



● **This Month's Question of the Month**

Where operating at less than 50 volts, AC systems are required to be grounded where supplied by transformers if the transformer supply system is _____. **A)** bonded, **B)** grounded, **C)** ungrounded, **D)** isolated. *See the correct answer on page 2.*

● **Note From The Chief**

During the past year, Washington has continued to see a very sluggish construction economy. This summer, electrical work has picked up only slightly over last year. As with other parts of the construction industry, L&I's Electrical Program has seen a large downturn in inspection activity. As a result, we have been forced to reduce staffing by about 32% or 60 staff including 52 inspection or technical staff members. This has dramatically affected how we must now do business.

We are consolidating inspections to create more full inspection days for inspectors. This may cause some more remote inspections to be delayed longer than in the past. We are using computer systems more efficiently to gain more time for inspectors to be in the field. Many inspectors now begin their day without going to their office. This gains about 1 ½ hours each day for more inspection time, but reduces the time the inspector is available for code and other questions in the office. We have incorporated other small but significant changes into our way of doing business that will help the inspectors get to more jobs quicker than in the past.

It is critical that everyone in the electrical industry do their part in making the inspection process as efficient and effective as possible. Providing good addresses, directions, and access is critical to helping the inspector get to more jobs quicker. Taking responsibility for your work and reducing corrections is also very important. As noted in the May *Electrical Currents*, only 20% of all electrical contractors caused 74% of all reinspections.

The program's Correction Reduction Initiative will continue next year and in July, a new list of contractors will be developed for the coming twelve months. The group will include all contractors who have more corrections per inspection than the average electrical contractor. Because the need to reduce corrections is more important than ever, the program will be more proactive in helping all contractors reduce their corrections and the related reinspections. For instance, we will be more closely watching for contractors who routinely have the same type of corrections on their jobs. We will be contacting and working with those contractors to reduce their repeat violations. If repeat violations are not reduced, stronger action may be necessary. Use the initial contacts to improve the quality of your jobs, while saving you and the Electrical Program time and money.

● **Is That Service Temporary or Permanent?**

Some electrical contractors are installing an electrical service, for use during construction, very early in the construction process. A service will be considered temporary if the service is not complete and ready for permanent use. The temporary service must have a switched light for illumination, grounding and bonding appropriate for a temporary service, and an appropriate construction receptacle circuit(s) (i.e. GFCI, etc.). The temporary service requires a separate permit fee and will be inspected as a temporary service separate from the inspection of the permanent service.

When this type of temporary service is installed, the permanent service must be permitted under a separate permit fee – on the same or different electrical permit – and inspected for permanent service. The temporary and permanent service may utilize all or some of the same equipment. For a service to be considered permanent, the service must be complete and ready for permanent use when inspected. All temporary wiring and devices not intended for use in the permanent system must be removed. All grounding and bonding must be complete for all mechanical systems, building structural steel, and any grounding grids/electrodes that are a part of the final grounding/bonding system.

Safety Tip of the Month!

Read the manufacturer's instructions on all products. They contain critical safety and use information that can prevent injury and death.

Then, follow those instructions!

● Retrofitting Signs With LEDs

Sign contractors are often replacing the illumination in channel-letter – pan-channel – signs with an LED illumination source while the sign remains installed on the jobsite. The sign contractor will have a contract with an electrical testing laboratory to list signs and is responsible to ensure that the sign meets all listing requirements. Retrofitting with LED illumination requires the sign contractor to remove the original neon, transformers, and associated high voltage wiring before replacing the neon system with a low voltage LED system listed for the purpose and installed in accordance with that listing. The retrofit eliminates the high voltage hazards associated with the neon lighting system and reduces the power consumption of the sign by about 90%.

NEC 600.3 requires listing and installation in compliance with the listing unless special permission is granted. The department will allow licensed electrical sign contractors to do the retrofit from neon to the LED illumination source at the jobsite, with the sign in place, so long as the sign contractor provides physical access to make a visual inspection of the LED components and provides, for use by the inspector during the inspection, the manufacturer's installation instructions and listing documentation for the LED system components. Owners or other types of contractors are not allowed to perform this type of retrofit.

● Fee Training Series – Mobile or Modular Homes and RV Parks or Sites

This is the third in a series of articles on selecting the appropriate permit fees for your work. WAC 296-46B-906(1), Residential, is separated into six sections. Paragraphs (e) and (f) are the primary sections to use when determining the permit fees for your mobile or modular home, mobile home park, or recreational vehicle park or site.

Paragraph (e) covers the service and feeder fees for individual mobile homes and modular homes that are not installed in a park. The title of (e) will be clarified in the upcoming change to the electrical WAC to remove the reference to mobile home parks and RV parks. The fee for a mobile/modular service is \$50.60 (see (e)(i)). The fee for a mobile/modular home feeder is also \$50.60 (see (e)(i)). If both are inspected together, a discounted rate of \$82.70 is available (see (e)(ii)).

Paragraph (f) covers the fees for services and feeders for mobile and RV parks. When there is no master service – one service supplying multiple mobile homes or RVs, the first individual site service or feeder fee is \$50.60 (see (f)(i)). For each additional site service or feeder, inspected at the same time as the first site service or feeder, the fee is \$32.00 (see (f)(ii)). For example, if you have two site services and they are inspected at the same time, the fee is \$82.60 (\$50.60 for the 1st site service, plus \$32.00 for the additional service). If the two site services are inspected separately, the fee is \$101.20 (\$50.60 for each site service). Another example – you have two site services with a feeder supplied by each service. All are inspected at the same time. The total fee is \$146.60 (\$50.60 for the 1st service, and \$96.00 for the remaining service and 2 feeders). If the 2 services and feeders are each inspected separately, the fee is \$202.40 (\$50.60 each).

When there is a master service supplying the sites in a park, the note in paragraph (f) says to use the fees in subsection (2) Commercial/Industrial. For example, if a new 800 ampere service is installed to supply power to a 400 ampere feeder, and to a 200 ampere feeder supplying power to a clubhouse. The 400 ampere feeder supplies two sites that are inspected at the same time. The total fee is \$515.80 (\$292.10 for the 800 ampere new service, \$76.70 for the 400 ampere feeder, \$64.40 for the 200 ampere feeder, \$50.60 for the 1st site, plus \$32.00 for the 2nd site - the two sites are inspected at the same time). If the two sites are not inspected at the same time, the total fee is \$534.40 (same as the previous example except the fees for the two sites is \$101.20).

If a 2nd 400 ampere feeder is installed at a later date to supply additional sites, the fee is \$193.80 (see (2)(a)). The fee is higher than for the original 400 ampere feeder because the 2nd feeder is being inspected separately from the original work.

For an existing park where the service/feeder is altered or repaired, use (2)(b)(i) to calculate the service/feeder fees. For example, if the park describe above is existing and the 400 ampere feeder is altered or repaired, the fee for the feeder is \$193.80. For an existing park where the meter or mast is repaired and there are no alterations to the service or feeder, the fee is \$70.30 regardless of the ampacity of the service or feeder (see (2)(b)(ii)).

● Answer to This Month's Question of the Month:

C) ungrounded (see NEC 250.020(A)). **Correction** to June's answer – The answer should have been **B) 20**.

Electrical Section Internet Address: <http://www.Lni.wa.gov/TradesLicensing/electrical> Page 2 of 2