Washington State Department of Labor & Industries

Electrical Currents

Newsletter from the Office of the Chief Electrical Inspector

Stephen Thornton, Chief Electrical Inspector **Vol. 21 No. 4** **April 2018**

Safety Tip of the Month

Keep an eye out for the safety of your trainees. Do not assume a person who is learning the electrical trade is familiar with basic electrical safety rules. Trainees are eager to please their employers, and it is the electrical contractor's, administrator's, and supervising electrician's responsibility to ensure trainees do not put themselves or others in danger.

Question of the Month – *See correct answer on Page 2.*

You are installing branch-circuit conductors between a non-fusible disconnect with lugs rated at 75°C, and an HVAC unit with the nameplate shown in the image to the left. There is no auxiliary electric heat installed. A 30-ampere circuit breaker protects the circuit. What are the minimum size THHN copper conductors allowed for this installation?

Invitation to a Stakeholder Meeting Near You

I am holding 18 electrical stakeholder meetings in various locations across the state between March and May 2018. These meetings are an opportunity to talk in an informal setting. Check the schedule below and attend a meeting near you. I want to hear how we can better serve you, our customers and help you stay informed of any changes that might affect you and/or your business. All meetings are 6 – 8 p.m.

April 4 – Tumwater – *L&I Auditorium* – 7273 Linderson Way SW	**April 5 – Aberdeen** – *L&I Building* 415 West Wishkah Street, Suite B	**April 11 – Tukwila** – *L&I Building* 12806 Gateway Drive South
April 26 – Tacoma – *L&I Building* 950 Broadway, Orcas Room, 5th floor	**May 9 – Silverdale** – L&I Building – 10049 Kitsap Mall Boulevard NW Suite 100	**May 10 – Sequim** – Clallam PUD #1, 104 Hooker Road, West of Sequim off Hwy 101, Lake Crescent Board Room
May 22 – Everett – *Snohomish County PUD* Commission Meeting Room 2320 California Street	**May 23 – Mount Vernon** – *Northwestern Washington Research and Extension Center* 16650 State Route 536	**May 29 – Vancouver** – Clark PUD – Electric Center Community Room, 1200 Fort Vancouver Way
May 30 – White Salmon – *White Salmon Valley Community Library* – 77 NE Wauna Avenue	**May 31 – Longview** – *Lower Columbia College* 1600 Maple, Health & Science Building, HSB-101, Laufman Lecture Hall	

Electrician Examination Questions Update to 2017 Codes Set for July 1, 2018

The department and our examination contractor, *PSI* have set a goal of having all electrician examination questions updated to the 2017 National Electrical Code® (NEC®), Washington Administrative Code (WAC), and Revised Code of Washington (RCW) by July 1, 2018. After that date, all exams will be based on the 2017 codes even if a person must retake an exam that was previously failed using the 2014 version. Typically, exam questions do not change significantly with adoption of new versions of the code.

All examinations are open-book and exam candidates are allowed to take any original copyrighted material into the exam with them. Copies are not allowed except copies of RCW 19.28 or WAC 296-46B may be used. For more information about the exams, you can refer to *WAC 296-46B-960* or visit the *Electrical Exam Information* page of our website.

Legislative Update

Two bills affecting the electrical program have passed the legislature and are awaiting the Governor's signature. You can get information about each bill by clicking on the hyperlinked bill numbers below.

1. *Engrossed Substitute House Bill 1952* – Allows cities that have electrical inspection jurisdictions to enforce licensing and certification provisions of RCW 19.28. Allows cities to establish penalties and adjudicate matters of compliance. Penalties upheld through an appellate process of a city or town may be appealed to the electrical board. The city or town that is party to the matter must reimburse all costs of an appeal payable from the electrical license fund. Does not diminish the department's enforcement authority within cities.
2. *Substitute Senate Bill 6206* – Effective July 1, 2023, requires completion of an apprenticeship to qualify for journey-level electrician certificate of competency examination. This means an applicant must complete their current 8000 hour experience requirement along with 96 hours of classroom training, apply for, and be approved for examination by July 1, 2023 to qualify for the journey-level examination. After that date, all journey-level applicants must have completed an approved apprenticeship. The bill does not affect qualification for specialty electrical certificates. For more information about apprenticeships including how to receive credit for previous experience and what this means for employers, visit the *Apprenticeship* page of our website.

Correction Reduction Initiative

In June 2006, the electrical program introduced a special project, the "Correction Reduction Initiative". The goal is for selected contractors to reduce their corrections by 15% in one year. At the beginning of each fiscal year, the department identifies contractors who received more than twice the average number of corrections for contractors with at least 24 inspections in the previous year. Each month, the contractors receive a list of all of their corrections from the previous month. This gives them an opportunity to review the items with their electricians to improve the quality of their work.

This initiative has proven to be very successful in helping contractors reduce corrections and save money for themselves and the department. So far this fiscal year (since July 1, 2017), the contractors in the Correction Reduction Initiative have reduced their corrections by an average of 26 percent. The result is safer electrical installations at a significant cost savings to the contractor, customers, and the department. Corrections cost everyone by causing return visits to the jobsite. Our studies have shown that 20 percent of contractors receive 80 percent of corrections.

We use this initiative to improve our own performance as inspectors as well. Contractors who believe they have received improper corrections should contact the electrical inspection field supervisor for the issuing office to discuss possible invalid corrections, such as those that are not within the scope of the contractor's work, or those that are not supported by a correct code reference. A contractor should never accept invalid corrections because they fear reprisal from an inspector or supervisor. Our inspectors are required to provide an accurate reference (NEC, WAC) for all corrections issued. Improper corrections will be removed from the contractor's records.

Rulemaking Updates – Marina Ground-Fault Protection Requirements

The department is considering changes to *WAC 296-46B-555* regarding ground-fault protection requirements for Marinas. The current rule, effective July 1, 2017, amends the ground-fault protection levels specified in NEC 555.3 to allow 100 milliampere protection for feeders until July 1, 2018. The department is considering a request from the Northwest Marine Trade Association to extend this allowance beyond July 1, 2018. Watch the Rule Development page of our website for more information including the proposed rule language and a timeline for rulemaking. The NEC has specified ground-fault protection requirements in Article 555 since the 2011 edition. These requirements were introduced to prevent Electric Shock Drowning (ESD) in and around marinas. For more information about ESD, visit *www.electricshockdrowning.org*.

Ugly Picture

If viewing this document online, click on the picture to open a larger image.

Pictured is an electric wall heater insert that had been operating flawlessly for about 10 years until the property owner noticed fire coming from the grill and called an electrician. Electric wall heaters collect lint and dust that must be cleaned at least every year at the beginning of the heating season. Follow the manufacturer's instructions for regular cleaning or risk disaster.

Answer to Question of the Month

14 AWG – NEC 240.4(G), 440.35; Table 310.15(B)(16) Nameplate minimum circuit ampacity – 19.4