



THE WIRE

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FEBRUARY 2024

The Presidents' Letter

Dennis Steier kicked off the second half of the ECHL season with a very informative presentation on hazardous locations. As Dennis pointed out at the January meeting, there is quite a bit of electrical work in the surrounding areas that incorporate classified areas. Thank you, Dennis, for a timely and relevant presentation.

The presentation for the February 2024 meeting will consist of a "round table" of our members discussing code questions. If you think about it, bring your code book.

Elections for the ECHL officers will be conducted at the February 12th meeting. A list of candidates was presented in the January *Wire*. If anyone is interested in being a candidate for a board position, please contact one of the current board members or simply come to the February meeting.

Also, the ECHL is sponsoring a six-hour continuing education class for contractor license renewal on Saturday February 10th at the Elks Lodge located at 2824 Klondike Lane. The class starts at 8:00 am with sign-ins beginning at 7:30 am. The cost is \$75 for members and includes coffee and doughnuts for the morning and a plate lunch for the afternoon.

The 50/50 drawing was won by Travis Brown. He collected \$60. We had 50 members at the January meeting.

Our next general membership meeting is scheduled for Monday February 12th 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

February 12, 2024 Code Program

***** BRING YOUR CODE BOOK AND A CODE QUESTION *****

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

Our February program will consist of "Round Table" discussions of the code. Come prepared to ask a code question and bring your Code Book. The questions will be discussed at each table and an answer to that question will be hashed out between the members and Our leading panel.

Bring a friend and enjoy the program.

Dennis Steier will also go over the Code Questions in the February 2024 Wire.

See you Monday Evening, February 12, 2024, at 6:30 pm.

Work Smart: Stay Alert! & Stay Informed!

SLATE OF ECHL OFFICERS 2023-2024

It's that time of year again. Election of our ECHL Board. We are always open to new Board Members. If you would be interested in serving on our Board, please notify one of the officers. You can obtain a Slate of Officers at the Sign-in Table at the February 12, General Membership meeting. The Slate was published in the January 2024 Wire as well. The Slate will be voted on at the February 12, 2024, General Membership meeting.

We would like to welcome Mark Yates to our Board as the newest member, he has stepped up to represent Electrical Contractors. He has been a big asset to the Board. However, we still have an opening for an IEC representative.

FEBRUARY Code Questions

1. Is there a bending radius for NM cable? Where would you find this information in the 2017 NEC?

YES NO

Section _____

2. You are installing 500 MCM 15KV rated cable, what is the radius requirement for an U or Angle pull? Where would you find this information in the 2017 NEC?

A) 24 times C) 6 times
B) 36 times D) None of above

Section _____

3. Can you install FCC cable on a heated floor? Where would you find this answer in the 2017 NEC?

YES NO

Section _____

4. Can I use FCC cable in administrative area of a school office? Where would you find this answer in the 2017 NEC?

YES NO

Section _____

5. Can you use NM cable in a multipurpose stand-alone building that can host 75 people? Where would you find this answer in the 2017 NEC?

YES NO

Section _____

6. Can you install SE Cable in a race way in a temporary underground installation? Where would you find this answer in the 2017 NEC?

YES NO

Section _____

Code Corner

Code Corner
NFPA 70E 2024

With the New Year came a new edition of NFPA 70E Electrical Safety in the Workplace like NFPA 70 the NEC is now on a three year cycle as well. NFPA 70E is a year after the NFPA 70 and unlike the NEC this does not need legislative approval it goes into effect with OSHA as the standard for Electrical Safety in the Workplace. Remember that when you are working on any energized equipment over 50 volts that NFPA 70E will apply.

In 1970 congress passed the Occupational Health and Safety Act which we refer to as OSHA due to the demand for safety in the workplace and a safer working environment. This Act also created the Occupational Safety and Health Review Commission OSHRC which is an independent federal agency created to process contested citations or penalties resulting from OSHA inspections of American workplace.

Prior to NFPA 70E OSHA adopted the NEC as it electrical safety standard by reference, however we all know the NEC is a safe electrical installation document and really did not address safety for the worker. So a separate standard became necessary to provide requirements for safe work practices for people that might be exposed to electrical hazards.

In 1975 the National Electrical Manufactures Association which we know as NEMA and the US Department of Labor had a meeting to address a new approach to updating the OSHA standard Section S of OSHA 1910. In 1976 the Standards Council of the NFPA appointed the Committee on Electrical Safety Requirement for Employee Workplaces. The first edition of NFPA70E was introduced in 1979.

When NFPA 70 E went into effect for working energized equipment on 50 volts OSHA adopted this as their standard for this type of work being performed in the field. Originally it was not on a three year cycle and new additions were randomly changed. By being now on a three year cycle less than one of the changes is that you need to be re-trained every three years as well.

Continued on page 3

Top Three Code Violations Louisville Metro Inspections FEBRUARY 2024

These violations are costing you time and money.

1. NEC Article # 250.64(B) Securing and Protection Against Physical Damage

Where exposed, a grounding electrode conductor or its enclosure shall be securely fastened to the surface on which it is carried. Grounding electrode conductors shall be permitted to be installed on or through framing members.

2. NEC Article # 250.12 Clean Surfaces

Nonconductive coatings (such as paint, lacquer, and enamel) on equipment to be grounded shall be removed from threads and other contact surfaces to ensure good electrical continuity or be connected by means of fittings designed so as to make such removal unnecessary.

3. NEC Article # 110.22 Identification of Disconnecting Means.

NECV 110.22(A) General

Each disconnecting means shall be legible marked to indicate its purpose unless located and arranged so the purpose is evident. The marking shall be of sufficient durability to withstand the environment involved.

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*

Code Corner Cont'd

I spoke with Steve Willinghurst and NFPA 70E will be a topic of one of our monthly meeting sometime in the future.

.Submitted by Dennis Steier

LG&E NEWS

Hook up delays

Louisville Gas & Electric Company is committed to giving the customer the best experience possible in providing service to their project. One of the problems that continually hinder our ability to connect underground services in a timely manner is obstructions preventing access to the pad mount transformer and/or splice box. The crews often arrive to discover debris such as dirt, rocks or discarded building material piled up blocking the area needed to connect the service. When you know service is about to be connected, make sure the area is clear and free of any hazards. We will not move any of the objects. Also make sure there is no silt fencing in the way as well. Our crew will not be able to return the same day to connect the service. This means a several day delay in returning.

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

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

March 11, 2024
April 8, 2024
May 13, 2024

Summer Break (June, July & August)

September 9, 2024 **November 11, 2024**
October 14, 2024 **December 9, 2024**

Top Changes to the 2023 NEC That Impact Electrical Contractors

See which revisions will have the most effect on contractors.

In one of the first educational sessions of this year's NECA convention and trade show, Mark W. Earley, P.E., from the Alumni Code Consulting Group LLC, presented on the most significant changes to the 2023 National Electrical Code. "It's like we went through the 2023 Handbook with a paint roller," Earley remarked about the unusually large quantity of changes to the latest edition compared to past revisions. The 2023 version saw nine new Articles, three deleted Articles [Arts. 510, 720, and 712], seven Articles with title revisions, and four relocated Articles.

Here are some of the highlights he discussed in terms of NEC changes:

- Several reconditioned equipment requirements were added to the NEC. The most significant change is that the second section of some Articles (XX.2) is now reserved for any requirements that permit or prohibit reconditioning of equipment that is covered by the Article.
- Article 100 now homes all definitions and no longer has Parts.
- Section 210.19 details new branch circuit voltage limits for AC and DC circuits (1,000VAC and 1,500VDC). Requirements for branch circuits exceeding those limits were relocated to the new Art. 235.
- Medium- and high-voltage requirements have been moved to Articles ending in "5": Arts. 235, 245, 305, 315, 395, and 495. Arts. 395 and 405 were relocated from Arts. 399 and 490, respectively, to match this labeling convention.
- Article 235 is brand new on branch circuits, feeders, and services, and corresponding requirements have been deleted from Arts. 210, 215, and 230.
- Article 245 is new to the 2023 NEC and covers overcurrent protection for systems rated more than 1,000VAC and 1,500VDC.
- Article 300 was reorganized to limit it to systems rated 1,000VAC nominal or less, and 1,500VDC nominal or less. Medium- and high-voltage requirements are moved to the brand-new Art. 305.
- Article 311 has been relocated to Art. 315.
- Article 722 is new and covers cable requirements

for Class 2 and Class 3 power-limited circuits, power-limited fire alarm circuits, and Class 4 fault-managed power systems.

- Class 1 circuit requirements have been moved from Art. 725 to the new Art. 724.
- Art. 725 now only applies to Class 2 and 3 power-limited remote control and signaling circuits.
- New Art. 726 covers Class 4 power-limited circuits.
- The new title for Art. 810 has been changed to "Antenna Systems."
- The definition of "commissioning" has been revised, with requirements moved to Secs. 700.3, 701.3, and 706.7.
- These sections on personnel safety saw revisions/additions in the 2023 NEC: Secs. 110.16(B), 110.22(A), 110.26, 215.15, 225.41, and 408.4.
- The topic of cyber threats has seen increased coverage in the 2023 NEC, with new requirements in Sec. 110.3(A)(8) requiring the evaluation of cyber security for network-connected life-safety equipment.
- A new definition was added to Art. 100 on special purpose ground-fault circuit interrupters (SPGFCIs). Outlets and receptacles also saw NEC revisions in Secs. 210.8(A), 210.8(F), 210.52(C), 220.110, 406.12, and 680.5.
- Reconditioning requirements were revised in Sec. 110.17, stating that servicing must be provided by a "qualified person." Secs. 110.20 and 517.6 were added to detail new requirements for reconditioning.
- These Sections detail requirements for electric vehicles: 220.53 [Appliance Load – Dwelling Units], 220.57 [Electric Vehicle Supply Equipment Load], 220.70 [Energy Management Systems], 625.49 [Island Mode].
- In Sec. 250.24, the term "high impedance grounded system" has been changed to impedance grounded system."
- Article 369 is new and covers insulated bus pipe (Type IBP). The new Art. 371 covers flexible bus systems.
- Regarding conductor ampacity and motor rating determination, Sec. 430.6(A)(2)(3) was added, which permits the use of nameplate current ratings for motors that exceed the motor sizes in Part XIV. Section 690.12 now establishes requirements for the rapid shutdown of PV systems on buildings and features a new exception for non-enclosed detached structures.

Source: EC&M Email: Article by Ellie Coggins, dated September 30, 2023.