The Question of the Month
When does the NEC require service equipment to be marked with the maximum available fault current?

Note from the Interim Chief Electrical Inspector
The electrical industry has faced many challenges during the great recession. It has taken 69 months for the economy to recover the jobs lost during that time. Some jobs may never return. While things are better today than they were several years ago, growth in the residential construction sector remains quite flat. As the economy expands in other areas, your electrical inspectors are working very hard to respond to requests for inspection. In 2008, there were 141 electrical inspection staff members. After the layoffs in 2009 and 2010, there were 91. A supplemental budget allotment provided by the legislature, supported by a recovering economy, has allowed the program to restore 27 inspector positions lost during the recession. There is a direct relationship between the quantity and value of electrical permits and the number of electrical inspectors supported by those factors. Every time an inspector position is restored, inspection response times get better, only for the effect to be erased by a recovering economy. Some capacity to restore electrical inspector positions exists, but it is not yet supported by the economy. We are frequently recruiting to fill inspector vacancies caused by retirements or restoration of positions. If you or someone you know is interested in becoming an electrical inspector, there is no better time to pursue that opportunity. For details, please visit our webpage, Find a job at L&I and search using keyword “inspector”.

Recall Alert – Trane Air Conditioning Systems
The U.S. Consumer Product Safety Commission (CPSC), in cooperation with Trane U.S. Inc. has recalled 100,600 air conditioning systems due to shock hazard. The ground screws used in some units do not have the two threads required to provide sufficient grounding, posing a shock hazard to consumers. The recall involves 37 models of Trane XB300 and American Standard brand Silver SI split system outdoor cooling units. The units are gray and have a black grated front. The units were sold in two sizes: 25.5 inches deep by 23.5 inches wide by 28.83 inches tall and 28.83 inches deep by 28.48 inches wide by 29.28 inches tall. The Trane or American Standard logo is affixed to the front and model numbers are printed on the silver nameplate on the back of the unit. Models included in the recall are listed on the Recall Alert page of the CPSC website.

According to the U.S. Consumer Product Safety Commission (CPSC), consumers should immediately turn off the cooling unit via the main breaker switch and check the model information. Consumers with recalled air conditioning systems should contact Trane or their installer or service dealer for instructions on scheduling a free inspection and repair.

The 2014 NEC and Revised WAC 296-46B Are Effective July 1, 2014
The 2014 NEC and Revised WAC 296-46B are effective July 1, 2014. For projects that do not require electrical plan review, the purchase date of the electrical work permit will determine which version of the Code will be enforced. Permits purchased on or after July 1, 2014 must comply with the 2014 NEC and WAC 296-46B. For projects requiring plan review, the installation must comply with the 2014 NEC if the plans are received and accepted for review on or after July 1, 2014.
Eligible Telecommunications Workers – Steps to Obtaining a 06 Specialty Certificate

Until July 1, 2015, individuals who have unsupervised telecommunications experience while working for either a 01 general, or a 06 limited energy specialty electrical contractor can apply work experience towards eligibility for examination for a (06) limited energy systems certificate of competency. Please review the May 2014 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 and submit it as instructed on the form. 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.

In addition to documenting your hours of qualified work experience, the other requirements to obtain a 06 limited energy certificate are explained on the How to apply for an Electricians’ certificate page of our website. You must complete 48 hours of Basic Classroom Instruction and apply for, and pass an examination.

Arc Fault Circuit-Interrupter (AFCI) and Ground Fault Circuit-Interrupter (GFCI) Protection

Effective July 1, 2014, Washington will require Arc Fault Circuit-Interrupter Protection (AFCI) as specified in the 2014 National Electrical Code (NEC). The provision in WAC 296-46B-210 that limited AFCI protection requirements to bedroom spaces only was eliminated in the recent WAC rule revisions. NEC 210.12(A) identifies the areas of a dwelling unit where all 120-volt, single-phase, 15- and 20-ampere branch circuits must be AFCI protected, and includes most areas in a home except garages and bathrooms. Options for providing AFCI protection were expanded in the 2014 NEC and are described in 210.12(A)(1) through (6).

There will be areas where a branch circuit must be AFCI protected, and the receptacle or outlet on that circuit must be Ground-Fault Circuit-Interrupter (GFCI) protected as specified in NEC 210.8. In this case, the same circuit may require both an AFCI and a GFCI circuit breaker or device. Both the AFCI and GFCI, whether a circuit breaker or device type must be readily accessible. Also new for 2014, NEC 210.8(A) was expanded to require GFCI protection for laundry areas, and NEC 210.8(D) requires GFCI protection for outlets that supply dishwashers installed in dwelling units.

NEC 210.12(B) requires AFCI protection where branch circuit wiring is modified, replaced, or extended by installing a listed combination-type AFCI at the origin of the branch circuit, or a listed outlet-type AFCI located at the first receptacle outlet of the existing branch circuit. An exception allows a circuit to be extended not more than 6 feet without AFCI protection if it does not include any additional outlets or devices. This would allow a panel to be replaced at or near the same location without requiring AFCI protection for the existing branch circuits.

NEC 406.4(D) now requires replacement receptacles to be AFCI, GFCI, or tamper resistant, where replacements are made at locations requiring such protection.

Ugly Installation: Click on the picture to open a larger image. Note the dryer receptacle mounted on the side of the furnace that is supplied from one of the furnace disconnect breakers. While creative, this is not only a violation of NEC 110.3, Examination, Identification, Installation, and Use of Equipment, it is a violation of RCW 19.28.101, electrical work completed without a permit or inspection. This installation voids the listing of the furnace. In the end, the issue was corrected.

Answer to Question of the Month: NEC 110.24 (A) & (B) Available Fault Current. Beginning July 1, 2014, maximum available fault current markings are required for new non-dwelling service installations and any time modifications to the electrical installation occur that affect the available fault current at the service.