

# ELECTRICAL CURRENTS

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

July 2023

## Question of the Month:

How many 12-2 with ground nonmetallic-sheathed cables can be installed in an 18 cubic-inch plastic nail-on device box, which will contain a flush-mounted duplex receptacle?

*Find the answer on page 2.*

## New Laws for Trainees Aspiring to be Journey Level Electricians and Their Employers

As of July 1, changes are in effect for electrical trainees to qualify for the journey level (01) certification exam. Here's what you need to know:

### Trainees

- Those trainees with fewer than 3,000 hours of electrical experience worked before July 1 must become registered apprentices to perform (01) work.
- Those trainees with 3,000 or more hours of electrical experience as of July 1, or completed a two-year electrical construction and training program, may continue gaining (01) experience until July 1, 2026, without becoming registered apprentices.
- If you've been approved to take the certification exam before July 1, you are not required to complete an apprenticeship, even when reapplying after that date.

### Contractors

Electrical contractors wanting to hire someone learning to become an (01) electrician after July 1 have a few choices:

- Become a registered training agent for an apprenticeship program.
- Establish your own apprenticeship program approved through the Washington State Apprenticeship and Training Council.
- Hire trainees with specific experience. See the second bullet point under "Trainees" in this article.

### For more information

You can go online and download a fact sheet with more details, "[Changes for those pursuing a journey level \(01\) electrical certification](#)," publication number F500-153-000.

Learn more online at [www.Lni.wa.gov/ElectricalApprenticeship](http://www.Lni.wa.gov/ElectricalApprenticeship).

Questions? Email [ElectricalApprenticeship@Lni.wa.gov](mailto:ElectricalApprenticeship@Lni.wa.gov)

## Safety Tip of the Month

With summer in full swing, it is a good time to remind everyone about electric shock drowning hazards. Danger exists anywhere the use of electricity and water coexist – marinas, launch ramps, private docks, boatlifts, swimming pools, hot tubs, spas, and irrigation pumps in contact with a body of water. Can you name others? These areas can contain stray electrical currents in the water, possibly leading to electric shock drowning or injury from shock, including death. Learn how to protect yourself and others:

<https://www.nfpa.org/Public-Education/Staying-safe/Electrical-safety-around-water>

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## How do Trainees Prove 3000 Hours of Experience?

Section 2 of ESSB [5320](#) created an allowance for trainees with 3,000 hours of electrical experience worked before July 1, 2023 to continue accruing (01) hours without joining a registered apprenticeship. Hours can be specialty or (01) hours. When an inspector finds a trainee performing electrical installations limited to (01) electricians they will :

- Ask the trainee for proof of being in a registered apprenticeship program approved by the Washington State Apprenticeship and Training Council, or
- Verify their hours in L&I's data base.

To record hours, turn in an [Affidavit of Experience](#). Anyone can check hours of a trainee by using our [Verify](#) tool. You can search by trainee name or certificate number.

If there is no record of the hours, the inspector will require the trainee's employer to verify the needed hours. When the trainee turns in their next affidavit, the electrical licensing team at L&I will confirm the trainee had the needed hours to be performing (01) electrical installations. If the trainee did not have the needed experience they will lose those (01) hours and both the trainee and employer would subject to citations and monetary fines.

Everyone who is learning the electrical trade has to maintain an active trainee certification. It does not matter if you are enrolled in a registered apprenticeship or a specialty electrician gaining hours.

## Rule Updates

### Code Adoption - TAC Members

Thank you to everyone who submitted a WAC proposal and applied to the TAC. The TAC is set and the meeting is Tuesday July 11, 2023 at the L&I headquarters located at [7273 Linderson Way SW, Tumwater, WA 98501](#).

### Expedited Rule Now in Effect

Changes to WAC 296-46B-945 just adopted to implement ESSB [5320](#) became effective July 3, 2023. To learn more, visit our "[Rule Development](#)" page.

**Answer to the Question of the Month:** Two 12-2 with ground cables. NEC 314.16: #12 volume allowance per conductor =  $2.25 \text{ in}^3$ . One duplex receptacle =  $4.5 \text{ in}^3$  (double volume allowance). Equipment grounds =  $2.25 \text{ in}^3$  (single volume allowance). Two cables = four conductors X  $2.25 = 9 \text{ in}^3$ . Total volume of conductors, grounds, and receptacle =  $15.75 \text{ in}^3$ . This leaves  $2.25 \text{ in}^3$  which would allow one 12-2 and one 12-3 cable in this box which would bring the total to  $18 \text{ in}^3$ .

**Picture of the Month:** The inspector who took this picture did a double take. It looks like these conductor have been without a raceway for a while. Can you find any other safety concerns?

*Click on the picture for a larger image.*



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