ECHL

THE WIRE

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P.O. Box 2085
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April 2026

The Presidents' Letter

We had 39 members present at our March 9th meeting. Dennis Steier and myself continued with random code questions. The feedback has been very positive with this type of format. The discussions and interactions have been great! Our April 13th program will be a continuation of the random questions. Our May 11th program will have a presentation on how to effectively use AI to look at code questions. David Allgeier won the 50/50 pot.

If you have not renewed your membership yet, please help us out and renew as soon as possible. In order to have better accounting, only the names of paid members will be on the sign-in sheet. If you plan on attending the April meeting and have not had a chance to renew your membership you can simply add your name to the sheet. If you know someone who might be interested in becoming a member bring them with you. They can attend the April meeting at **no charge!**

The Department of Housing, Building, and Construction has transitioned to a new data base. Please do not be surprised if you have issues with your next license renewal. If you do experience any issues, please contact one of the Board members for assistance or call Housing, Building, and Construction at (502) 782-6700.

The Sponsorship Form is on the website. If you know of any company that may be interested in becoming a sponsor, please print off the form and give it out to any prospective sponsor. The cost for a company or organization to become a sponsor is $100.

April 13, 2026 Code Program

Sign-in 6:30 P.M. - Program at 7:00 P.M.
ELKS LODGE # 8 - 2824 KLONDIKE LN

The program for April will be a presentation by Steve Willinghurst & Dennis Steier. NEC questions were distributed at the February Membership Meeting. Answers and discussion will continue at the April meeting. NEC Questions are available at echlky.com.. Steve & Dennis are both a long time board members of the ECHL and always deliver an excellent presentation.

Our General Membership meetings are held at the Elks Lodge located at 2824 Klondike Lane. The meeting starts at 7:00 pm with sign-ins beginning at 6:30 pm.

Bring a friend and enjoy the program.

News from Frankfort

This year's legislative session is beginning to wrap up. So far, we have not identified any legislation that has an effect on electrical licensing or the National Electrical Code. There was HB 828 introduced that had some good language regarding solar energy work.

As mentioned last month, the Department of Housing, Building, and Construction has set up a task force to review the 2026 code and to make a recommendation to the Advisory Committee. We had our first meeting on March 12th. It went very well as we reviewed some of the significant changes in the 2026 code. Our next meeting is scheduled for April 2nd.

The Kentucky Electrical Coalition is still in place and has had several virtual meetings.

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April 2026 Code Questions

1. Can a 400 amp transfer switch be reconditioned? Where would you find this answer in the 2023 NEC?

A. YES
B. NO

2023 NEC Code Section? _____

Rating of a service disconnecting means for a two-circuit installation shall have a rating of not less than how many amps? Where would you find this in the 2023 NEC?

A. 100
B. 60
C. 30
D. None of above

2023 NEC Code Section? _____

3. Can you use a cast iron fitting when installing stainless steel IMC conduit? Where would you find this answer in 2023 NEC?

A. YES
B. NO

2023 NEC Code Section? _____

4. Can a switchboard instrument circuit be protected by a 20-amp overcurrent protective device? Where would you find this answers in 2023 NEC?

A. YES
B. NO

2023 NEC Code Section? _____

5. Can a general use disconnect be used on a 100 horsepower on a air conditioning compressor? Where would you find this answer in 2023 NEC?

A. YES
B. NO

2023 NEC Code Section? _____

6.Can the neutral conductor feeding a column width panelboard originate from the pull box feeding it? Where would you find this answer in 2023 NEC?

A. YES
B. NO

2023 NEC Code Section? _____

Code Corner

Article 230

Services

What inspired me to write this Code Corner was a call I received from a voltage testing company regarding Performance Testing in Section 230.95 Ground Fault Protection of Equipment in Article 230. Under 230.95(C) Performance Testing, there was new language added in the 2107 NEC in 230.95 (C) Performance Testing which requires this testing to be performed by a qualified person(s). The question was, is the AHJ's enforcing this in the field.

230.95 **Ground Fault Protection of Equipment.** *Ground-fault protection of equipment shall be provided for solidly grounded wye electric services of more than 150v to ground but not to exceed 1,000v phase to phase for each service disconnect rated 1,000 amperes or more. The grounded conductor for the solidly grounded shall be connected directly to ground through a grounding electrode system, as specified in 250.50, without inserting any resistor or impendence device.*

There is an exception for service disconnect in an industrial process where non-orderly shutdown will introduce additional or increased hazards.

Section 230.95(C) **Performance Testing.** *The ground-fault protection system shall be performance tested when first installed on site. This testing shall be conducted by a qualified person(s) using a test process of primary current injection, in accordance with instructions that shall be provided with the equipment. A written report of this testing shall be made available to the authority having jurisdiction.*

Have you installed a switchgear over 1,000 amperes lately? Was this procedure followed after the installation? Did the AHJ request the testing report results? If the AHJ requested this report, would you be able to provide it to them? So be aware that this testing is not optional.

Article Submitted By Dennis Steier

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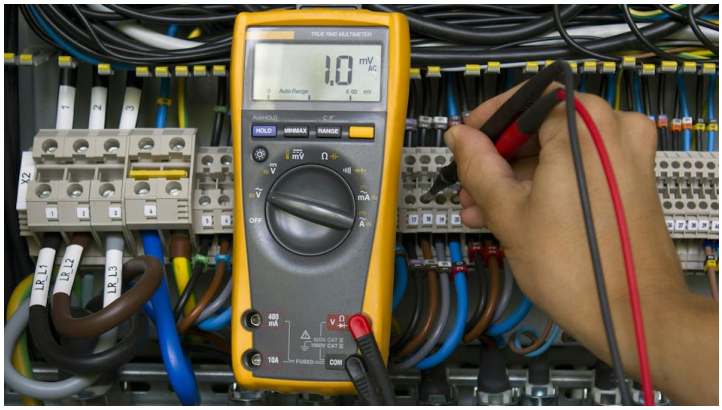

Safety Best Practices When Using Electrical Testing Equipment-Part 4

General Safety Practices—Cont.

For work quality, the safety training is all well and good but often insufficient; there is just way too much to learn about how to use the test equipment and correctly interpret the test results. This problem is why we have courses and certifications for thermographers. “Do the job right the first time” is also a major safety principle.

Some safety practices that apply to test equipment in general:

- Use the correct test equipment for the measuring job and environment [NFPA 70E Sec. 110.6(C)]. This sometimes has more effect on the work than the safety of the worker, but it is always a safety issue even if the major effect is on the work. For example, you might attempt to measure resistance across a 480V bolted connection using your 9V DMM instead of using a conductance tester for that same job. A supervisor reviewing that work would have to write another work order to do the job all over again, meaning double the exposure to nearby energized circuits.
- Use test equipment that is rated for the environment of use [NFPA 70E Sec. 110.6(B)].
- Test equipment designed for laboratory use is typically not also designed with safety features that make it suitable for use with the 480V distribution system in the typical manufacturing plant.
- Physically inspect the test equipment [NFPA 70E Sec. 110.6(D)] before taking it to the field and again before using it. While major brands ruggedize much of their equipment, sometimes things just happen. An electrical test tech came back from lunch to continue cable testing only to notice a crack in his Hi-Pot tester. It wasn’t there when he left. Though he suspected a lift truck hit it, nobody saw anything. His routine practice of inspection before each use may have saved his life.
- Physically inspect test leads from one end to the other. If there is obvious damage, replace them. If you can’t be sure if those are okay, replace them so you are sure about the test leads you actually use.
- Decide on a connection hand. Seasoned pros often put one hand behind their back when connecting probes or clamps, to avoid creating a possible current path across their heart. This practice also prevents creating an ionization trail between two test probes; that trail creates a significant risk of an arc flash.
- Be careful using “ground” as a voltage level reference. That point might not be connected to the equipment grounding conductor (EGC). If it’s on the load side and connected to a load side ground rod, it might be 90V or more higher than the EGC.
- If testing to verify circuit de-energization, also measure phase-to-phase and phase-to-neutral.
- Avoid setting battery-powered test equipment near heat sources.
- Don’t use the cords of cord-connected test equipment to raise or lower the equipment [NFPA 70E Sec. 110.7 (A)].
- Don’t wrap the cords of cord-connected equipment around the equipment (unless the equipment is provisioned for that with looms or similar devices), don’t step on those cords, don’t kink them, and don’t attempt to repair them if the insulation is damaged. Replaced any damaged cord. The same thing applies to test leads.

Moving toward total safety

You will never be totally safe in the presence of electricity. What separates you from injury or death is how you handle the dangers that still confront you despite all other efforts. This is where your assessment of the measurement environment, selection of the correct measuring equipment, careful set-up and use of that equipment, and attention to detail contribute to your doing a good job that day and going home that night.

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The Most Common Electrical Code Violations — & How to Prevent Them

These violations are costing you time and money.

1. Missing or Incomplete Panel Schedules
Code Reference: NEC 408.4(A)
Violation: Panelboards installed without a complete and accurate circuit directory.
Why it matters: An incomplete or mislabeled directory creates confusion during maintenance and emergencies.
How to prevent it:

- Label every circuit at installation.
- Update directories after changes or additions.
- Use typed or printed labels for legibility.

- **2. Improper Grounding and Bonding**

Code Reference: NEC 250
Violation: Neutral bonded in subpanels, missing ground rods, or improper conductor sizing.
Why it matters: Improper grounding can result in shock hazards, stray current, and nuisance tripping.
How to prevent it:

- Only bond neutral and ground at the main service.
- Install dual ground rods where required.
- Use NEC 250 tables to size grounding electrode conductors correctly.

3. No GFCI Protection Where Required
Code Reference: NEC 210.8
Violation: Missing GFCIs in kitchens, bathrooms, garages, outdoors, laundry areas, and basements.
Why it matters: GFCIs are critical for preventing electric shock in wet or damp locations.
How to prevent it:

- Always check the latest NEC version (requirements expand almost every cycle).

You lose money when you are turned down on a project. It also costs you time, when you have to return to the job site to make the necessary changes to correct the violation, and that too, costs you money.

Presidents Letter - Cont.

Our next general membership meeting is scheduled for Monday April 13, 2026 at the Elks Lodge located at 2824 Klondike Lane. The meeting starts at 7:00 pm with sign-ins beginning at 6:30 pm. Hope to see you there.

As Always Stay Safe and Work Safe

Steve Willinghurst

LG&E NEWS

Don't Dig For Trouble

April is here, bringing with it more than showers and flowers. It's also National Safe Digging Month, our annual reminder to follow some simple by important rules whenever you need to dig on your property.

Before you pick up the shovel, always be sure to call 811. Not only is this service free, it's the law. Visit kentucky811.org or call 811 to request that all utilities, including LG&E, mark any underground lines (gas, water, cable, etc.) on your property. Hitting an unmarked underground line could cause expensive damage, severe injuries or death. And because it's Kentucky law, you could be on the hook for thousands of dollars in fines if an unmarked natural gas line is hit.

The next step is to receive a "positive" response before proceeding with your digging project. Underground utility operators will provide this positive response either in the form of markings or flags on your property's excavation area or through phone, email or online notifications. You also be notified if there are no underground line in your area.

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Properly Applying Article 130 NFPA 70E—Part 1

It's about more than just risk assessments

ARTICLE 130 IN NFPA 70E provides minimum prescriptive requirements for work involving electrical hazards. Article 130 is the last article in Chapter 1. It is preceded by four articles containing definitions and requirements that are administrative, general and those necessary for establishing an *electrically safe work condition (ESWC).*

NFPA 70E's goal is to eliminate the hazard through the creation of an ESWC. Shock and arc flash risk assessments are required where justified energized work is performed (work involving electrical hazards) and when establishing an ESWC. Testing for the absence of voltage is considered energized work. See Section 110.2(C), which says electrical conductors and circuit parts are not considered to be in an ESWC until all applicable requirements in Article 120 are met.

Additionally, when testing for absence of voltage, safe work practices must be used based on the results of the shock and arc flash risk assessments until electrical conductors and circuit parts are in an ESWC. Employees must approach testing for the absence of voltage the same way as work on energized conductors or circuit parts.

The scope of Article 130 (130.1) explains that it contains requirements for work involving electrical hazards including, but not limited to, electrical safety-related work practices, shock/arc flash risk assessments and precautions/procedures when an ESWC cannot be established. Only qualified people are permitted to work on electrical conductors or circuit parts not in an ESWC.
The last paragraph in the scope requires all Article 130 requirements apply without regard to the type of arc flash risk assessment (incident energy analysis or the arc flash PPE table method) performed. This requirement mandates the user apply all applicable requirements in Article 130, not just those for shock (130.4) and arc flash (130.5) risk assessments.

The other applicable requirements address *energized electrical work permits (EEWP);* personal and other protective equipment; other precautions for personnel activities; work within the limited approach boundary or arc flash boundary of overhead lines, underground electrical lines and equipment; cutting or drilling (concrete walls/floors for example); and cutting, removing or rerouting electrical conductors and circuit parts where the conductor terminations or circuit parts are not within sight from the point of work.

In general, an EEWP (130.2) is required when an employee will cross the restricted approach boundary or will interact with the equipment when conductors or circuit parts are not exposed but an increased likelihood of injury from an exposure to an arc flash hazard exists. Where required, an EEWP, job planning and job briefing must be performed, implemented and documented. See the exemptions to an EEWP in 130.2(C).

TO BE CONTINUED NEXT MONTH

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What's Wrong Here?

I think one contributing factor for this rigid PVC conduit being snapped apart was the lack of an expansion fitting on this conduit run. Section 352.44 requires expansion fittings to be installed where the length change from thermal expansion and contraction is expected to be ¼-in. or more for straight conduit runs between securely mounted items such as boxes, luminaires, cabinets, elbows, and other conduit terminations. This run was more than 30 ft. between boxes. With an expected temperature swing of at least 100°F for this Massachusetts location, a 30-ft run of rigid PVC conduit could experience a length change of more than 1-inch! That expansion/contraction can place tremendous tension on the conduit, the clips supporting the conduit, and any fittings attached to the conduit. Sometimes that tension will cause the raceway to bend and other times the raceway may break. In this case the expansion and contraction caused the raceway to break. This installation needs to be done over and installed with an expansion fitting this time.