



A BCD field office, the Tri-County Service Center administers the minor label program and coordinates forms, processes, and application of code for building programs in Clackamas, Multnomah, & Washington counties.

Tri-County Service Center

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A quarterly newsletter for electricians and electrical contractors

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NECA and IEC to sponsor December 8 code-change session

NECA and IEC are co-sponsoring the fifth session of an extended series of code-change classes on Thursday, Dec. 7, 4-8 p.m., in the Board Room of the Multnomah Building, 501 S.E. Hawthorne St., Portland.

Qualified participants may earn four hours credit for continuing education (master builders), four hours of CCB credit (home inspectors), or four hours of code-change credit for BCD electrical licensees.

The purpose of forums is to discuss code applications and reach consensus on acceptable installation and inspection standards for the tri-county region and for the state. All area electricians,

contractors, remodelers, architects, and building-department personnel are invited.

Agenda

Assistant state electrical code chief Dennis Clements conducts this session that focuses on law changes and code interpretations. Topics include: Article 725, class 1, 2, and 3 remote control, signaling, and power limited circuits. There will be time for questions and answers. Contractors and building-department personnel may submit questions to the code forum by sending e-mail to joanie.m.stevens.schwenger@state.or.us or faxing questions to the center, (503) 872-6735. ▲

September 15 Q&A

In addition to material covered in the code-change class, the state's electrical code chief, John Powell, has approved the following answers for statewide application.

Q PV system (usually 3kW or smaller) has a point of connection utility inter-tie breaker in a load center or panelboard that does not exceed 30 amps 240 VAC. Are these systems allowed to be installed under a minor label permit?

A No. See Administrative Rule 918.309.0220(5): "A limited renewable energy contractor or an electrical contractor using a licensed journeyman or limited renewable energy technician may use a minor label for repair and maintenance of renewable energy systems as set forth in ORS 479.630(13)."

Q Does Article 310.15(B)(2)(a) require derating for runs of more than two nonmetallic (NM) cables containing two or more current-carrying conductors bundled together and pass through wood framing in lengths of run exceeding 24 inches that is not to be fire or draft stopped using thermal insulation or sealing foam? Example two 14/3 NM and two 12/3 NM runs through a 1 1/8-inch bored hole run at angles to joists 16 inches on center like a typical set of "home runs." All conductors are copper and used as multiwire circuits supplying nonlinear and linear loads.

A Yes. See 310.15(B)(2)(a): "... where single conductors or multiconductor cables are stacked or bundled longer than 24 in. without maintaining spacing and are not installed in raceways, the allowable ampacity shall be reduced as shown in the Table 310.15(B)(2)(a)."

Q Is it permissible to use the calculated load of a residential, general-purpose 120-volt branch circuit for derating as required by 334.80 or for derating required if the answer is yes to the previous question. Example above has: 12 current-carrying conductors (four cables, three current-carrying conductors each). Ambient temperature will not exceed 30 degrees C.

Calculate the load for the 14-gauge wire in the NM cable. The branch circuit is a 120-volt general-purpose type in a dwelling unit and will not serve more than 500 square feet of the dwelling. (220.14(J))

Calculation: 500 square feet X 3 volt-amperes per square foot = 1500 VA

Alternatively we count the outlets and multiply by 180 VA or calculate the connected loads to be conservative and come out with 1500 VA. This comes out as 12.5 amps load, 50 percent of 14-gauge nonmetallic cable, in accordance with

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Clackamas
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News flash

Over-the-counter plumbing permits for Portland, Beaverton, Washington and Clackamas Counties, Hillsboro and Milwaukie are available online at BuildingPermits.Oregon.gov.



the table in 310.15(B)(2)(a), 12 current-carrying conductors; T310.16 to size wire using the 90 degrees C (as permitted in 334.80)

Calculation: 25 amps X .50 = 12.5 amps. Over-current device is next size up as per 240.4(B), and so 15 amps is the answer.

A Section 220.14(J) generally states that when using 500 square feet at 3 watts per foot no additional calculations shall be required. If an electrician elects to do alternative calculations, it is not appropriate to apply calculations to a portion of the dwelling. The entire dwelling must be considered and the resulting calculations submitted to the jurisdiction for approval as an alternate method.

Q Does any other code section limit the number of NM cables containing two or more current-carrying conductors bundled together and pass through wood framing?

A No.

Q Concerning multiple meter/mains grouped together at one location: Is it acceptable to use split bolts to bond (tap) the grounding electrode conductors from one or several meter/mains to a continuous GEC?

A Yes. 250.64(D) reads, in part, "Where a service consists of more than a single enclosure as permitted in 230.71(A), it shall be permitted to connect taps to the common grounding electrode conductor ... The tap conductors shall be connected to the common grounding electrode conductor in such a manner that the common grounding electrode conductor remains without a splice or joint.

Q On retrofit electrical service upgrades where the water line is not verifiable as a grounding electrode, does you size the bonding conductor

to the waterline based on Table 250.66 (size of the largest SE conductor), or on Table 250.122 (rating of overcurrent device of a circuit likely to energize the water line)?

A Use Table 250.66. This situation indicates that the waterline cannot be considered a grounding electrode, and 250.122 is for interior metal piping not used as an electrode. However, 250.104(A) directs us to bond metal water-piping systems installed in or attached to a building, and size this bonding jumper in accordance with Table 250.66.

Q Last year after the new electrical code went into effect, John revamped a number of the questions posted to the TC Q&A page. Perhaps this is one of them; in any case it was changed from the original. It refers to the exemption from a contractor's license.

For commercial work there is nothing in statute that talks about commercial property being for lease, rent, or sale—these restrictions appear to apply only to residential property owners.

Please let me know what you think!

A You are correct; this answer was updated. Below is the correct answer to your question.

Owner Performing Electrical Work: Commercial

Q. ORS 479.540 (2) (c) says an electrical contractor's license is not required when, "To be made by a person on the person's property in conjunction with the person's business." Does this allow the owner of a commercial structure to do their own electrical work if it is in connection with their business?

A. No, this law only allows property owners to have licensed electricians on staff without needing a contractor's license.

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