



● The 2008 National Electrical Code Is Now In Effect

Beginning December 31st 2008, all new electrical permits are subject to the rules and requirements of the 2008 National Electrical Code (NEC). The 2008 NEC is adopted in the revised Washington Administrative Code (WAC) chapter 296-46B – Electrical Safety Standards, Administration, and Installation.

While these two documents are meant to work together to help electricians understand and interpret the requirements, they will sometimes conflict on a particular issue. It is important to remember that when there is a disagreement between the two standards, the WAC will always prevail over the NEC.

Printed copies of the revised WAC 296-46B can be purchased at any L&I office for \$5.00 per document. Multiple copies can be ordered by calling the Electrical Program at (360) 902-5269.

There is an Adobe .PDF format version of the new rules on our Web site for printing or downloading at: <http://www.lni.wa.gov/TradesLicensing/Electrical/LawRulePol/LawsRules/default.asp>

● New Cable and Conduit Clearances Under Metal-Corrugated Sheet Roof Decking

Roof decking material will often be repaired or replaced after the initial raceway or cabling system is installed. This can result in the penetration through the roof decking of screws or other mechanical devices designed to provide “hold down” strength of the waterproof membrane or roof insulating material.

NEC 300.4(E) has a new requirement all cables and raceways, except rigid and intermediate metal conduit, installed in exposed or concealed locations under metal-corrugated sheet roof decking be installed and supported so the nearest outside surface of the cable or raceway is not less than 38 mm (1½ in.) from the nearest surface of the roof decking.

● Tower Cranes Are “Equipment” And Must Meet Electrical Safety Requirements

Crane failure due to mechanical or electrical problems can cause loss of life and significant property damage. Like other types of electrical equipment tower cranes must be listed or field evaluated. Washington’s electrical and worker safety laws and rules require third-party safety evaluation and labeling of all electrical equipment on tower cranes operating anywhere in the state.

When a state or a city electrical inspector finds a crane that has not had the third-party evaluation, they issue a correction notice to the crane installer requiring the safety evaluation to be done. Once a correction notice is issued, the owner of the crane must contact an accredited testing laboratory and make arrangements for the laboratory to field evaluate the equipment. Until the crane has the proper evaluation and label, the crane should not be used.

If the crane owner needs to operate the crane during the field evaluation process and the crane is in L&I’s electrical inspection jurisdiction, the owner may request permission to operate in writing to the Chief Electrical Inspector. L&I typically grants approval to operate on a temporary basis based upon the time needed for the laboratory to complete the field evaluation. If the crane is in a city’s electrical inspection jurisdiction, the owner must request permission from the city to energize any electrical equipment during the evaluation period. If the crane is in a city’s jurisdiction, it is up to the city to grant or not grant this approval.

For more information you should visit our “What’s New for Electrical Professionals” Web page which contains a link to the Tower Crane Electrical Safety Requirements:

<http://www.lni.wa.gov/TradesLicensing/Electrical/WhatsNew/default.asp>

Safety Tip of the Month!

Portable heaters can help take the chill from areas of your home, but can be very dangerous if used improperly.

Approximately 1/3 of all house fires nationwide occur during the cold home season of December, January and February.

Stay warm and safe, and give space heaters clearance – at least 3 feet from anything that can burn, including little fingers!

● Back-Fed Circuit Breakers Must Be Secured In Place With An Approved Device

Circuit breakers that are marked "Line" and "Load" have been evaluated only for the terminations marked. Circuit breakers without "Line" and "Load" markings have been evaluated for terminations in either direction and are suitable for back-feeding a panelboard.

If suitable, plug-in type circuit breakers or plug-in type main lug assemblies in a panelboard are allowed to be back-fed with field installed ungrounded supply conductors per NEC 408.36(D). These devices are required to be secured in place by an additional fastener that requires a method other than a pull to release the device from the mounting means on the panel.

Only listed fasteners that are approved by the panelboard manufacturer for that purpose will be allowed as the required additional fastener for back-fed devices.

● 2008 NEC Change Affects The Use Of Service Entrance Cable Type SE And USE In Interior Installations

For interior installations of SE or USE cables, Article 338.10(B)(4)(a) refers the installer to the requirements for nonmetallic sheathed cable (Article 334, Part II) in both the 2005 and 2008 NEC. In the 2005 NEC, the requirements in Part II (334.80) relating to the ampacity of the cable were exempted for SE and USE used inside a building. That exclusion of 334.80 is gone in the 2008 NEC. Investigation of the 2007 Committee Report on Proposals shows intent of the Code Making Panel (CMP) 7 to limit final derated ampacity of SE and USE cables used in interior installations to that of a 60 °C rated conductor, just like NM cable.

We have been asked for further clarification of this issue for use of service entrance cables under the unique conditions allowed in NEC 310.15(B)(6) and Table 310.15(B)(6). In this application the rating of the SE and USE conductors is increased to a higher ampacity based on the diversity of load on any service or feeder conductors carrying the full load of an individual dwelling unit, as limited in 310.15(B)(6). Loads on such conductors are considerably less than the load calculated per Article 220. No restrictions on these long established Table 310.15(B)(6) ratings were supported by CMP 6, the panel responsible for Article 310. We will not restrict these table ratings any further (for interior installation) under these specific conditions of use.

● Electrical Corrections Issued Are Now More Recognizable and Descriptive

Along with the new NEC and WAC our inspectors have new mobile computer software that should add clarity to corrections written. During the 2005 NEC cycle the computer software limited the number of default (common) selections that were available to our inspectors when writing corrections. This meant inspectors had to add or edit corrections on the jobsite on a regular basis.

For the 2008 NEC we have increased the number of NEC and WAC references in the software. As a result the corrections you see written should look a lot like what you will see when you look them up in the Code or rules. The inspector still has some edit capabilities prior to printing the correction notice. This upgrade should make issued safety corrections easier to understand and reference.

● Optional Standby Generator Circuits Must Utilize Required AFCI Breakers

Bedroom circuits that require arc-fault circuit interrupters may be fed from secondary power sources, as in the case of a multi-circuit transfer panel fed from a generator. Whether fed from the service panel, generator transfer panel, or another source, the circuit must be protected with the required AFCI. The AFCI must not be bypassed.

● Electrical Question of the Month

This Month's Question: In crawl spaces, can a nonmetallic sheathed cable with three No. 12 AWG conductors be run perpendicular to the direction of the joists, and be secured directly to the lower edges of the joists? **A)** Yes, **B)** No, **C)** Yes, if on running boards.

Last Month's Question: What type of electrical permit is required for the replacement of a fuel dispenser at a gas station? **A)** Standard permit, **B)** Class B permit, **C)** Provisional permit, **D)** No permit is required because it is Class A basic electrical work.

The answer is: **A)** Standard permit [WAC 296-46B-901].