



ELECTRICAL CURRENTS

Newsletter from the Office of the Chief Electrical Inspector

Ron Fuller, Chief Electrical Inspector

Vol. 11 No. 5

May 2008

● Upcoming Electrical Stakeholders Meetings

Stakeholder meetings will run through June 2008 at the locations listed below. It is important for you to stay up to date with changes that might affect you. You have an opportunity to get your questions answered and give the Electrical Program your valued input when you attend a stakeholder meeting. Please join us at 6:00 p.m., at one of the remaining stakeholder meetings near you.

Safety Tip of the Month!

Before using, do thorough visual checks of the condition of a ladder or scaffold. Don't put yourself at risk of injury by using defective or damaged equipment.

2008 Remaining Stakeholder Meetings

May 20	3001 W. Broadway, Moses Lake	May 21	Walla Walla University, CTC Room 105, Walla Walla
May 21	Cowlitz County PUD, 961 12 th St., Longview	May 22	Pacific Power Auditorium, 500 North Keys Rd, Yakima
		June 11	Hampton Inn, 3985 Bennett Dr, Bellingham

● Electrical Equipment Must Meet Manufacturing Safety Standards

RCW 19.28.010 requires all materials, devices, appliances, and equipment under the jurisdiction of the electrical law must be "of a type that conforms to applicable standards or be indicated as acceptable by the established standards of any electrical product testing laboratory which is accredited by the department." There is nothing new about the requirement that electrical equipment be manufactured to appropriate safety standards, it's been in Washington Law for over forty years. OSHA and most states have similar requirements, but many states lack the resources to strictly enforce them.

There are many quality manufacturing firms that get their products certified (and identified, marked, or labeled) by third-party product testing laboratories and safety standards experts. However, there are product manufacturers willing to sell untested, electrical products to unsuspecting and uninformed customers. This questionable business practice may give additional profit and competitive advantage to the manufacturer, but it unfairly places the burden of proof of electrical safety on the consumer or end user.

The electrical contractor and installer would best serve their customers by making them aware of these requirements as early as possible in the design and planning stage of a project. Preventing the purchase of equipment that is not tested or evaluated for electrical safety leaves a better impression with your customer and can prevent costly delays at the end of the project.

● Emergency Rules And 2008 NEC Code Update Classes

Due to previous requirements in chapter 296-46B WAC, 2008 NEC continuing education courses submitted to the department have all been approved in the "industry related" category only. A rule revision effective May 1, 2008, will allow us to accept 2008 NEC-based courses in the "code update" category. On that date, we will begin approving 2008 NEC "code update" course submittals.

We will also change the status of the previously approved 2008 NEC-based courses from "industry related" to "code update" in the continuing education database. If you previously attended one of the 2008 NEC "industry related" classes, its status in your continuing education records will be changed to "code update." You can verify this change in your records by looking at your continuing education records online. Go to: <https://fortress.wa.gov/lni/bbip/>. Choose to search by your Name or License Number then left click on your certificate number. Scroll to the bottom of your information page to view your continuing education records.

● Installing Satellite Systems

Some of the most common questions we get about telecommunications installations involve customer satellite dish and conventional antenna systems receiving a telecommunications service provider's signal.

All satellite receiving equipment is on the customer side of the telecommunications network demarcation point and under the jurisdiction of RCW 19.28.400 and .420. Because of federal law, satellite system

installations are exempt from permitting and inspection. The telecommunications laws were passed by the legislature in 2001, to address increasing instances where the safety of buildings and the people occupying them was being degraded by poor telecommunications work. The department and city jurisdictions were finding serious problems, especially with fire wall penetrations and cable supporting. The legislation established a minimum level of regulation to address these types of problems.

A telecommunications contractor license is required for firms that do any work on satellite systems, including all or part of the dish (antenna) installation, cabling from the dish to the structure, and installation of the necessary conductors and interface equipment in or on the building. Any individual or firm found working on a satellite system without a telecommunications contractor or appropriate electrical contractor license is in violation of the contracting laws and may be issued a civil penalty of up to \$10,000 per day per violation.

● Grounding Communications Circuits

NEC 800.100 contains the grounding requirements for communications circuits. The metallic parts of cable sheaths and primary protectors must be grounded per NEC 800.100(A) through (D). The requirements for electrodes used to ground communications circuits are in NEC 800.100(B).

NEC 800.100(B)(1) must be used for buildings that have a grounding means. Any building that has an electrical circuit will have a grounding means. There are seven options for the electrode. If available at the building, one of the seven must be used. "Available" means the means for grounding exists. Driving a ground rod solely for the communications circuits, in this case, is not allowed. The bonding jumper must be run to one of these electrodes, even if it is across the building.

NEC 800.100(B)(2) must be used for buildings that have no grounding means. The first option for an electrode in this case is either: metal underground water pipe, metal frame of the building, concrete encased electrode, or ground ring installed as required in NEC 250.52(A)(1), (2), (3), or (4). If the building has none of these electrodes installed, the electrode may be an effectively grounded metal structure, or to a ground rod or pipe not less than 5' in length and ½" in diameter. See NEC 800.100(B)(2)(2) for more installation details.

If separate electrodes are used, the electrodes must be bonded with a minimum 6 AWG copper jumper (NEC 800.100(D)). The connections to all grounding electrodes must comply with NEC 250.70. The grounding or bonding conductor must be connected to the building service's grounding electrode.

The grounding conductor connecting the communications equipment to the electrode must be a minimum 14 AWG copper. Specific requirements for the grounding conductor installation are in NEC 800.100(A).

● Luminaire Ballast Disconnects

We need to provide consistency in the enforcement of NEC 410.73(G) regarding the requirement for disconnects for fluorescent luminaire ballasts. Specifically, we were asked "*Do I need to install a ballast disconnect when I am replacing an existing ballast in an existing luminaire with an electronic ballast as part of an energy upgrade project?*"

Only new luminaires installed in areas that do not meet one of the five exceptions to NEC 410.73(G) will be required to be equipped with ballast disconnects as required in NEC 410.73 (G). Existing luminaires installed prior to January 1, 2008 will not be required have a ballast disconnect installed when the ballast is changed with a like-in-kind replacement or replaced with an energy-efficient ballast or otherwise retrofitted.

● Electrical Question of the Month

This Month's Question: A medical device approved under US Public Law No. 94-295, 90 Stat. 539: **A)** is exempt from inspection of the supply circuit, **B)** is required to be listed, **C)** is compliant with state electrical laws (RCW 19.28), **D)** must be serviced by a certified electrician.

April's Question: The electrical inspector has the right, at all hours, to enter a building in the discharge of his or her official duties. **Answer:** False [RCW 19.28.101(4)]