

Question of the Month

2014 NEC® 110.24 requires that service equipment in other than dwelling units be legibly marked in the field with the maximum available fault current at the time of installation and when modifications are made to the electrical installation that affect the available fault current. What are the factors that affect available fault current in an electrical system?

Electrical Board Appointments

Governor Inslee has made five appointments to the [electrical board](#). Janet Lewis was re-appointed to a four-year term in one of the three electrician seats. David Ward was appointed to fill the remaining two years of the vacant electrical utility representative seat. Bobby Gray was appointed to fill the remaining one year of the vacant electrical contractor's seat. Randy Scott was appointed to a four-year term in the general public seat, and Kevin Schmidt was appointed to a four-year term in the telecommunications contractor seat. The electrical board plays a vital role in advising the department in all matters concerning Washington's electrical laws, rules, and policies. Congratulations to all who were appointed to these important positions.

Safety Tip of the Month!

As summer ends, back-to-school season is in full effect. It is important for motorists to be on the lookout for children not only in school zones, but also in residential areas, playgrounds, and parks.

Children are unpredictable pedestrians and often take risks, ignore hazards, and fail to look both ways before crossing the street.

Give them a brake.

Reminder – Telecommunications Workers Grandfathering Opportunity

Until July 1, 2015, in accordance with [House Bill 2253](#), eligible persons who have gained unsupervised telecommunications experience while working for a licensed (01) general or (06) limited energy electrical contractor can apply that work experience towards eligibility for examination for an (06) limited energy systems certification. The opportunity began on June 12, 2014 and since then the department has received and processed 49 applications. Please review the [May 2014 Electrical Currents](#) newsletter for eligibility requirements and the two methods that can be used to document your past work experience. If this applies to you, complete the [special affidavit form](#), only available until July 1, 2015, and submit it by mail as instructed on the form. Do not return the form to the local L&I service location. Note: [WAC 296-46B-942](#)(8)(d) requires employers to provide the necessary documentation and the signed affidavit of experience to a worker within twenty days upon request. This one-time opportunity ends on July 1, 2015. Do not miss out!

Continuing Education and Basic Trainee Classes are not Completed Until the Roster is Submitted by the Course Provider

When taking an electrical training class, you should make certain that the class provider promptly submits the roster for your class. The provider has seven calendar days in which to submit the electronic roster to L&I. You have not completed the class until the roster is submitted to L&I. You can verify the status of your certificate and check to see that your course provider has properly applied your course credit by reviewing your education information at: www.Verify.Lni.wa.gov.

Completed courses are not displayed once they have been applied to renew a certificate. Contact the course provider if you are missing credit for a completed course. Completion certificates or receipts will not be accepted as evidence that your education requirements have been fulfilled. If you do not complete the class, or the roster for your class is not submitted by the course provider in a timely manner, you may be late in completing your education requirements, which may affect your ability to renew resulting in a lapse in certification. Do not wait until the last minute to take your class.

Visit www.ElectricalRenew.Lni.wa.gov for information about required electrical education.

NEC® 406.4(D) Receptacle Replacements – Permit Requirements

New in 2011 was a requirement in NEC® 406.4(D)(4), (5), and (6), that where receptacles are replaced in areas requiring Arc-Fault Circuit-Interrupter (AFCI) protection, or tamper-resistant or weather-resistant receptacles, the replacement receptacles

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must be provided with such protection. This is similar to a requirement that has been in place since the 1993 NEC® regarding replacement of receptacles in areas where GFCI protection is required.

Providing AFCI protection when a receptacle is replaced in an area requiring AFCI protection may be accomplished by one of three methods specified in 2014 NEC® 406.4(D)(4):

- The replacement receptacle may be a listed outlet branch-circuit type AFCI receptacle.
- The replacement may be a receptacle protected by a listed outlet branch-circuit type AFCI receptacle located ahead of the replacement receptacle.
- The entire circuit may be protected by a listed combination type AFCI circuit breaker.

Whether circuit breakers or receptacles are used, AFCIs and GFCIs must be installed in a readily accessible location.

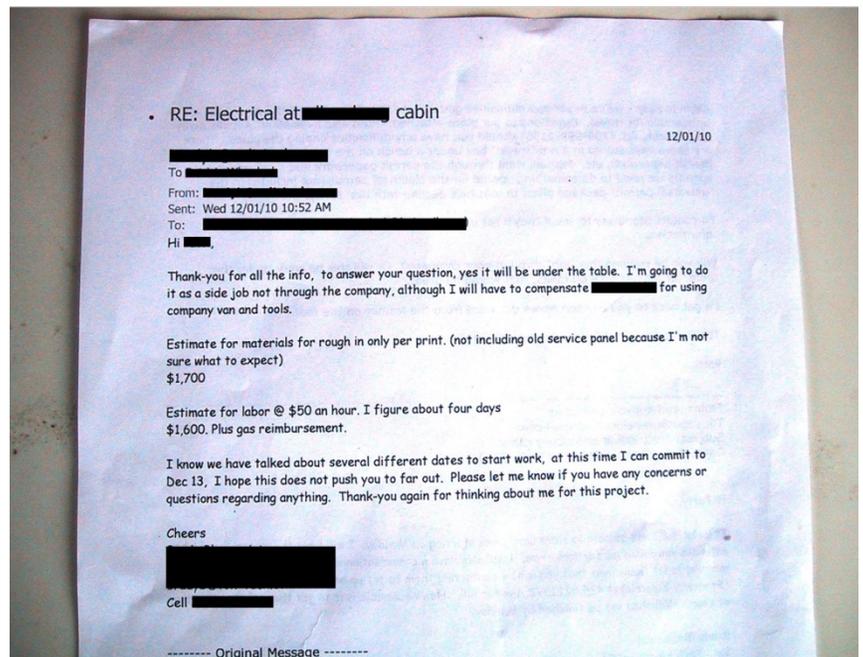
Electrical permits and inspections may be required for these replacements. Replacing a standard grounding-type receptacle with a tamper-resistant, or weather-resistant receptacle is a like-in-kind replacement. The like-in-kind replacement of a maximum of five receptacle outlets is on the Class A list of permit-exempt work in [WAC 296-46B-901\(7\)\(b\)\(i\)](#). If replacing more than five receptacle outlets, a [Class B random inspection label](#) may be used to replace a maximum of twenty like-in-kind receptacle outlets. Property owners, or other entities not eligible for Class B permits must purchase a regular permit for this work.

The conversion of standard receptacles to GFCI or AFCI receptacles is not a like-in-kind replacement (See definition of “like-in-kind” in [WAC 296-46B-100](#)). This work may be eligible for Class B random inspection labels. [WAC 296-46B-908\(10\)\(d\)](#) says the replacement of not more than ten standard receptacles with GFCI receptacles is within the Class B work scope. For the purpose of permit requirements, the department will consider replacement of standard receptacles with AFCI receptacles the same as GFCI receptacles, allowing up to ten to be replaced with a Class B label. A maximum of two Class B labels may be used per week on a job site.

Replacement Type	Permit Requirements
GFCI or AFCI receptacles	Regular permit (altered circuit), or a maximum of 10 replacements per Class B label. 2 labels per week per job site.
Tamper-Resistant or Weather-Resistant receptacles	Maximum of 5 replacements – Class A exempt from permits Over 5 – Regular permit (altered circuit), or a maximum of twenty replacements per Class B label. 2 labels per week per job site.
AFCI circuit breaker replacing standard circuit breaker	Not like-in-kind. Regular permit required for altered circuit.

Ugly picture: Click on the picture to open a larger image. This is an email message discovered during an investigation of a job performed by an unlicensed electrical contractor. In a previous message, the property owner asked, “Will you be running this “job” through your company? Or will this be work under the table? If we can save on taxes that would be great.” The investigation resulted in citations issued to the unlicensed contractor as well as the property owner who purchased a permit for the work stating on the affidavit that they would be personally performing the electrical work.

Answer to Question of the Month: System voltage and phase, transformer kVA, transformer impedance percentage, conductor material (copper or aluminum), conductor size, conductor length, conduit material (metallic or nonmetallic), motor contribution.



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