successor.

(viii) "**Birth center**" or "childbirth center" means a type of maternity home which is a house, building, or equivalent organized to provide facilities and staff to support a birth service provided that the birth service is limited to low-risk maternal clients during the intrapartum period.

(ix) "**Ambulatory surgical facility**" means a facility, not a part of a hospital, providing surgical treatment to patients not requiring inpatient care in a hospital.

(x) "**Hospice care center**" means any building, facility, place, or equivalent, organized, maintained, or operated specifically to provide beds, accommodations, facilities, or services over a continuous period of twenty-four hours or more for palliative care of two or more individuals, not related to the operator, who are diagnosed as being in the latter stages of an advanced disease which is expected to lead to death.

(xi) "**Renal hemodialysis clinic**" means a facility in a building or part of a building which is approved to furnish the full spectrum of diagnostic, therapeutic, or rehabilitative services required for the care of renal dialysis patients (including inpatient dialysis furnished directly or under arrangement). (NEC; Ambulatory Health Care Center.)

(xii) "**Medical, dental, and chiropractic clinic**" means any clinic or physicians' office where patients are not regularly kept as bed patients for twenty-four hours or more. Electrical plan review is not required.

(xiii) "**Residential treatment facility**" means a facility licensed and operated 24 hours per day to provide health care to persons receiving services for a mental disorder or substance abuse.



## Exam Questions:

51. \_\_\_\_\_ refers to building or portion of a building used primarily for detention or correctional occupancies where some degree of restraint or security is required for a time period of twenty-four or more hours.
- A. Educational facility
  - B. Detention facility
  - C. Institutional facility
  - D. County court house
52. " \_\_\_\_\_ " means a facility, not a part of a hospital, providing surgical treatment to patients not requiring inpatient care in a hospital.
- A. Ambulatory surgical facility
  - B. Alcoholism intake facility
  - C. Private alcoholism hospital
  - D. Alcoholism check-in facility
53. " \_\_\_\_\_ " means a facility other than a foster-family home maintained or operated for the care of a group of children on a twenty-four hour basis.
- A. Group home facility
  - B. Foster home facility
  - C. Foster Care facility
  - D. Group care facility

### **WAC 296-46B-900**

#### **Plan review for educational, institutional, or health care facilities/buildings.**

(e) All electrical plans for educational facilities, hospitals, and nursing homes must be prepared by, or under the direction of, a consulting engineer registered under chapter 18.43 RCW, and chapters 246-320, 180-29, and 388-97 WAC and stamped with the engineer's mark and signature.

(i) The department may perform the plan review for new or altered electrical installations of other types of construction when the owner or electrical contractor makes a voluntary request for review. A city authorized to do electrical inspections may require a plan review of any electrical system.

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

#### **General.**

(1) When an electrical work permit is required by chapter 19.28 RCW or this chapter, inspections may not be made, equipment must not be energized, or services connected unless:

- (a) A valid electrical work permit is obtained and posted per subsection (5) of this section;
- (b) The classification or type of facility to be inspected and the exact scope and location of the electrical work to be performed are clearly shown on the electrical work permit;
- (c) The address where the inspection is to be made is clearly identifiable from the street, road or highway that serves the premises; and
- (d) Driving directions are provided for the inspectors' use.

(2) Except as allowed for annual permits and two-family dwellings, an electrical work permit is valid for only one specific job site address.

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

#### **Permit—Responsibility for.**

(3) Each person, firm, partnership, corporation, or other entity must furnish a valid electrical work permit for the installation, alteration, or other electrical work performed or to be performed by that entity. When the original

purchaser is replaced, another entity may request, in writing, written approval from the Chief Electrical Inspector to take responsibility for the work of the original installing entity under the original permit. If permission is not granted, the entity must obtain a new permit for the remaining work. Two or more entities may never work under the same permit. Each electrical work permit application must be signed by the electrical contractor's administrator (or designee) or the person, or authorized representative of the firm, partnership, corporation, or other entity that is performing the electrical installation or alteration. Permits purchased electronically do not require a handwritten signature. An entity designated to sign electrical permits must provide written authorization of the purchaser's designation when requested by the department or city that is authorized to do electrical inspections.

(4) Permits to be obtained by customers. Whenever a serving electrical utility performs work for a customer under one of the exemptions in WAC 296-46B-925 and the work is subject to inspection, the customer is responsible for obtaining all required permits.

(5) Except as allowed for Class B permits, where an electrical work permit is required, the work permit must be obtained and posted at the jobsite or the electrical work permit number must be conspicuously posted and identified as the electrical work permit number on or adjacent to the electrical service or feeder panel supplying power to the work prior to beginning any electrical work and at all times until the electrical inspection process is completed.

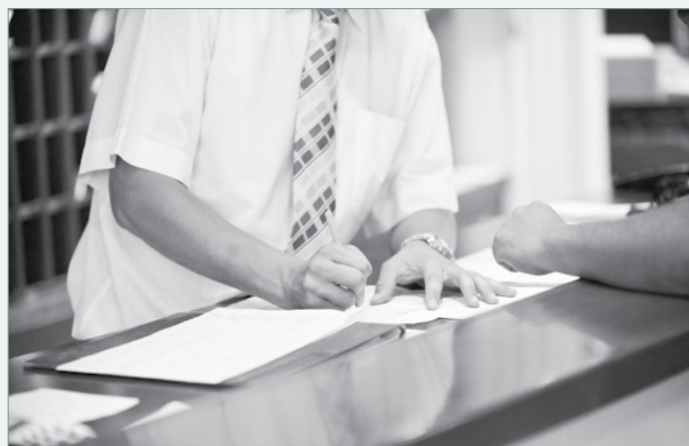
### **WAC 296-46B-901**

#### **Permit—Annual electrical.**

(13) The chief electrical inspector or city that is authorized to do electrical inspections can allow annual permits for the inspection of electrical installations to be purchased by a building owner or licensed electrical contractor. This type of permit is available for commercial/industrial locations employing a full-time electrical maintenance staff or having a yearly maintenance contract with a licensed electrical contractor. Upon request, the Chief Electrical Inspector may allow the annual permit to be used for multiple worksites or addresses.

The permit holder is responsible for correcting all installation deficiencies. The permit holder must make available, to the electrical inspector, all records of all electrical work performed.

This type of electrical permit may be used for retrofit, replacement, maintenance, repair, upgrade, and alterations to electrical systems at a plant or building location. This type of permit does not include new or increased service or new square footage.



## Exam Questions:

- |  |  |
|--|--|
| <p>54. What type of plans for an educational facility must be prepared by a consulting engineer registered under chapter 18.43 RCW, and stamped with the engineer's mark and signature?</p> <ul style="list-style-type: none"> <li>A. Structural</li> <li>B. HVAC</li> <li>C. Mechanical</li> <li>D. Electrical</li> </ul> | <p>55. The department may perform the plan review for new or altered electrical installations of other types of construction when the owner or electrical contractor makes a _____ request for review.</p> <ul style="list-style-type: none"> <li>A. Mandatory</li> <li>B. Voluntary</li> <li>C. Involuntary</li> <li>D. Compliance</li> </ul> |
|--|--|



56. How many entities can work under the same electrical permit?

- A. Two
- B. No such requirement
- C. Three
- D. One

57. Who determines if an annual permit to can be used for multiple worksites or addresses in Washington?

- A. The Authority Having Jurisdiction
- B. The State code enforcer
- C. Chief Electrical Inspector
- D. All listed answers

### **WAC 296-46B-901**

#### **Permit—Requirement for**

(8) An electrical work permit is required for all installations of telecommunications systems on the customer side of the network demarcation point for projects greater than ten telecommunications outlets. All backbone installations regardless of size and all telecommunications cable or equipment installations involving penetrations of fire barriers or passing through hazardous locations require permits and inspections. For the purposes of determining the inspection threshold for telecommunications projects greater than ten outlets, the following will apply:

(a) An outlet is the combination of jacks and mounting hardware for those jacks, along with the associated cable and telecommunications closet terminations that serve one workstation. In counting outlets to determine the inspection threshold, one outlet must not be associated with more than six standard four pair cables or more than one twenty-five-pair cable. Therefore, installations of greater than sixty standard four-pair cables or ten standard twenty-five-pair cables require permits and inspections. (It is not the intent of the statute to allow large masses of cables to be run to workstations or spaces serving telecommunications equipment without inspection. Proper cable support and proper loading of building structural elements are safety concerns. When considering total associated cables, the telecommunications availability at one workstation may count as more than one outlet.)

(b) The installation of greater than ten outlets and the associated cables along any horizontal pathway from a telecommunications closet to work areas during any continuous ninety-day period requires a permit and inspection.

### **WAC 296-46B-903**

#### **Industrial control panel and industrial utilization equipment inspection.**

(7) The department may authorize, on a case-by-case basis, use of the industrial control panel or equipment, for a period not to exceed six months or as approved by the chief electrical inspector after use is begun, before its final inspection, listing, field evaluation, or engineering evaluation is complete.

### **WAC 296-46B-906**

#### **Inspection Fees.**

##### **Residential. Single- and two-family residential (New Construction)**

(1) Square footage is the area included within the surrounding exterior walls of a building exclusive of any interior courts. (This includes any floor area in an attached garage, basement, or unfinished living space.)

(2) "Inspected with the service" means that a separate service inspection fee is included on the same electrical work permit.

(3) "Inspected at the same time" means all wiring is to be ready for inspection during the initial inspection trip.

(4) An "outbuilding" is a structure that serves a direct accessory function to the residence, such as a pump house or storage building. Outbuilding does not include buildings used for commercial type occupancies or additional dwelling occupancies.

### **WAC 296-46B-906**

(12) Variance request processing fee.

Variance request processing fee is \$94.20. This fee is nonrefundable once the transaction has been validated.

## Exam Questions:

58. If a telecommunications closet has more than ten outlets, and will operate continuously for a \_\_\_\_\_ day period, it will require a permit and inspection.
- Ninety
  - Forty-five
  - Thirty
  - Sixty
59. L and I can authorize the use of an industrial control panel for a period not to exceed six months by the \_\_\_\_\_ electrical inspector after use has begun, and before its final inspection is complete.
- City
  - State
  - County
  - Chief
60. "Inspected at the same time" means all \_\_\_\_\_ is to be ready for inspection during the initial inspection trip.
- Conduit
  - Wiring
  - Lighting
  - Heating
61. A variance request processing fee is nonrefundable once the \_\_\_\_\_ has been validated.
- Transaction
  - Property
  - Permit
  - License

### **WAC 296-46B-907**

#### **Provisional permits.**

#### **Provisional electrical work permit—Use/duration/refunds.**

- Only licensed electrical or telecommunications contractors can use provisional electrical work permits.
- If a provisional electrical work permit label is used, the following requirements must be met:
  - Prior to beginning the work, the certified electrician or telecommunications worker performing the installation must affix the provisional electrical work permit label to the building, structure, or on the cover of the panelboard, overcurrent device, or telecommunications equipment supplying the circuit or equipment.
  - The job site and contractor portion of the label must be completely filled out.
  - The label must be filled in using sunlight and weather resistant ink.
  - The contractor must return the contractor's portion of the label to the department of labor and industries, electrical section office having jurisdiction for the inspection, within two working days after the job site portion of the label is affixed. Either receipt by department of labor and industries or postmark to a valid department of labor and industries electrical address is acceptable for meeting this requirement.
- Refunds are not available for provisional electrical work permit labels.
- Provisional electrical work permit labels will be sold in blocks of twenty.
- Any contractor purchasing a provisional electrical work permit label may be audited for compliance with the provisions for purchasing, inspection, reporting of installations, and any other requirement of usage.
- An electrical work permit must be obtained within two working days after posting the provisional work permit label. See WAC 296-46B-901 (7)(b).

### **WAC 296-46B-908**

#### **Class B electrical work permit—Use**

- Class B labels will be sold in blocks and are non-refundable and non-transferable.



- (4) Class B label installations will be inspected on a random basis as determined by the department.
- (5) A progress inspection fee is required for any inspection required when a correction(s) is issued as a result of the inspection of a Class B label.
- (6) Any entity using the Class B process may be audited for compliance with the provisions for purchasing, inspection, reporting of installations, and any other requirement of usage.
- (7) A separate label is required for each line item listed below in section (10). For example, if the work includes an item on section (10)(a) and (b)(i) of this section, two labels are required.
- (8) An entity using a Class B basic inspection label is restricted to using no more than two labels per week per job site.
- (9) All Class B work must be completed within fifteen days after the label is validated. If the work is not completed, another Class B may be posted.
- Except that, in a one- or two-family residential structure, a label is valid for ninety days after the label is validated, so long as all work described on the label is performed by the purchaser.

### **WAC 296-46B-935 Administrator certificate.**

#### **General.**

- (1) The department will deny application, renewal, or reinstatement of a certificate if an individual owes money as a result of an outstanding final judgment(s) to the department.
- (2) For special accommodation see WAC 296-46B-960.
- (3) An applicant will not be issued a specialty administrator certificate that is a subspecialty of a certificate the applicant currently holds (i.e., the applicant is not eligible to take the domestic well administrator examination if the applicant currently possesses a pump and irrigation administrator certificate).

#### **Qualifying for examination.**

- (4) There are no qualification requirements for taking an administrator certificate examination. Applicants should contact the testing agency directly.

## Exam Questions:

- |  |   |
|--|---|
| <p>62. Provisional electrical work permit labels will be sold in blocks of _____.<br/>         A. Forty<br/>         B. Thirty<br/>         C. Sixty<br/>         D. Twenty</p> <p>63. How long do you have to complete work using a class B permit once it has been validated?<br/>         A. 20 days<br/>         B. 5 business days<br/>         C. 72 hours<br/>         D. 15 days</p> | <p>64. An entity using a Class B basic inspection label is restricted to using no more than ____ labels per week per job site.<br/>         A. Three<br/>         B. Five<br/>         C. Two<br/>         D. Four</p> <p>65. How many qualification requirements are there for taking a Washington State administrator certificate examination?<br/>         A. None<br/>         B. Several<br/>         C. Two<br/>         D. Three</p> |
|--|---|

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

- (1) The department will deny application, renewal, or reinstatement of a certificate or permit if an individual owes money as a result of an outstanding final judgment(s) under chapter 19.28 RCW.
- (2) The scope of work for electricians is described in WAC 296-46B-920.

**WAC 296-46B-945****Qualifying for master, journey level, specialty electrician examinations.****(1) General**

- (a) All applicants must be at least sixteen years of age.
- (b) All applicants, from in or out of state, must demonstrate the completion of basic trainee classes described in WAC 296-46B-970(4)(c)(ii)(D).
- (i) Twenty-four hours where 2,000 or more; but less than 4,000 hours of work experience is required.
- (ii) Forty-eight hours where 4,000 or more; but less than 6,000 hours of work experience is required.
- (iii) Seventy-two hours where 6,000 or more; but less than 8,000 hours of work experience is required.
- (iv) Ninety-six hours where 8,000 hours or more of work experience is required.

**WAC 296-46B-942****Renewal of training certificates.**

- (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 one-hundred eighty days after 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.

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

- (3) Administrator, master electrician, and electrician examinations may consist of multiple sections. For all administrator examinations, all sections must be successfully completed within a one-year examination period after beginning the examination. For all master electrician and electrician examinations, all sections must be successfully completed within a one-year examination period beginning with the date of the examination approval. Within the one-year examination period, the candidate does not have to retake any sections successfully completed within the examination period. If all sections are not successfully completed within the one-year period, the candidate must begin a new examination period and retake all sections.

**WAC 296-46B-960****Cheating on an examination.**

(12) Anyone found cheating on an examination, attempting to bribe a proctor or other agent involved in administering an examination, or using inappropriate materials/equipment during an examination will be required to wait at least eleven months before being allowed to reexamine. All such reexaminations will be administered by the department in Tumwater, Washington and the candidate will be required to apply and schedule for the examination with the chief electrical inspector. The department may also file a civil penalty action under chapter 19.28 RCW.

## Exam Questions:

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| <p>66. The department will deny application or renewal of a certificate or permit if an individual owes money as a result of an outstanding _____ judgment(s) to the department.</p> <ul style="list-style-type: none"> <li>A. Final</li> <li>B. Old</li> <li>C. New</li> <li>D. Late</li> </ul> | <p>68. For electrical administrators taking the administrator test, all sections must be successfully completed with in a _____ examination period after beginning the examination.</p> <ul style="list-style-type: none"> <li>A. Six month</li> <li>B. Fifteen month</li> <li>C. One-year</li> <li>D. Three month</li> </ul> |
| <p>67. Basic trainee classes are only valid when all the requirements of what WAC section are completed?</p> <ul style="list-style-type: none"> <li>A. WAC 296-46B-960</li> <li>B. WAC 296-46B-975</li> <li>C. WAC 296-46B-945</li> <li>D. WAC 296-46B-970</li> </ul>                            | <p>69. Anyone found cheating on an examination will be required to wait at least _____ months before being allowed to reexamine.</p> <ul style="list-style-type: none"> <li>A. Fifteen</li> <li>B. Eleven</li> <li>C. Twenty-two</li> <li>D. Six</li> </ul>   |

**WAC 296-46B-970 Continuing education and classroom education requirements.**

(e) Review process:

(i) When the application is received:

(A) The department must review the application for completeness within seven working days after receipt.

(B) If the application is incomplete, the department must, within two working days, notify the applicant of the status of the review and what additional information is required.

- The applicant must provide any additional information requested by the department within five working days after the date of notification.

- The department will deny the application if the additional required information is not received within five working days after the date of notification for additional information.

(C) The department must complete the review and approval/denial process within fifteen working days upon receipt of a complete application or additional requested information and within two working days notify the applicant of the approval/denial in writing or electronically.

**WAC 296-46B-970****(2) General:**

(a) The department and the electrical board have the right to monitor all approved classes without notice and at no charge.

If the department or electrical board determines that the class or instructor does not meet or exceed the minimum requirements for approval or course length or instructor qualifications, the department may revoke the class or instructor approval and reduce the number of credited hours for the class.

(g) A continuing or basic trainee class attended or completed by an individual before the class's effective date cannot be used to meet the certificate renewal/certification requirements.

**(4) CLASS APPROVAL PROCESS:****(i) Class length:**

(A) The minimum allowed length of a class is two hours; however, the minimum length for a basic trainee class is four hours that may be delivered in multiple classroom components of not less than two hours each.

(B) Class length must be based on two-hour increments (e.g., 2, 4, 6, 8, etc.).

(C) Class length must be based on the following:

Classroom instruction will be based on the total hours the individual is in the classroom. A continuing education class may be divided into multiple components so long as each component is not less than two hours in length and all components are completed within a one-month period. A basic trainee class may be divided into multiple components so long as each component is not less than two hours in length and all components are completed within a six-month period.

**WAC 296-46B-995****Electrical board—Appeal rights and hearings.****General.**

(9) All filings and documents for any matter before the board must be submitted to the chief electrical inspector, as secretary to the board, 7273 Linderson Way, P.O. Box 44460, Olympia, WA 98504-4460. Twenty copies of filings and documents must be submitted by ordinary mail, certified or registered mail, or by personal delivery.

Filings and documents must be received no later than forty-five days prior to the scheduled meeting. When filings or documents are received after the deadlines, the filings and documents will be presented to the board at the second regularly scheduled board meeting.

(10) All hearings before the board as a whole shall be held on regularly scheduled meeting dates, as listed in subsection (4) of this section, unless the board determines that an alternate date is necessary.

**WAC 296-46B-999****Electrical testing laboratory requirements.****General.****Field evaluation - Requirements.**

(45) The scope of a field evaluation will depend on the status of the item to be evaluated as follows:

(a) A new piece of equipment must have a complete evaluation of all components and the assembly as provided by the manufacturer. For example: An industrial machine with a control panel, remote motors, sensors, controls, and other utilization equipment; and

(b) A product that has been modified internally or by an addition need have only those portions evaluated that



were affected by the modification. For example: A switchboard with multiple sections that has a section added would only need the new section, the one section immediately adjacent, and any control modifications evaluated.

(52) The field evaluation laboratory must have a system of controls and records for all field evaluation marks it applies. The records must include labels removed or otherwise voided. See subsection (26) of this section.

## Exam Questions:

70. The department and the electrical board have the right to \_\_\_\_\_ all approved classes without notice and at no charge.
  - A. Monitor
  - B. Advertise
  - C. Use
  - D. Sell
71. How many days does a continuing education course provider have to submit information requested by the department?
  - A. 5
  - B. 2
  - C. 7
  - D. 10
72. What does Washington State require as the minimum length for a basic trainee class?
  - A. 2 hours
  - B. 6 hours
  - C. 4 hours
  - D. 8 hours
73. All hearings before the board as a whole shall be held on regularly scheduled meeting dates, as listed in subsection (4) of the WAC, unless the board determines that a (an) \_\_\_\_\_ date is necessary.
  - A. New
  - B. Alternate
  - C. Fixed
  - D. Mandatory
74. New equipment must have a complete evaluation of all components and the assembly as provided by the \_\_\_\_\_.
  - A. State
  - B. Manufacturer
  - C. Testing entity
  - D. City
75. The field evaluation \_\_\_\_\_ must have a system of controls and records for all field evaluation marks it applies. The records must include labels removed or otherwise voided.
  - A. Equipment
  - B. Company
  - C. Laboratory
  - D. Technician

### **Electricians and Electrical Installations (RCW 19.28)**

#### **RCW 19.28.021 Disputes regarding local regulations—Arbitration—Appeal.**

Disputes arising under RCW 19.28.010(3) regarding whether the city or town's electrical rules, regulations, or ordinances are equal to the rules adopted by the department shall be resolved by arbitration. The department shall appoint two members of the board to serve on the arbitration panel, and the city or town shall appoint two persons to serve on the arbitration panel.

These four persons shall choose a fifth person to serve. If the four persons cannot agree on a fifth person, the presiding judge of the superior court of the county in which the city or town is located shall choose a fifth person. A decision of the arbitration panel may be appealed to the superior court of the county in which the city or town is located within thirty days after the date the panel issues its final decision.

**RCW 19.28.101 Inspections — Notice to repair and change — Disconnection — Entry — Concealment — Accessibility — Connection to utility — Permits, fees — Limitation — Waiver of provisions during state of emergency.**

(1) The director shall cause an inspector to inspect all wiring, appliances, devices, and equipment to which this chapter applies except for basic electrical work as defined in this chapter. The department may not require an electrical work permit for class A basic electrical work unless deficiencies in the installation or repair require inspection. The department may inspect class B basic electrical work on a random basis as specified by the department in rule. Nothing contained in this chapter may be construed as providing any authority for any subdivision of government to adopt by ordinance any provisions contained or provided for in this chapter except those pertaining to cities and towns pursuant to RCW 19.28.010(3).

**RCW 19.28.121 Board—Request for ruling—Fee—Costs.**

Any person, firm, partnership, corporation, or other entity desiring a decision of the board pursuant to RCW 19.28.111 shall, in writing, notify the director of such desire and shall accompany the notice with a certified check payable to the department in the sum of two hundred dollars. The notice shall specify the ruling or interpretation desired and the contention of the person, firm, partnership, corporation, or other entity as to the proper interpretation or application on the question on which a decision is desired. If the board determines that the contention of the applicant for a decision was proper, the two hundred dollars shall be returned to the applicant; otherwise it shall be used in paying the expenses and per diem of the members of the board in connection with the matter. Any portion of the two hundred dollars not used in paying the per diem and expenses of the board in the case shall be paid into the electrical license fund.



## Exam Questions:

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| <p>76. RCW 19.28.010 (3) calls for disputes regarding whether a city or town's electrical rules are equal to the rules adopted by the department are required to be resolved by _____.<br/> A. Committee<br/> B. Dueling<br/> C. Arbitration<br/> D. Proxy</p> <p>77. The department may not require an electrical work permit for class _____ basic electrical work unless deficiencies in the installation or repair require inspection..<br/> A. No Requirement<br/> B. C<br/> C. A<br/> D. B</p> | <p>78. If a company requests a ruling from the board, a certified check payable to the department in the sum of _____ hundred dollars is required.<br/> A. Five<br/> B. Two<br/> C. Nine<br/> D. Four</p> |
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**RCW 19.28.131 Violations of RCW 19.28.010 through 19.28.141 and 19.28.311 through 19.28.361 — Schedule of penalties — Appeal.**

Until July 1, 2007, the department shall issue a written warning to any specialty contractor, performing the scope of work defined by rule for the pump and irrigation or domestic pump specialties, not having a valid electrical contractor license. The warning will state that the contractor must be qualified for and apply for a specialty electrical contractor license under the requirements in RCW 19.28.041 within thirty calendar days of the warning. Only one warning will be issued to any contractor. If the contractor fails to comply with this section, the department shall issue a penalty or penalties as authorized in this section to the contractor.

Any person, firm, partnership, corporation, or other entity violating any of the provisions of RCW 19.28.010 through 19.28.141 and 19.28.311 through 19.28.361 shall be assessed a penalty of not less than fifty dollars or more than ten thousand dollars. The department shall set by rule a schedule of penalties for violating RCW 19.28.010 through 19.28.141 and 19.28.311 through 19.28.361. The department shall notify the person, firm, partnership, corporation, or other entity violating any of the provisions of RCW 19.28.010 through 19.28.141 and 19.28.311 through 19.28.361 of the amount of the penalty and of the specific violation by certified mail, return receipt requested, sent to the last known address of the assessed party. Any penalty is subject to review by an appeal to the board.

The filing of an appeal stays the effect of the penalty until the board makes its decision. The appeal shall be filed within twenty days after notice of the penalty is given to the assessed party by certified mail, return receipt requested, sent to the last known address of the assessed party and shall be made by filing a written notice of appeal with the department. The notice shall be accompanied by a certified check for two hundred dollars, which shall be returned to the assessed party if the decision of the department is not sustained by the board. If the board sustains the decision of the department, the two hundred dollars shall be applied by the department to the payment of the per diem and expenses of the members of the board incurred in the matter, and any balance remaining after payment of per diem and expenses shall be paid into the electrical license fund. The hearing and review procedures shall be conducted in accordance with chapter 34.05 RCW. The board shall assign its hearings to an administrative law judge to conduct the hearing and issue a proposed decision and order. The board shall be allowed a minimum of twenty days to review a proposed decision and shall issue its decision no later than the next regularly scheduled board meeting.

**RCW 19.28.191 Certificate of competency—Eligibility for examination—Rules.**

(1) Upon receipt of the application, the department shall review the application and determine whether the applicant is eligible to take an examination for the master journeyman electrician, journeyman electrician, master specialty electrician, or specialty electrician certificate of competency.

(d) To be eligible to take the examination for a master journeyman electrician certificate of competency the applicant must have possessed a valid journeyman electrician certificate of competency for four years.

(e) To be eligible to take the examination for a master specialty electrician certificate of competency the applicant must have possessed a valid specialty electrician certificate of competency, in the specialty applied for, for two years.

(j) The department must determine whether hours of training and experience in the armed services or school program are in the electrical construction trade and appropriate as a substitute for hours of work experience. The department must use the following criteria for evaluating the equivalence of classroom electrical training programs and work in the electrical construction trade:

- (i) A two-year electrical training program must consist of three thousand or more hours.
- (ii) In a two-year electrical training program, a minimum of two thousand four hundred hours of student/instructor contact time must be technical electrical instruction directly related to the scope of work of the electrical specialty. Student/instructor contact time includes lecture and in-school lab.





## Exam Questions:

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| <p>79. How does L and I notify any entity violating any of the provisions of RCW 19.28.010 through 19.28.141 and 19.28.311 through 19.28.361 of the amount of the penalty and of the specific violation?</p> <ul style="list-style-type: none"> <li>A. Certified mail</li> <li>B. Electronic mail</li> <li>C. A posted jobsite notice</li> <li>D. UPS ground</li> </ul> <p>80. If you were to appeal a decision by the department (L and I) for any reason, the appeal must be filed within _____ days after notice of the penalty is given.</p> <ul style="list-style-type: none"> <li>A. Ten</li> <li>B. Fifteen</li> <li>C. Seven</li> <li>D. Twenty</li> </ul> | <p>81. How many years do you have to have a Journeymen electrician license in Washington State before you would be allowed to take the master's test?</p> <ul style="list-style-type: none"> <li>A. 3</li> <li>B. 4</li> <li>C. 7</li> <li>D. 5</li> </ul> <p>82. In a two-year electrical training program, a minimum of two thousand four hundred hours of student/instructor contact time must be _____ electrical instruction directly related to the scope of work of the electrical specialty.</p> <ul style="list-style-type: none"> <li>A. On the job</li> <li>B. Technical</li> <li>C. Certified</li> <li>D. Mandatory</li> </ul> |
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### **RCW 19.28.211 Certificate of competency—Issuance—Renewal—Continuing education—Fees—Effect.**

(1) The department shall issue a certificate of competency to all applicants who have passed the examination provided in RCW 19.28.201, met the in-class education requirements of RCW 19.28.205 if applicable, and who have complied with RCW 19.28.161 through 19.28.271 and the rules adopted under this chapter. The certificate may include a photograph of the holder. The certificate shall bear the date of issuance, and shall expire on the holder's birthday. The certificate shall be renewed every three years, upon application, on or before the holder's birthdate. A fee shall be assessed for each certificate and for each annual renewal.

(3) If the certificate is not renewed before the expiration date, the individual shall pay twice the usual fee. The department shall set the fees by rule for issuance and renewal of a certificate of competency. The fees shall cover but not exceed the costs of issuing the certificates and of administering and enforcing the electrician certification requirements of this chapter.

### **RCW 19.28.241 Revocation of certificate of competency—Grounds—Procedure.**

(1) The department may revoke any certificate of competency upon the following grounds:

- (a) The certificate was obtained through error or fraud;
- (b) The holder thereof is judged to be incompetent to work in the electrical construction trade as a journeyman electrician or specialty electrician;
- (c) The holder thereof has violated any of the provisions of RCW 19.28.161 through 19.28.271 or any rule adopted under this chapter; or
- (d) The holder thereof has committed a serious violation of this chapter or any rule adopted under this chapter. A serious violation is a violation that presents imminent danger to the public.

(2) The department may deny an application for a certificate of competency for up to two years if the applicant's previous certificate of competency has been revoked.

**RCW 19.28.271 Violations of RCW 19.28.161 through 19.28.271 — Schedule of penalties — Appeal.**

(2) Any person, firm, partnership, corporation, or other entity found in violation of RCW 19.28.161 through 19.28.271 shall be assessed a penalty of not less than fifty dollars or more than five hundred dollars. The department shall set by rule a schedule of penalties for violating RCW 19.28.161 through 19.28.271. An appeal may be made to the board as is provided in RCW 19.28.131. The appeal shall be filed within twenty days after the notice of the penalty is given to the assessed party by certified mail, return receipt requested, sent to the last known address of the assessed party and shall be made by filing a written notice of appeal with the department. Any equipment maintained or installed by any person who does not possess a certificate of competency under RCW 19.28.161 through 19.28.271 shall not receive an electrical work permit and electrical service shall not be connected or maintained to operate the equipment. Each day that a person, firm, partnership, corporation, or other entity violates RCW 19.28.161 through 19.28.271 is a separate violation.

**RCW 19.28.311 Electrical board.**

There is hereby created an electrical board, consisting of fifteen members to be appointed by the governor with the advice of the director of labor and industries as herein provided. It shall be the purpose and function of the board to advise the director on all matters pertaining to the enforcement of this chapter including, but not limited to, standards of electrical and telecommunications installation, minimum inspection procedures, and the adoption of rules pertaining to the electrical inspection division: PROVIDED, HOWEVER, That no rules shall be amended or repealed until the electrical board has first had an opportunity to consider any proposed amendments or repeals and had an opportunity to make recommendations to the director relative thereto. The members of the electrical board shall be selected and appointed as follows: One member shall be an employee or officer of a corporation or public agency generating or distributing electric power; one member must be an employee or officer of a facilities-based telecommunications service provider regulated by the Washington state utilities and transportation commission; three members shall be licensed electrical contractors: PROVIDED, That one of these members may be a representative of a trade association in the electrical industry; one member shall be a licensed telecommunications contractor; one member shall be an employee, or officer, or representative of a corporation or firm engaged in the business of manufacturing or distributing electrical and telecommunications materials, equipment, or devices; one member shall be a person with knowledge of the electrical industry, not related to the electrical industry, to represent the public; three members shall be certified electricians; one member shall be a telecommunications worker; one member shall be a licensed professional electrical engineer qualified to do business in the state of Washington and designated as a registered communications distribution designer; one member shall be an outside line worker; and one nonvoting member must be a building official from an incorporated city or town with an electrical inspection program established under RCW 19.28.141. The regular term of each member shall be four years: PROVIDED, HOWEVER, The original board shall be appointed on June 9, 1988, for the following terms: The first term of the member representing a corporation or public agency generating or distributing electric power shall serve four years; two members representing licensed electrical contractors shall serve three years; the member representing a manufacturer or distributor of electrical equipment or devices shall serve three years; the member representing the public and one member representing licensed electrical contractors shall serve two years; the three members selected as certified electricians shall serve for terms of one, two, and three years, respectively; the member selected as the licensed professional electrical engineer shall serve for one year. In appointing the original board, the governor shall give due consideration to the



value of continuity in membership from predecessor boards. Thereafter, the governor shall appoint or reappoint board members for terms of four years and to fill vacancies created by the completion of the terms of the original members. When new positions are created, the governor may appoint the initial members to the new positions to staggered terms of one to three years. The governor shall also fill vacancies caused by death, resignation, or otherwise for the unexpired term of such members by appointing their successors from the same business classification. The same procedure shall be followed in making such subsequent appointments as is provided for the original appointments. The board, at this first meeting shall elect one of its members to serve as chair. Any person acting as the chief electrical inspector shall serve as secretary of the board during his or her tenure as chief state inspector. Meetings of the board shall be held at least quarterly in accordance with a schedule established by the board. Each member of the board shall receive compensation in accordance with RCW 43.03.240 and shall be reimbursed for travel expenses in accordance with RCW 43.03.050 and 43.03.060 which shall be paid out of the electrical license fund, upon vouchers approved by the director of labor and industries.

## Exam Questions:

83. Washington State requires a certificate (License) to be renewed every \_\_\_\_ years, upon application, on or before the holder's birthdate.
  - A. Three
  - B. Two
  - C. Five
  - D. Four
84. If the certificate (License) is not renewed before the expiration date, the individual can pay \_\_\_\_ the usual fee without having to re-test.
  - A. 2 times
  - B. 3 times
  - C. 4 times
  - D. 5 times
85. The department may \_\_\_\_\_ an application for a certificate of competency for up to two years of the applicant's previous certificate of competency has been revoked.
  - A. Shred
  - B. Approve
  - C. Hold
  - D. Deny
86. Each day that a person, firm, partnership, corporation, or other entity violates RCW19.28.161 through RCW19.28.271 is a separate \_\_\_\_\_.
  - A. Violation
  - B. Penalty
  - C. Infraction
  - D. Matter
87. How many members make up the Washington State electrical board?
  - A. Fifteen
  - B. Twelve
  - C. Twenty
  - D. Six
88. The chief electrical inspector shall serve as the \_\_\_\_\_ of the Washington State electrical board during his or her tenure as the chief stated inspector.
  - A. Subordinate
  - B. Enforcer
  - C. Custodian
  - D. Secretary
89. What do the initials RCDD stand for as pertaining to the electrical engineer qualified to do business in the state of Washington?
  - A. Registered corporate distribution designer
  - B. Registered communication designated designer
  - C. Registered communications distribution designer
  - D. Registered communication distribution delegate

**RCW 19.28.341 Revocation or suspension of license—Grounds—Appeal to board—Fee—Costs.**

(1) The department has the power, in case of serious noncompliance with the provisions of this chapter, to revoke or suspend for such a period as it determines, any electrical or telecommunications contractor license or electrical or telecommunications contractor administrator certificate issued under this chapter.

The department shall notify the holder of the license or certificate of the revocation or suspension by certified mail. A revocation or suspension is effective twenty days after the holder receives the notice. Any revocation or suspension is subject to review by an appeal to the board. The filing of an appeal stays the effect of a revocation or suspension until the board makes its decision. The appeal shall be filed within twenty days after notice of the revocation or suspension is given



by certified mail sent to the address of the holder of the license or certificate as shown on the application for the license or certificate, and shall be effected by filing a written notice of appeal with the department, accompanied by a certified check for two hundred dollars, which shall be returned to the holder of the license or certificate if the decision of the department is not sustained by the board. The hearing shall be conducted in accordance with chapter 34.05 RCW. If the board sustains the decision of the department, the two hundred dollars shall be applied by the department to the payment of the per diem and expenses of the members of the board incurred in the matter, and any balance remaining after payment of per diem and expenses shall be paid into the electrical license fund.

**RCW 19.28.420 Telecommunications contractor license—Application—Bond—Issuance of license.**

(1) It is unlawful for any person, firm, partnership, corporation, or other entity to advertise, offer to do work, submit a bid, engage in, conduct, or carry on the business of installing or maintaining telecommunications systems without having a telecommunications contractor license. Electrical contractors licensed as general electrical (01) or specialty electrical (06) contractors under chapter 19.28 RCW and their designated administrators qualify to perform all telecommunications work defined in this chapter. Telecommunications contractors licensed under this chapter are not required to be registered under chapter 18.27 RCW. All telecommunications licenses expire twenty-four calendar months following the day of their issue. A telecommunications contractor license is not required for a licensed specialty electrical contractor to perform telecommunications installations or maintenance integral to the equipment or occupancy limitations of their electrical specialty. A telecommunications contractor license is not required for persons making telecommunications installations or performing telecommunications maintenance on their own property or for regularly employed employees working on the premises of their employer, unless on a new building intended for rent, sale, or lease.

(7) The application for a contractor license shall be accompanied by a bond in the sum of four thousand dollars with the state of Washington named as obligee in the bond, with good and sufficient surety, to be approved by the department. The bond shall at all times be kept in full force and effect, and any cancellation or revocation thereof, or withdrawal of the surety there from, suspends the license issued to the principal until a new bond has been filed and approved as provided in this section. Upon approval of a bond, the department shall, on the next business day, deposit the fee accompanying the application in the electrical license fund and shall file the bond in the office. The department shall, upon request, furnish to any person, firm, partnership, corporation, or other entity a certified copy of the bond upon the payment of a fee that the department shall set by rule. The fee shall cover but not exceed the cost of furnishing the certified copy. The bond shall be conditioned that the principal will pay for all labor, including employee benefits, and material furnished or used upon the work, taxes and contributions to the state of Washington, and all damages that may be sustained by any person, firm, partnership, corporation, or other entity due to a failure of the principal to make the installation or maintenance in accordance with this

chapter. In lieu of the surety bond required by this section the applicant may file with the department a cash deposit or other negotiable security acceptable to the department. If the applicant has filed a cash deposit, the department shall deposit the funds in a special trust savings account in a commercial bank, mutual savings bank, or savings and loan association and shall pay annually to the depositor the interest derived from the account.

(9) The department shall issue a telecommunications contractor license to applicants meeting all of the requirements of this chapter applicable to electrical and telecommunications installations. The provisions of this chapter relating to the licensing of any person, firm, partnership, corporation, or other entity including the requirement of a bond with the state of Washington named as obligee and the collection of a fee for that bond, are exclusive, and no political subdivision of the state of Washington may require or issue any licenses or bonds or charge any fee for the same or a similar purpose.

## Exam Questions:

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| <p>90. An appeal must be filed within _____ days after notice that your telecommunications contractor administrator license is going to be revoked or suspended.</p> <ul style="list-style-type: none"> <li>A. 10</li> <li>B. 20</li> <li>C. 30</li> <li>D. 40</li> </ul> | <p>92. What is the minimum bond required for a telecommunications contractor in Washington State?</p> <ul style="list-style-type: none"> <li>A. Four thousand</li> <li>B. Three thousand</li> <li>C. Seven thousand</li> <li>D. Five thousand</li> </ul> |
| <p>91. All telecommunication licenses expire _____ calendar months following the of their issue.</p> <ul style="list-style-type: none"> <li>A. 36</li> <li>B. 24</li> <li>C. 18</li> <li>D. 12</li> </ul>   |  |

### **RCW 19.28.430 Administrator's examination—Certificate—Administrator's requirements.**

(1) Each applicant for a telecommunications contractor license shall designate a supervisory employee or member of the firm to take the administrator's examination. This person shall be designated as administrator under the contractor's license and must be a full-time supervisory employee of the applicant. No person may qualify as administrator for more than one contractor.

If the relationship of the administrator with the telecommunications contractor is terminated, the contractor's license is void within ninety days unless another administrator is qualified by the board. However, if the administrator dies, the contractor's license is void within one hundred eighty days unless another administrator is qualified by the board.

(2) A certificate issued under this section is valid for two years from the nearest birthdate of the administrator, unless revoked or suspended, and is nontransferable. The certificate may be renewed for a two-year period without examination by appropriate application unless the certificate has been revoked, suspended, or not renewed within ninety days after the expiration date. If the certificate is not renewed before the expiration date, the individual shall pay twice the usual fee. A person may take the administrator's test as many times as necessary to pass, without limit.



**RCW 19.28.440 Examination for telecommunications administrators' certificates.**

It is the purpose and function of the board to establish and administer written examinations for telecommunications administrators' certificates. Examinations shall be designed to reasonably ensure that telecommunications administrators' certificate holders are competent to engage in and supervise the work regulated under this subchapter and their respective licenses. The examinations shall include questions to assure proper safety and protection for the general public. The department, with the consent of the board, is permitted to enter into a contract with a professional testing agency to develop, administer, and score these examinations. The fee for the examination may be set by the department in its contract with the professional testing agency. The department may direct that the applicant pay the fee to the professional testing agency. The fee shall cover but not exceed the costs of preparing and administering the examination.

**RCW 19.28.450 Local enforcement of subchapter—Enforcement of chapter.**

(1) The director and the officials of all incorporated cities and towns where electrical inspections are required by local ordinances, allowed by RCW 19.28.141, may require by local ordinance the enforcement of this subchapter in their respective jurisdictions. If an incorporated city or town elects to enforce this subchapter, the city or town has the power and shall enforce the provisions of this subchapter.

**RCW 19.28.470 Inspections—Report—Required repairs/changes—Accessibility of telecommunications systems.**

(2) Upon request, the department shall make the required inspection within forty-eight hours. The forty-eight-hour period excludes holidays, Saturdays, and Sundays.

(3) A written report of the inspection, which plainly and clearly states any corrections or changes required, shall be made by the inspector. A copy of the report shall be furnished to the person or entity doing the installation work, and a copy shall be filed by the department.

**RCW 19.28.480 Unlawful acts—Interpretation of chapter.**

(1) It is unlawful for any person, firm, partnership, corporation, or other entity to install or maintain any telecommunications cabling and associated hardware in violation of this chapter. When the interpretation and application of the installation or maintenance standards provided for in this chapter are in dispute or in doubt, the board shall, upon application of any interested person, firm, partnership, corporation, or other entity, determine the methods of installation or maintenance of the cabling materials and hardware to be used in the case submitted for its decision.

## Exam Questions:

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| <p>93. As a telecommunications administrator, you can use your license for a maximum of how many different companies?</p> <ul style="list-style-type: none"> <li>A. Up to 5</li> <li>B. 2</li> <li>C. 1</li> <li>D. No limit</li> </ul>  | <p>95. Who issues a written report of an inspection including any corrections or changes required?</p> <ul style="list-style-type: none"> <li>A. Committee</li> <li>B. State</li> <li>C. City</li> <li>D. Inspector</li> </ul>   |
| <p>94. It is the purpose and function of the board to establish and administer _____ examinations for telecommunications administrators' certificates.</p> <ul style="list-style-type: none"> <li>A. Oral</li> <li>B. Correspondence</li> <li>C. Internet</li> <li>D. Written</li> </ul> | <p>96. It is unlawful for any person, or other entity to install or maintain any telecommunications _____ and associated hardware in violation of this chapter.</p> <ul style="list-style-type: none"> <li>A. Equipment</li> <li>B. Cabling</li> <li>C. Conduit</li> <li>D. Racks</li> </ul> |

**RCW 19.28.490 Violation of chapter—Penalty—Appeal.**

Any person, firm, partnership, corporation, or other entity violating any of the provisions of this chapter may be assessed a penalty of not less than one hundred dollars or more than ten thousand dollars per violation. The department, after consulting with the board and receiving the board's recommendations, shall set by rule a schedule of penalties for violating this chapter. The department shall notify the person, firm, partnership, corporation, or other entity violating any of these provisions of the amount of the penalty and of the specific violation. The notice shall be sent by certified mail, return receipt requested, to the last known address of the assessed party. Penalties are subject to review by an appeal to the board. The filing of an appeal stays the effect of the penalty until the board makes its decision. The appeal shall be filed within twenty days after notice of the penalty is given to the assessed party and shall be made by filing a written notice of appeal with the department. The notice shall be accompanied by a certified check for two hundred dollars or ten percent of the penalty amount, whichever is less, but in no event less than one hundred dollars. The check shall be returned to the assessed party if the decision of the department is not sustained by the board. If the board sustains the decision of the department, the amount of the check shall be applied by the department to the payment of the per diem and expenses of the members of the board incurred in the matter, and any balance remaining after payment of per diem and expenses shall be paid into the electrical license fund. The hearing and review procedures shall be conducted in accordance with chapter 34.05 RCW. The board shall assign its hearings to an administrative law judge to conduct the hearing and issue a proposed decision and order. The board shall be allowed a minimum of twenty days to review a proposed decision and shall issue its decision no later than the next regularly scheduled board meeting.

**RCW 19.28.501 Insurance/financial responsibility.**

(1) At the time of licensing and subsequent relicensing, the applicant shall furnish insurance or financial responsibility in the form of an assigned account in the amount of twenty thousand dollars for injury or damages to property, fifty thousand dollars for injury or damage including death to any one person, and one hundred thousand dollars for injury or damage including death to more than one person, or financial responsibility to satisfy these amounts.

(2) Failure to maintain insurance or financial responsibility relative to the contractor's activities is cause to suspend or deny the contractor's license.

(3)(a) Proof of financial responsibility authorized in this section may be given by providing, in the amount required by subsection (1) of this section, an assigned account acceptable to the department. The assigned account shall be held by the department to satisfy any execution on a judgment issued against the contractor for damage to property or injury or death to any person occurring in the contractor's contracting operation, according to the provisions of the assigned account agreement. The department shall have no liability for payment in excess of the amount of the assigned account.

**RCW 19.28.531 Unlawful installation/maintenance—Disputed interpretation—Board to determine methods.**

It is unlawful for any person, firm, partnership, corporation, or other entity to install or maintain telecommunications equipment not in accordance with this subchapter. In cases where the interpretation and application of the installation or maintenance standards under this subchapter are in dispute or in doubt, the board shall, upon application of any interested person, firm, partnership, corporation, or other entity, determine the methods



of installation or maintenance or the materials, devices, appliances, or equipment to be used in the particular case submitted for its decision.

**RCW 19.28.551 Director's authority—Adoption of rules.**

(1) The director may adopt rules, make specific decisions, orders, and rulings, including demands and findings, and take other necessary action for the implementation and enforcement of this subchapter after consultation with the board and receiving the board's recommendations. In the administration of this subchapter the department shall not enter any controversy arising over work assignments with respect to the trades involved in the construction industry.

(2) Compliance with the rules adopted under subsection (1) of this section is prima facie evidence of compliance with the subchapter. Copies of all rules shall be maintained by the department and made available upon request.

## Exam Questions:

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| <p><b>97. What is the maximum penalty that can be assessed for each violation of RCW 19.28.490?</b></p> <ul style="list-style-type: none"> <li>A. Two hundred</li> <li>B. Fourteen hundred</li> <li>C. Ten thousand</li> <li>D. Six thousand</li> </ul>                               | <p><b>99. Violating RCW 19.28.531 is considered _____ in Washington State.</b></p> <ul style="list-style-type: none"> <li>A. Lawful</li> <li>B. Reasonable</li> <li>C. Unlawful</li> <li>D. Meeting the requirements</li> </ul>  |
| <p><b>98. Failure to maintain _____ or financial responsibility relative to the contractor's activities is cause to suspend a contractor's license.</b></p> <ul style="list-style-type: none"> <li>A. Insurance</li> <li>B. Records</li> <li>C. Training</li> <li>D. Tools</li> </ul> | <p><b>100. How much does it cost to file an appeal after a penalty has been issued?</b></p> <ul style="list-style-type: none"> <li>A. Two hundred dollars or ten percent of the penalty amount whichever is more</li> <li>B. Two hundred dollars or ten percent of the penalty amount whichever is less</li> <li>C. One hundred dollars or ten percent of the penalty amount whichever is less</li> <li>D. One hundred dollars or ten percent of the penalty amount whichever is more</li> </ul> |

