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## ***President's Message***

Once again the Clearing House was honored to present three \$1,000 scholarships to deserving students selected out of thirteen applicants this year. The names of the students receiving the awards for 2011 are listed separate from this letter. We have noted the history of the ECHL scholarship program in recent WIRES, but to briefly review, our program has been in effect since 1982 when the Clearing House started the cash scholarships to electrical engineering students at the J.B. Speed School of Engineering, University of Louisville. In 2001 we discontinued the awards with the University of Louisville and began the current program to honor high school graduates of ECHL family members.

One of the three \$1,000 scholarships is fully funded by the Mike Beavin family and is administered by the Clearing House Scholarship Committee. Since 1982 the ECHL has distributed \$18,500 in scholarships.

If you missed the April meeting you failed to hear about the growing future for electric vehicles and the installation of "Electric Vehicle Charging Stations" as noted in NFPA-70 National Electrical Code Article 625. Our guest speakers, David Hart and David Leahy from G.E. Industrial Solutions, also discussed the G.E. "Arc Vault", an arc-flash mitigation technique, and passive versus active solutions, remote breaker racking and monitoring. They demonstrated the effects associated with arc blasts and the injuries associated with arc-flash situations.

Member Paul Beavin won the 50/50 drawing in the amount of \$107.00 and we had 108 in attendance at the meeting. Two \$25 door prizes were provided at the April meeting by Richards Electric Supply of Kentucky.

On deck for the May meeting program will be L. P.

## ***May 9th - General Meeting Hilton Garden Inn Louisville Airport - 7:00 pm***

Keith Kazunas and Jeff Heimer from L.P. Chick Company, will be presenting our May program on NFPA70-2011 *National Electric Code*, Articles 300.4 Protection against Physical Damage; 300.10 Conductors for General Wiring; 358.30 Electrical Metallic Tubing: Type EMT; 410.16 Luminaires in Clothes Closets (C) Location and more.

Keith Kazunas has 16 years experience in the field and Jeff Heimer has 22 years.

## ***MAY - NATIONAL ELECTRICAL SAFETY MONTH***

Electrical hazards cause more than 300 electrocutions and 4,000 injuries in the workplace each year, disrupting lives and impacting the productivity of companies. While electrical hazards are not the leading cause of on-the-job injuries, accidents, and fatalities, they are disproportionately fatal and costly. Most of these electrically-related fatalities and injuries could easily be avoided. Awareness of electrical hazards is critical to accident prevention and avoidance.

No matter where you are working, the following guidelines serve as helpful reminders of basic electrical safety practices:

- Be sure you are properly trained and qualified for the job.
- Plan every job and think about what could go wrong.
- Identify the electric shock and arc flash hazards, as well as other that may be present.
- Use the proper tools for the task.
- Test every circuit and every conductor every time before contacting them.

**May Code Questions**

A 40,000 sq.ft office building has how many 20 amp lighting and receptacle circuits when the number of receptacles is unknown? Do not use continuous load factor on lighting.

- (a) 0-25 (b) 26-50 (c) 51-80 (d) 81-100

An office building has a neutral connected load of 45.6 kva without any household cooking equipment, the ampacity of the conductor for the neutral must be at least \_\_\_ amps. 240/120v singlephase service.

- (a) 190 (b) 227 (c) 238 (d) none of these

A commercial building has a 200 amp service using copper conductors with THW insulation. The minimum size copper grounding electrode conductor would be \_\_\_ AWG.

- (a) #6 (b) #4 (c) #2 (d) cannot be determined

What is the demand for a 20,000 sq ft. school building with a total connected load of 680 kva? Use optional method of calculation.

- (a) 680 kva (b) 385 kva  
(c) 170 kva (d) none of these

A 175 amp fuse is protecting a circuit. What size copper equipment grounding conductor is required?

- (a) #10 (b) #3 (c) #6 (d) #4

An installation of 40 ft of a fixed multioutlet assembly installed in a continuous length in an Office Occupancy shall be calculated at \_\_\_\_\_ amps.

- (a) 12 (b) 14 (c) 20 (d) 30

**April Code Answers**

- 1) D 2) B 3) C 4) D 5) C 6) D

**Useful WEB Links**

**State's Web Site** - Enter your license number (me1234, ee1234, or ce1234) check your hours

[https://hbc.ky.gov/licensing/electrical/license\\_lookup.asp](https://hbc.ky.gov/licensing/electrical/license_lookup.asp)

**Louisville Metro—Permits**

<http://www.louisvilleky.gov/ipl/development/ePermitSearch.htm>

**ECHL Web Site**

\*\*\* Includes a link to the LG&E and KU Contractor Handbook. \*\*\*

[Www.ECHLKY.com](http://www.ECHLKY.com)

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**Continuing Education Courses**

If you need continuing education hours outside of the monthly ECHL meetings:

**LEJATC (3 CEU Hrs) 581-9210**

ME & EE Classes

Saturday's 8:00 am till 11:00 am

May 14

May 21

June 4

Tuesday's 5:30 pm till 8:30 pm

May 17

May 24

June 7

**ECHL CE Class - 491-5010**

Saturday 8:00 am - 2:00 pm

May 14, 2011

**Code Corner****Submitted by Dennis Steier****Panelboard Sizing**

Section 210.11 (B) and 408.30 requires the panelboard to have a busbar ampacity at least equal to the minimum calculated load. Manufacturers refer to light-duty panelboards or loadcenters.

Section 240.4 (B2, 3) States that if the allowable current-carrying capacity of a conductor does not correspond to the rating of the standard size fuse or breaker the next larger fuse or breaker may be used. This only applies to fuses or breakers that do not exceed 800 amps.

An example would be 500 MCM THW is rated for 380 amps. You would be allowed to use a 400 amp fuse or breaker per 240.4 (B) and 240.6 since the standard size is 400 amps.

A violation would be in a case of parallel conductors  $3 \times 500 \text{ MCM THW } 380 \times 3 = 1140$ . Per Section 240.3 (B) the maximum overcurrent device would have to be 1000 amps.

Section 215.2 (A1) Where feeders supplies continuous loads, the rating of the overcurrent device shall not be less than 125% of the continuous load. An exception to this would be where the assembly, including the overcurrent device protecting the feeders, are listed for 100 percent of their rating, neither the ampere rating of the overcurrent device nor the ampacity of the feeder conductors shall be less than the sum of the continuous load plus the noncontinuous load.

Very few breaker are listed for continuous and then they are 600 amps or above. Most breakers are rated at 80% continuous load. What would be a solution if you had to deal with this on a project? Let say you have an 80 amp load that was continuous, Section 215.2A1 would allow a 100 amp overcurrent device for your 80 amp continuous load. Remember this thing when sizing panelboards and feeders.

**President's Message Cont'd**

Chick Company and feature CADDY products and other code related information.

The May meeting will be the last one for this season, but programs are being planned for the 2011-2012 starting in September. If you have any suggestions for meeting topics, please advise any board member.

The Clearing House will sponsor its annual Contractors Continuing Education Class at the LG&E Broadway Building, 8<sup>th</sup> and Broadway in Louisville, on Saturday, May 14, 2011. Registration forms are available by contacting Denise Arnold at Peterson Electric Supply, 502-491-5010 or Marilyn Boudreaux at 502-627-3362 or check the ECHL website.

Coming up this summer, the Kentucky Chapter, Western Section, International Association of Electrical Inspectors (IAEI) will meet in Lexington, KY, August 10-12, 2011. For registration information, contact Dennis Steier at 402-499-5997 or the Chapter website.

During September the IAEI Western Section will hold its annual conference in Louisville at the Galt House, September 18-21st. Approximately 400 members are expected to attend and National Electrical Code Panel members will be speaking at this session.

**NATIONAL ELECTRICAL SAFETY MONTH Cont'd**

- Isolate equipment from energy sources.
- Only work on de-energized electrical equipment and conductors.
- Lockout/tagout and ground before working on equipment.
- Treat de-energized electrical equipment and conductors as energized.
- Wear protective clothing and equipment and use insulated tools where applicable.

May is National Electrical Safety Month, and presents a great opportunity to increase workforce knowledge of electrical safety issues.

**Announcement**

Steven Willinghurst, Director of Education and Training, Louisville Electrical Joint Apprenticeship and Training Committee (LEJATC), was one of 10 new members recently appointed to the Kentuckiana Works Board.

Kentuckiana Works is the Workforce Investment Board for the Greater Louisville Region, which consists of Jefferson, Bullitt, Henry, Oldham, Shelby, Spencer and Trimble counties. The board is made of regional leaders from business, education, labor and government who oversees federal, state and local workforce development funding in the region and determines strategic goals for workforce development efforts conducted by Kentuckiana Works to create a skilled and educated workforce in the region.

Steve also serves on the Kentucky Department of Housing, Buildings and Construction Board, the Kentucky Electrical Advisory Committee, The Kentucky Chapter, International Association of Electrical Inspectors (IAEI) Board of Directors and the Electrical Clearing House of Louisville (ECHL) Board of Directors.

**NEW CO ALARM CODE ALERT - KENTUCKY RESIDENTIAL & BUILDING CODE**

Sections R325 and 914  
Effective June 1, 2011 enforcement will start on requirements related to the installation of **Carbon Monoxide Alarms**. For new residential construction, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units with which fuel-fired appliances are installed and in dwelling units that have attached garages.

The Kentucky Building Code for new construction requires an approved carbon monoxide alarm shall be installed in the immediate vicinity of all bedrooms in dwelling units and sleeping units of occupancies R-2, R-3 and R-4 in which fuel-fired appliances are installed or have attached garages.

**CO ALARM CODE ALERT Cont'd**

Where required in existing buildings and dwellings where work requires a permit, the permitting authority shall inform the homeowner/owner/occupant that carbon monoxide alarms are required to be installed in accordance with the code.

Single station carbon monoxide alarms shall be listed as complying with UL 2034 and installed in accordance with this code and the manufacturer's installation instructions.

**The ECHL presented three \$1,000 scholarship awards to the following students:**

**Steven Eric Yates** received **The Mike Beavin Memorial Scholarship Award**. Eric will be graduating from Butler Traditional High School and has been accepted at eight postsecondary schools in Kentucky. However, he plans to attend J.B. Speed School of Engineering at the University of Louisville with the goal of obtaining a Master's Degree in Engineering. His sponsor's are his aunt and uncle, Denise and Mark Yates. The award was presented by Richard Karlen on behalf of the Beavin Family.

**Alicia Nicole Akin** received **The Franklin T. Boggess Memorial Scholarship Award**. Alicia will be graduating from Our Lady Providence High School in Clarksville, Indiana. Her plans include attending The University of Louisville School of Dental Hygiene with the goal of eventually becoming an orthodontist. Her sponsor is her father, Alan Akin. The Franklin T. Boggess Award was presented to Alicia by Mrs. Rieke Boggess, Franklin Boggess' widow.

**Ashley Presnell** received **The Kitty Sue and Dann M. Strube Memorial Scholarship Award**. Ashley will be graduating from the Academy of Our Lady of Mercy High School in Louisville, Kentucky with a GPS standing of 3.97. Ashley plans to attend Western Kentucky University in Bowling Green, Kentucky and her field of interest is physical therapy. The daughter's of Kitty and Dann Strube, Marie Klink and Jennifer Strube, presented the Strube Award to Ashley Presnell.