



THE WIRE

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DECEMBER 2023

The Presidents' Letter

Thanksgiving has come and gone and preparations for Christmas and New Years are well underway. The demand for electrical work is at an all time high with no end in sight. And in spite of the perceived hardships such a high demand may bring, it certainly is a blessing.

At the November meeting, Nick Jewell, with L.G. & E., put on one of the best and most informative presentations that I have seen since my involvement with the ECHL began many years ago. He clearly explained the concepts of electric vehicles and gave a very educated picture with the direction this market is going.

The November meeting had 44 people in attendance. Congratulations to Rick Ruckriegel for winning the 50/50 drawing for a total of \$47. Our December presentation will include some of the significant changes to the 2023 National Electrical Code. It will be an open discussion with all questions welcomed.

As I have been reporting, nothing has changed with the code adoption. Apparently, our industry will have to wait for the State Building Code to be ratified before any effort is made to update our existing 2017 electrical code.

Our next general membership meeting is scheduled for Monday December 11th 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
ECHL President

December 11, 2023 Code Program

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

Our December program will be presented by Steve Willinghurst, the presentation will include some of the significant changes to the 2023 National Electrical Code. It will be an open discussion with all questions welcomed.

We encourage you to ask questions.

Bring a friend and enjoy the program.

Dennis Steier will also go over the Code Questions in the December 2023 Wire.

See you Monday Evening, December 11, at 6:30 pm.

Stay Alert! Stay Informed! & Work Smart!

Supporting our Industry **** Electrical Equipment Needed ****

ECHL is committed to supporting the electrical industry and the training required to further the trade. In doing so, we ask for your old equipment / inventory to use for training.

ECHL contractors and or suppliers - if you are cleaning out your old Inventory and have material (electrical Equipment) that is taking up space in your warehouse, the Iroquois High School Electrical Program is seeking material that can be used for teaching students about electrical products they may encounter in the field. Educating our future apprentices is the goal.

IEC is the hub for most of the surrounding area's for the electrical trade training schools. She has contacts for Jefferson County, Bullitt County, to Hardin County.

If you would call, Erin Pretorius or Stephanie at 502-493-1590 or email Erin at erin@iec-kyin.com to make arrangements for pick up or delivery.

Old or new! - Thanks for your support!

DECEMBER Code Questions

1. What size conductor for flexible cord used in an extension cord made with and installed listed components can use on a 20 ampere circuit? Where would you find this answer in the 2017 NEC?

Section _____

2. Can a water line be run above a 1,00 amps switchgear in the dedicated space?> Where would you find this answer in the 2017 NEC?

Yes No

Section _____

3. Are guards required on handles or levers of a circuit that may suddenly move possible causing injury? Where would you find this answer in the 2017 NEC?

Yes No

Section _____

4. Can you install THHN insulated conductors in a conduit installed underground or above ground? Where would you find this answer in the 2017 NEC?

Yes No

Section _____

5. What is the minimum radius I can bend a 1 1/4" Flexible metal conduit? Where would you find this answer in the 2017 NEC?

A) 12 C) 8
B) 10 D) 6

Section _____

6. Are there any special requirements or restrictions for knife switches 480 volt over 1,200 amps? Where would you find this answer in the 2017 NEC?

YES NO

Section _____

Code Corner

Article 590

Since Christmas is rapidly approaching it time once again to re-visit Article 590 **Temporary Installations** per say Christmas decorations will be going up and would be covered under this Article. To ensure we all have a Safe and Happy Holiday Season we should install these in accordance with the NEC.

590.1 The Scope of this Article applies to temporary electric power and lighting installations.

590.2(A) **Other Articles.** States that except as specifically modified in this Article, all other requirements of this *Code* for permanent wiring shall apply to temporary installations. Remember that Chapter 5 which this Article is under is a supplement to Chapter 1 thru 4.

590.2(B) **Approval.** Temporary wiring methods shall be acceptable only if approved based on the condition of use and any special requirements of the temporary installation.

Like in 110.3(B) which states that all material installed shall be listed product 590.5 states that the decorative light you may be using shall be listed and in the 2017 states it shall be labeled as well. This includes all of the cords you use for power to your decorations need to be listed.

Receptacles that are installed in wet location they shall be installed in accordance with 406.9(B)(1) which require them to be installed in an enclosure which is weatherproof whether or not the plug cap is inserted.

GFCI protection is also required per 590.6(A) (1) on receptacle that is not part of the permanent wiring, this required on all 15, 20 and 30 125 volt receptacles.

The temporary installation does have limitations and 590.3 (B) states that temporary power and lighting installation shall be permitted for a period not to exceed 90 days for holiday decorative lighting and similar purpose. I see that our inspectors would be rather busy come spring if this section was rigidly enforced

Happy Holidays to all and hope to see you at the meeting!

.Submitted by Dennis Steier

Top Three Code Violations Louisville Metro Inspections NOVEMBER 2023

These violations are costing you time and money.

1. NEC Article # 250.10 Protection of Ground Clamps and Fittings

Ground clamps or other fittings exposed to physical damage shall be enclosed in metal, wood, or equivalent protective covering.

2. NEC Article # 110.33(A) Entrance

At least one entrance to enclosures for electrical installations as described in 110.3 no less than 610 mm (24 In) wide and 2.0 m (6 1/2 ft) high shall be provided to give access to the working space.

3. NEC Article # 110.24(A) Field Marking.

Service equipment at other than dwelling units shall be legibly marked in the field with the maximum available fault current. The field marking(s) shall include the date the fault current calculation was performed and be of sufficient durability to withstand the environment involved. The calculation shall be documented and made available to those authorized to design, install, inspect, maintain, or operate the system.

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

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*

Death Notice — long time Member

It is with a heavy heart that I am writing this . Kenny Bess passed away Saturday at his home.. We have no other details at this. Please keep his family in your prayers. Kenny was a powerful presence in the electrical industry and will be greatly missed. No arrangements have been published at this time.

LG&E NEWS

Off/ On Scheduling

The demand for off/on's has continued to grow. The schedule for both, overhead and underground off/on's have consistently stayed at 4-6 weeks out. If you know early on in a project that an off/ on will be required, please plan ahead and reach out to the electric locator to get on the schedule. However, if an appointment changes or is no longer needed, please notify the locator as well so that crews aren't dispatched for no reason. At times, other time slots can be available but may require flexibility on the time. As always, discuss with the appropriate electric locator to see what options are available to you.

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

Three Steps to Capitalize on the Electrification Opportunity

How to prepare for a new future in the electrical industry

Affordable, reliable, and safe electricity is fundamental to modern life. Dating back to the 1880s, Thomas Edison's light bulb was one of the first applications of electricity — it radically challenged the status quo by introducing people to an entirely new type of energy. This new energy fostered many industries required to generate, transmit, and use the electricity fueling the economy and our livelihoods for the decades that followed. The latest trend toward electrification — a shift in

Continued on page 4

page 3

Three Steps to Capitalize Cont'd

spending from high- to low-emissions assets — could create one of the largest reallocations of capital in a century and present massive opportunities for the electrical industry. As the Inflation Reduction Act (recognized as the largest investment in climate action in United States history) gains momentum, pressure mounts to better understand how to take advantage of new capital to effectively compete. Electrification in this era will demand new power generation, transmission, and distribution to support the growth of various trends like transportation electrification, onshoring and the requirements for more reliable and renewable energy.

Preparing for this shift and meeting the demands of this latest trend is causing the electrical community uncertainty at a time when it's already facing pressures from continued labor shortages and supply chain disruptions. Skilled labor shortages and the volatile supply chain will be the larger headwinds that could throttle growth, but perhaps the largest headwind will be the industry's ability to implement.

How is this wave of electrification different from the past? And how should electrical contractors, engineers, and plant personnel capitalize on opportunities? In this article, we will demystify “electrification” and outline three key steps to prepare for increased capital and support incremental people/process changes to become more resilient and successful as electrification evolves.

Market drivers shaping change

The world's energy diet is changing. For more than a century, fossil fuels (e.g., coal, oil, natural gas) have powered the world and generated electricity. Electrification (as defined today) refers to replacing technologies that use fossil fuels with technologies that use electricity as the energy source. Think of how internal combustion engines (ICE) are being supplanted by electric vehicles (EVs), commercial buildings are looking for more resilient and renewable power sources like solar, or how your household weed wacker is now battery-powered. The bottom line is the way in which power is generated, distributed, stored, and consumed is being reinvented.

To support this shift in the market, we will need dramatically more electricity that will have to be both more resilient and sustainable. According to the [World Nuclear Association](#), projections are for electrical de-

mand to grow two times from what it is today. This demand will be driven by several market drivers that are significantly different from the electrification efforts of the past, including:

- A wide range of international country, state, and local legislation and mandates require low-carbon solutions.
- Various ESG and sustainability initiatives for numerous companies.

The Infrastructure and Investment and Jobs Act (IIJA) passed in 2021 and Inflation Reduction Act (IRA) passed in the summer of 2022 have nearly \$2 trillion in funding to reduce the cost of low-carbon technologies.

These tailwinds will fuel the growth of this new era of electrification and should present exciting opportunities for electrical contractors. To help you capitalize on these opportunities, here are three key steps to consider:

1. Proactive project planning is essential to success.

With massive capital flowing into electrification efforts, the number of new opportunities will likely increase exponentially. The wide variety of large capital projects (like new manufacturing plants, large-scale solar projects, and electrifying fleets of vehicles) will change project scales and scopes unlike anything before. This will challenge contractors to strategically consider how to manage multiple, diverse project plans simultaneously to ensure success. Proactive project planning and supply chain execution have never been more essential to success.

2. Manufacturing and supplier ecosystem is the lynchpin to securing materials and executing at scale.

With continued strains on the supply chain, electrical contractors should exercise prudence when considering how to tackle new projects and take the long view when managing large-scale, multi-year jobs. Long gone are the days of short-term planning — not to mention having transformers, gear, and balance-of-system components readily available. Consider the current supply chain landscape and how to rely on your network of manufacturing/supply partners to reliably source and secure the materials needed to execute at scale.

3. New era of construction will pave the way to hone a specialized skillset.

While daunting, this move toward electrification presents new, exciting opportunities for electrical contractors. Consider how you can sharpen specialized, high-valued skills to support this continued trend and position yourself as an expert. From EV charging systems and equipment to solar and battery energy storage to microgrids, the electrical industry is poised for great growth and transformation in the short term. How will you capitalize on these opportunities to set the foundation for long-term success?