ELECTRICAL CURRENTS

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

Question of the Month: You are installing a new feeder to supply eight non-motor generator arc welders. Each welder is rated 240 volts, single phase, 32amperes primary, and operated at 50% duty cycle. What is:

- the load in voltamperes,
- the minimum size feeder conductors using copper type THWN conductors and
- the maximum size overcurrent protective device for the feeder?

See correct answer on page 2.

Safety Tip of the Month

The end of daylights saving time is here. Be safe be seen. Daylight is very limited this time of the year. High visibility is your best bet for safe working or outdoor activities in low light conditions. Always wear reflective clothing or accessories so that others can see you. Wearing reflective clothing reduces the possibility of injury from a motor vehicle or other mobile equipment.

SSB 6126 Implementation Up Date

Trainees, now is the time to get your hours of experience filed with the licensing section of L&I's Electrical Program.

Hours of experience on file with L&I's Electrical Program can be considered for advanced standing by registered apprenticeship programs. Use our Verify tool to view hours on file.

Specialty electrician certificate holders, apprenticeship programs are required to grant 4,000 hours for previous experience if you hold one of following certifications: residential (02), limited energy system (06), pump and irrigation (03), HVAC/refrigeration system (06A) , signs (04), and nonresidential maintenance (07).

For non-certificate holders, apprenticeship programs will evaluate your 4,000 hour specialty and industrial/commercial hours approved through L&I electrical licensing section and may award credit towards advance standing in their apprenticeship.

Good Cause Rulemaking Update - The agency's "Good Cause" rulemaking to define alternative pathways to qualify for the journey level electrician exam continues to progress. View the latest draft of the proposed rule here.

For more information on 6126, visit www.lni.wa.gov/ElectricalApprenticeship.

Questions? Email SSB6126Implementation@Lni.wa.gov.

Tentative Adoption Schedule—2023 NEC Code

The 2023 edition of the NEC was published in September. You have an opportunity to be involved in the process of revising WAC 296-46B and the adoption of the 2023 NEC. Here are the basic steps.

- March 2023—file the CR-101, ask for proposals to amend existing rules and the 2023 NEC, and take applications for the Technical Advisory Committee (TAC). Stay tuned for more information coming in a special edition of the this newsletter.
- June/July 2023—TAC meeting and Electrical Board advice.
- September 2023— Public hearings.
- January 1, 2024—Tentative WAC/2023 NEC adoption date.
- Exams will continue to be based on the 2020 NEC until sometime in 2025.

Please explore the 2023 NEC and participate in the process.

Requirements for Metering Centers for Permits Purchased After January 1, 2023

For permits purchased on or after January 1, 2023, metering center service disconnects must be in separate compartments to comply with NEC 230.71(B)(4) and have line side barriers required by 2020 NEC 230.62(C).

Until January 1, 2023, for metering centers having two to six service disconnects in the same enclosure, we are delaying enforcement of NEC 230.71(B)(4). Because of this, the exception to 2017 NEC 408.3(A)(2) supersedes 2020 NEC 230.62(C) until that date.

Exceptions – Length and Wiring Methods for Service Conductors

Wiring methods for service conductors are restricted by WAC 296-46B-230(7) and (8). The length of raceway for service conductors is 15 feet or less according to WAC 296-46B-230(10)(b). Restrictions help diminish hazards that unfused/over-fused service conductors present inside of buildings.

Today, equipment connected on the supply side of service disconnects is more common than ever. Most often, supply side equipment is equipped with overcurrent protection for service conductors. Emergency disconnects installed in accordance with NEC 230.85 and service rated transfer switches are examples of such equipment. When customer owned supply side connected equipment provides proper overcurrent protection for service conductors in accordance with Article 310 of the NEC:

- Wiring method restrictions in WAC 296-46B-230(7) and (8) do not apply – installers may use any suitable NEC Chapter 3 wiring method for service conductors, and
- Fifteen foot raceway length restrictions in WAC 296-46B-230(10)(b) do not apply.

RV Supply Equipment

NEC 210.8 provides requirements for Ground Fault Circuit Interrupters (GFCI) protection requirements receptacles. For recreation vehicle supply equipment installed on the same property as a dwelling unit, WAC 296-46B-210(8)(B) amends GFCI requirements. According to the rule, GFCI protection is not required for receptacles intended for 125/250 volt RV power supply feeders, only for 125 volt, single phase, 15 or 20 ampere RV receptacles. Use must be abundantly evident: Adequate space to park an RV, doors large enough for an RV, etc. Installers must label the panel schedule for the receptacle's intended use

Answer to the Question of the Month:

32,444 volt-amperes, 1/0 copper THWN, 300-ampere overcurrent device. NEC® 630.11(B) and 630.12(B).

Picture of the Month:

New 2000A generator and ATS were added to an existing service. The weight of everything proved to be too much for 3/16 inch toggle bolts.

Click on the picture for a closer look.