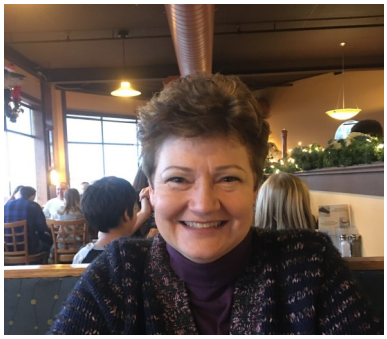
ELECTRICAL CURRENTS

A Newsletter from the Office of L&I Chief Electrical Inspector Wayne Molesworth *October 2022*

Note from the Chief—Faith Jeffrey has Retired

I would like to personally thank Faith for her years of service and contributions to the Electrical Program.

Hired in 1990, she has been with L&I for over thirty years. In 1996, she came to the electrical program to help implement a new law that created an audit program. She was instrumental in establishing the program and was its supervisor until retirement.



Faith made many contributions; when legislative approval created the E-CORE team in 2005, leaders chose Faith to head it up. Her vast knowledge of program history and the electrical laws was a great resource for our staff and legal team.

Faith and her husband are fulfilling a long-held desire to be snowbirds. They will keep their home in Lacey near grandkids and have a home in Texas to be with grandkids there who are involved in sports.

We all wish her well in this new chapter of her life.

Safety Tip of the Month

As an electrical professional, be alert for electrical hazards on the jobsite that may injure or kill unsuspecting coworkers.

Never leave an energized electrical panel without a cover. Make sure receptacles used for temporary power are GFCI protected, and be on the lookout for improper temporary wiring splices and damaged cords or tools.

We have the skills and knowledge to help keep people safe from electrical hazards on our job sites.

Garage Receptacle Circuit – NEC 210.11(C)(4)

For dwelling units with attached and detached garages with electric power, the NEC 210.11(C)(4) requires a 120 volt 20 ampere circuit to supply garage receptacle outlets. It can also supply readily accessible outdoor receptacles. This circuit can supply no other outlets, just cord and plug connected equipment, no hardwired lighting, etc.

Locations of receptacles on this circuit must be as required by NEC 210.52(G)(1). Each vehicle bay must have at least one receptacle located not more than 5 ½ feet above the floor. As long as you meet this requirement, you are not restricted from installing receptacle outlets above that height inside the garage.

Requirements above do not apply when garage spaces are not attached to an individual dwelling unit of a multifamily dwelling.

Question of the Month:

What is the allowable ampacity of four 12-2 with ground nonmetallic-sheathed (Type NM) cables run through a single hole in wood framing that is to be sealed with foam insulation? All cables serve single-phase loads supplied by a 120/240-volt single-phase system.

See correct answer on page 2.

Apprenticeship Requirement Rulemaking Update

The Washington State Department of Labor and Industries (L&I) has posted a draft proposed rule related to journey level electrician examination qualifications after July 1, 2023. The current rule requires the completion of an apprenticeship program to qualify for the journey level (01) exam as of July 1, 2023, based on a change to the electrical laws under 2018's Substitute Senate Bill (SSB) 6126. Under the draft proposed rules, L&I is exercising the discretion provided in the law to allow temporary alternative pathways to qualify for the journey level exam through a "good cause" exemption.

The draft proposed rule identifies alternative pathways that are considered sufficient experience and training to qualify a candidate to take the journey level (01) exam under the "good cause" exemption. The latest version of the draft rule is now available online at the agency's Electrical Rule Development webpage.

We welcome your input on this draft proposal. Please send input to Alicia Curry at Alicia.Curry@Lni.wa.gov. All preliminary input must be received by Wednesday, October 26, 2022. All stakeholders will also have the opportunity to provide comments during the public comment period. We will provide updates on the filing, when the public comment period begins, and when the public hearing will take place.

The agency is planning to file the CR-102 Proposed Rulemaking in late 2022.

We recently updated the Electrical Apprenticeship webpage. There, you will find information for trainees and their employers and a list of registered apprenticeship programs.

For questions regarding SSB 6126, email SSB6126Implementation@Lni.wa.gov.

Circuits for Onsite Sewage Disposal Systems – WAC 296-46B-501(8)

For onsite systems, pumps and alarms must be on separate branch circuits. Sometimes systems have a disconnect for the pump motor and a separate high level alarm. Each of which must be on a separate circuit.

When systems have control panels that have overcurrent devices that establish separate branch circuits for the pump motor and alarm, there is no requirement to supply the panel with more than one circuit unless required by the manufacturer's instructions. For proper OCPD coordination, the supply circuit OCPD should be larger than any OCPD in the control panel.

If a system pumps sewage off of the property to a municipal sewage system, it is not an onsite system, WAC 296-46B-501(8) does not apply.

Answer to the Question of the Month: 20 Amperes. When more than two NM cables containing two or more current-carrying conductors are installed in the same hole in wood framing that is to be sealed with insulation, NEC® 334.80 requires the ampacity of each conductor to be adjusted in accordance with Article 310.

The ampacity of conductors of NM cable is based on the 90° C ampacity column of Table 310.16. For #12 conductors rated at 90° C, the ampacity is 30 amperes. Table 310.15(C)(1) requires the ampacity to be adjusted by 70 percent for this installation based on 8 current-carrying conductors, leaving a corrected ampacity of 21 amperes. This exceeds the 60° ampacity, so the final ampacity is 20 amperes.

Picture of the Month: An inspector found this incomplete raceway system when inspecting a new circuit added to the panel. When electrical inspectors find things like this, they issue a correction notice to the property owner.