



# ***THE WIRE***

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## **APRIL 2025**

### ***The Presidents' Letter***

Our March meeting presentation was delivered by Dennis Steier. He continued with a discussion regarding significant changes to the 2023 National Electrical Code. As always Dennis did an engaging and informative slide presentation. We will continue with code changes for the April meeting as well.

We are adding a help request form to the ECHL website. Many of our members are experiencing problems getting answers to questions. Questions regarding licensing, electrical inspections, utility concerns, or electrical code are just a few examples that we have heard about. Take a look at the site and see what you think.

Beginning July 15, 2024 any license renewals for contractor, master, or electrician licenses will be for two years. With this next renewal, you will pay a fee for two years. When you renew again two years later, you will be required to have 12 hours of continuing education for each license that is being renewed and will pay a fee for two years. Call the department at (502) 573-2002 with any questions.

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.

Our next general membership meeting is scheduled for Monday April 14, 2025 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.

Hope to see you there.

***As Always Stay Safe and Work Safe***  
***Steve Willinghurst***  
ECHL President

### ***APRIL 14, 2025 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 continuation of the all the Code Updates. The presentation will be presented by Dennis Steier and Steve Willinghurst and cover the Code Sections that are being enforced January 1, 2025.

Dennis will also touch some of the Code Articles that are being delayed. This presentation will be a review/ comparison of each section of the Code updates from 2017 to present.

Bring a friend and enjoy the program.

Dennis Steier will also go over the Code Questions from the April 2025 Wire.

See you Monday Evening, April 14, 2025, at 6:30pm.

Stay Alert! Work Smart & Stay Informed!

### ***Mark you calendars - CEU Renewals!***

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. You can obtain 1.5 CEU Hours toward your Master Electrician License.

Upcoming ECHL General Membership Meeting Dates

April 14, 2025

May 12, 2025

Summer Break (June, July & August)

September 8, 2025

October 13, 2025

November 10, 2025

December 8, 2025

Applications for membership can be obtained from our website: [www.ECHLKY.com](http://www.ECHLKY.com)

**Please encourage your employees to join us at the**

### APRIL Code Questions

- 1) Can you support a luminaire off of a PVC conduit body? Where would you find this answer in the 2023 NEC?

YES NO

Section: \_\_\_\_\_

- 2) Can PVC conduit be installed in a hazardous location application? Where would you find this answer in the 2023 NEC?

YES NO

Section: \_\_\_\_\_

- 3) If a Motor Fuel Dispensing facility has a classified area can the AHJ declassify this area? Where would you find this answer in the 2023 NEC?

YES NO

Section: \_\_\_\_\_

- 4) Can metal wireways be installed where subject to severe physical damage? Where would you find this answer in the 2023 NEC?

YES NO

Section: \_\_\_\_\_

- 5) What is the wire bending space at terminals when you have 3 -500MCM cables to terminate? Where would you find this answer in the 2023 NEC?

A) 13" C) 12"  
B) 15" D) None of above

Section: \_\_\_\_\_

### Code Corner

Article 352

There was a new section added to **Article 352 Rigid Polyvinyl Conduit (PVC)** that I feel was a long time coming. I have seen this when the PVC feeding a meter from underground and the movement of the earth cause the cables to actually short out in the meter.

A new section was added **344.44 Expansion Fittings(A) & (B)** was added that will prevent the conduit from pulling away from the meter.

#### Thermal Expansion and Contraction.

*Expansion fittings for PVC conduit shall be provided to compensate for thermal expansion and contraction where the length change, in accordance with Table 352.44(A), is expected to be 6mm (1/4 in.) or greater in a straight run between securely mounted items such as boxes. Cabinets, elbows or other conduit termination.*

#### Earth Movement.

*Expansion fittings for underground runs of direct buried PVC conduit emerging from ground shall be provided above ground when required to compensate for earth settling or movement, including frost heave.*

When you are terminating the wire in the meter keep in mind you have installed an expansion fitting in the conduit, so please consider leaving some slack in the cable for the possible movement of the conduit.

*Submitted by Dennis Steier*

### **Top Three Code Violations Louisville Metro Inspections MARCH 2025**

**These violations are costing you time and money.**

1. **NEC Article # 110.25 Lockable Disconnecting Means**

If a disconnecting means is required to be lockable open elsewhere in this Code, it shall be capable of being locked in the open position. The provisions for locking shall remain in place with or without the lock being installed.

2. **NEC Article # 230.7 Other Conductors in Raceway or Cable.**

Conductors other than service conductors shall not be installed in the same service raceway or service cable in which the service conductors are installed.

*Exception No. 1: Grounding electrode conductors or supply side bonding jumpers or conductors shall be permitted within service raceways.*

*Exception No. 2: Load management control conductors having overcurrent protection shall be permitted within service raceways.*

3. **NEC Article # 300.11(B)(1) Fire-Rate Assemblies.**

Wiring located with the cavity of a fire-rated floor-ceiling or roof-ceiling assembly shall not be secured to, or supported by, the ceiling assembly, including the ceiling support wires. An independent means of secure support shall be provided and shall be permitted to be attached to the assembly. Where independent support wires are used they shall be distinguishable by color, tagging or other effective means from those that are part of the fire-rated design.

We hope this will help save you time and money on inspection fees by reviewing the articles and making sure you have not violated the code before calling for the initial inspection.

**Submitted by Arnold Hornback**  
**Assistant Chief Electrical Inspector**  
**Louisville Metro - Dept of Codes and Regulations**

### **LG&E NEWS**

This specifically focuses on underground electric. There currently is an increase in turn downs for underground services. As a reminder, crews will turn down any service that does not meet the correct criteria. The overwhelming issue is not enough cable left over to make the proper connections.

The customer service cable must be installed within 18" of the transformer (secondary side), splice box or pedestal **AND** have a **minimum** of 6 feet of cable left above ground in order to make connections. The utility will not excavate beyond the required 18". It's cheaper to provide a little more wire than lose time and money fixing a problem with a simple solution.

Additionally, please check the cable for any damage. If the cable is visibly damaged, it will need to be repaired before it can be connected.

**Submitted by Joel McCauley**  
**Team Leader Electric Design Svcs**  
**LG&E and KU Energy LLC**

### **CEU Renewals! - Cont'd**

General membership meetings. It's a great place to network with the electrical industry. We have a very diverse set of members, large contractors, small contractors, individual electricians, inspectors, Utility (LG&E), etc. Come and join us and receive 1.5 hours continuing education at the same time.

We hold our meeting the second Monday of each month, except for the summer months. Our Meetings start at 7:00, with sign-ins starting at 6:30 pm.

It's a full 1.5 hours of knowledge on the code, upcoming code changes, and upcoming changes from Frankfort regarding license and code.

If you have questions on some of the Code, feel free to bring it up at the meeting.

Hope to see you there.

## **WHAT IS THE DIFFERENCE BETWEEN ABOVE GROUND AND BELOW GROUND CONDUIT?**

The main difference is fire resistance. Above ground conduit has fire resistance per UL2515 and CSA C22.2 No. 2515 standards, meaning the conduit will self-extinguish within 15 seconds after each of five successive flame applications per the UL 2515 flame test standard.

Below Ground conduit meets UL94 HB (horizontal burn) requirements, which aren't as stringent as vertical burn requirements. This also means that conduit manufactured and labeled for "above ground" applications can be used for "below ground" applications.

### ***Digging Deeper into Direct Burial Conduit***

Direct buried conduit is a type of conduit used in below ground installations of electrical systems in commercial and industrial construction projects. Typically direct burial conduit is used in applications where there will be minimal digging after installation, as digging has the potential to disrupt and damage conduit (and the cable) buried beneath. Direct burial serves to protect electrical systems from environmental factors such as trees, branches, wind, and fire plus it can also be an aesthetic solution that hides overhead power lines. Additionally, direct burial conduit is often a solution when electrical systems use cross roadways because it offers less disruption to traffic patterns. Specifically, direct burial is often used in applications such as data centers, waste water treatment facilities and utilities.

Direct buried (DB) conduit must have mechanical strength to withstand the load of the soil that's packed over it. DB quality applications should utilize UL Listed conduit. We typically recommend using our Standard Wall for ¾" – 4" in diameter, and Medium Wall for 5" and 6" (UL designates Champion Fiberglass MW for 5" and 6" as SW). For very deep trenches, special soil conditions for where high rate of compacting can be expected, and even heavier wall should be selected.

### ***Key Considerations for Direct Burial Cable and Conduit in Industrial Construction Projects***

When determining whether your below ground conduit installation requires direct burial quality, there are several factors to consider:

**Volatility of the environment.** Soil types and load as well as the mechanical strength of the conduit must be considered here. Frost and settlement can

impact the stability of direct burial conduit. Corrosion from soil can compromise the conduit as well. **Compacting of soil.** This is an important factor in direct burial conduit. For very deep trenches, special soil conditions or where a high rate of compacting can be expected, a heavier wall conduit should be Selected.

*Contact Champion Fiberglass* to answer any questions above the leveling of compacting in a project.

**Ease of access for later service.** Using conduit will allow you to more easily locate and repair cables down the road with less risk of damage to the conduit. Consider a conduit's coefficient of friction to evaluate for ease of pulling as well as cable fault resistance, which allows a cable to be easily pulled through for repair and replacement.

**Project complexity.** Challenging installations can benefit from the efficiency that carefully planned conduit use can provide for cable runs.

**Local regulations.** While NEC (National Electrical Code) may approve a conduit (also referred to as "duct" or "pipe") use for direct burial, local regulations may call for more stringent installations techniques such as dictating how deep the conduit must be buried.

**Future landscaping.** It is important to consider whether future landscaping projects may disrupt direct buried conduit and put the conduit at risk for damage

Electrical conduit provides additional protection for cables in industrial construction projects.

### ***Selecting a Conduit Type***

For projects requiring direct burial conduit, Selecting the best underground conduit for the job is important. You'll want to also consider the costs associated with each type of conduit's raw materials as well as installation, the long-term financial impacts of a conduit's durability, as well as availability for your substrate of choice. Commonly used conduits for underground applications include traditional metal conduits such as RMC (rigid metal conduit or EMT (electrical metallic tubing). Fiberglass (RTRC) Conduit and PVC Conduit.

*Source: EC&M Magazine article – Champion Fiberglass*