ELECTRICAL CURRENTS

A Newsletter from the Office of L&I Chief Electrical Inspector Wayne Molesworth November 2023

Question of the Month

What is the minimum size aluminum SE cable that may be used as a 100-ampere feeder in a single-family dwelling in Yakima, routed through the attic above the level of insulation, and down to a feeder panel in an uninsulated wall. The feeder does not carry the entire load associated with the dwelling. The expected high ambient temperature in the uninsulated attic is 120°F. The cable is marked with a temperature rating of 75°C.

– See correct answer on page 2.

Safety Tip of the Month

In the coming months, be prepared for deteriorating driving conditions. Rain, fog, ice, and snow are on the way. Slow down and increase your following distance to help compensate for decreased traction and visibility. Make sure your windshield wipers work well and wiper fluid is full. To help prepare for winter driving, see the Winter Travel page on the Washington Department of Transportation website.

Is Your Mailing Address Correct? Why it Matters

The postal service has new sorting equipment. Your mail is undeliverable if your mailing address does not match an address in their system.

Avoid problems caused by undeliverable mail:

Find your mailing address by using ZIP Code™ by Address

Using the result from above or your PO Box information, update your address to match at https://lni.wa.gov/licensing-permits/manage-licenses-certifications

Update all of your licenses and certificates. Find them by using our Verify tool if needed.

2023 Rulemaking Updates

Code Adoption: Rulemaking to adopt the 2023 NEC and to make other rule changes is underway. The Technical Advisory Committee (TAC) provided advice regarding outside and department rule proposals during their July 11, 2023 meeting. The Electrical Board provided advice during their October 26, 2023 meeting.

A Second Draft of the proposed rules and supplemental information that focuses on proposed changes to the (06A) HVAC/refrigeration scope of work is now available on our Rule Development webpage. Here is what happens next:

- November 21: The proposed rules (CR-102) are expected to be filed with the state Office of the Code Reviser.
- January 3, 2024: A public hearing on the proposed rules is tentatively scheduled.
- February 27, 2024: The final rules (CR-103) are expected to be filed with the state Office of the Code Reviser.
- April 1, 2024: The new rules and adoption of the 2023 NEC are expected to take effect.

See the April 2023 Special Edition Electrical Currents Newsletter for more details about the entire process.

Fee Increase: L&I is considering a 6.3% fee increase to support increased operating expenses for inspections and other Electrical Program services. The current fee levels are not enough to cover current Program expenses. The fee increase is needed to ensure that revenues match expenditures. Learn more on our Rule Development webpage.

Exception to 2020 NEC 230.71(B)(4) Requirements for Metering Centers

Until April 1, 2024, requirements for separate compartments for service disconnects do not apply to 250 volt, single phase metering centers with 1 – 6 service disconnects. We will only extend this allowance if manufacturing capacity does not improve. More information to come in future editions of this newsletter.

Who Can Install Seasonal and Year Round Use Lighting?

Electrical licensing and certification requirements for seasonal and year round use lighting depend on the type of products used in the installation not the voltage of the installation.

If the seasonal and year round use lighting are field fabricated, firms installing the lighting systems are required to be licensed electrical contractor employing properly certified electricians. Permits and inspections are required for these installations. Typically, the above describes firms who fabricate custom cut-to-fit seasonal and year round use lighting products.

Firms or individuals installing unaltered, off-the-shelf factory-assembled seasonal and year round use lighting products, like those described in UL 588 , the Standard for Seasonal Holiday Decorative Products are not required to be licensed electrical contractors or certified electricians. If fasteners are used to affix the lights to a structure, contractor registration requirements in RCW 18.27 may apply.

Heat Pump Water Heaters - Not for the HVAC/Refrigeration System Electrician

Heat pump water heating appliances are a part of the electrification plan in Washington. This equipment may be similar to equipment installed in HVAC/refrigeration systems, but if the equipment is not integrated to generate, deliver, or control heated, cooled, filtered, refrigerated, or conditioned air, the equipment is not part of an "HVAC/ refrigeration system" defined in WAC 296-46B-100 and is not included in the 06A or 06B HVAC/refrigeration specialty work scope.

Heat pump water heaters have both plumbing and electrical connections. Plumbing laws regulate plumbing contractor licensing and plumber certification. Under certain conditions outlined in RCW 19.28.091(8) and RCW 18.106.150(8), plumbers and electricians may practice each other's trade. Conditions only apply to 02 residential specialty and 01 journey level electricians.

Picture of the Month: Pipe electrodes shall have the outer surface galvanized or otherwise metal-coated for corrosion. When an existing electrical service is altered a single pipe electrode shall be supplemented with another electrode as required by NEC 250.53(A)(2) Sometimes you need to start over if the pipe is rusted away.

Answer to the Question of the Month: 2/0 - Table 310.16 gives ampacities based on ambient temperature of 30°C (86°F). Ampacity must be adjusted for the high ambient temperature in the attic per 310.15(B)(1). An ambient temperature of 120°F requires a correction factor of .75 for the 75°C rated cable. 2/0 aluminum, 75°C conductors have an ampacity of 135 amperes. 135 X .75 = 101.25 amperes.