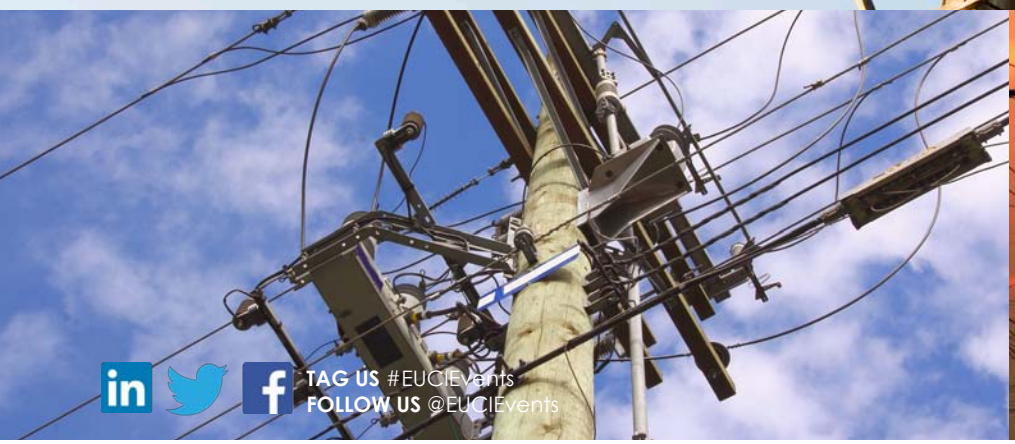
EUCI
COURSE

ELECTRIC DISTRIBUTION CIRCUIT DESIGN

April 4-5, 2018
EUCI Conference Center
Denver, CO



AUTHORIZED IACET PROVIDER

EUCI is authorized by IACET to offer 1.6 CEUs for the course

OVERVIEW

The objective for this course is to expose attendees to the process of designing and dealing with issues associated with distribution circuit construction, both overhead and underground. The curriculum references applicable NESC requirements and provides interpretation when necessary.

WHO SHOULD ATTEND?

Attendees should have some working knowledge of distribution feeders. Feeder design veterans, new designers and those with designer supervisory responsibilities will find this course very useful. Typical class attendees background range from professional engineers to electric distribution designers.

Attendees should bring their own copy of the 2017 National Electric. The print edition is available at the IEEE Standards Store.

LEARNING OUTCOMES

- Review NESC – Organization, structure, purpose and application of rules
- Review electric power overhead line design and correlating NESC sections/codes
- Discuss pole types and classifications, guys and anchors
- Compare single phase overhead design vs. three phase overhead design
- Discuss underground distribution and correlating NESC sections/codes
- Review power quality and system protection equipment

COURSE INSTRUCTORS

Gary Roberts
Professional Engineer

Gary Roberts is a Professional Engineer with over 40 years' experience in the Electric Utility industry, 25 years plus with TXU, worked on international engagements and the past 11 years with UC Synergetic in various capacities. Gary is a graduate of the University of Texas at Arlington with a BSEE and a graduate of Southern Methodist University with an MBA. Gary is married, has two grown daughters and is active in his church and his community. He is a private pilot and has a small horse farm where he and his wife raise Appaloosa show horses. Gary has shown Appaloosa horses at World Class levels and has finished in the top ten multiple times.

Jerry Josken
Senior Consultant for UC Synergetic

Jerry holds a BS in Electrical Engineering Technology from the Milwaukee School of Engineering and a MBA from North Central College. During his 30+ year career with Eaton's Cooper Power Systems Jerry has served as Test Engineer, Design Engineer, Distribution Protection Engineer and Field Application Engineer. Past leadership positions include Chair of IEEE Rural Electric Power Conference (2012) and chair of Great Lakes Electric Meter School Track 5 Distribution Equipment and Controls (2013-2014). Presently, Jerry coordinates UCS Training Programs.

AGENDA

WEDNESDAY, APRIL 4, 2018

8:00 – 8:30 am **Registration and Continental Breakfast**

8:30 am – 5:00 pm **Course Timing**

12:00 – 1:00 pm **Group Luncheon**

Course Introduction
- Course Scope
- Intro of instructors and attendees

Electric Utility Basics
- Power System Description
- Definition of Electrical Terms/Electric Formulas
- Distribution Transformer Basics

NESC
- Organization, Structure
- Purpose and Scope (Section 200 & 201)
- Application of Rules (Section 202)

Electric Power Overhead Line Design
- NESC Section 24 - Grades of Construction
- NESC Section 25 & 26 - Loading for Grades B & C
- Poles – types & classifications
- Conductor – Sag & Tension
  - o NESC Sec 23 – Clearances
  - o Rules 231 – 239
- Guys & anchors
  - o NESC Rule 264
    - Guying and Bracing
- Single Phase Overhead Design
- Conductor Sizing
- Transformers
  - o CSP vs. externally fused
- Three Phase Overhead Design
- Conductor Sizing
- Transformers
- Re-conductoring

> ***"A very good course with a lot of great information."***
>
> Project Coordinator, Lubbock Power & Light

AGENDA

THURSDAY, APRIL 5, 2018

8:00 – 8:30 am **Continental Breakfast**

8:30 am – 5:00 pm **Course Timing**

12:00 – 1:00 pm **Group Luncheon**

Electric Distribution Underground Design

- Overview of Electric Underground Distribution
- NESC Part 3 - Purpose, Scope and Definitions
- Conductor
- Cable Terminations
- o NESC Sec. 37
- Padmount Transformers
  - o Radial vs. Loop
  - o Features and Accessories
- Cable conduit Systems
  - o NESC Sec. 32
- Direct Buried Cable
  - o NESC Sec. 35
- Single and three phase Underground Lines
  - o Riser Pole Equipment
  - o NESC Sec. 36
- Residential and Subdivision Design
- Commercial Design

Power Quality and System Protection Equipment

- Reliability
  - o Outage frequency & minutes
- Overcurrent Protection
  - o Overcurrent Devices
  - o Sectionalizing Points
- Volt/VAR Equipment
  - o Power Capacitor
  - o Voltage Regulator
- Transient Overvoltage Protection

REQUIREMENTS FOR SUCCESSFUL COMPLETION OF PROGRAM

Participants must sign in/out each day and be in attendance for the entirety of the course to be eligible for continuing education credit.

INSTRUCTIONAL METHODS

PowerPoint presentations will be used during this course.

IACET CREDITS

EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Authorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

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EVENT LOCATION

EUCI Conference Center
4601 DTC Blvd., B-100
Denver, CO 80237

PREFERRED HOTEL

Hyatt Place Denver Tech Center
8300 E. Crescent Parkway, Greenwood Village, CO 80111
0.9 miles away
Call Central Reservations at **888-492-8847** and ask for the EUCI rate of US $149 plus applicable tax **(CODE: EUCI)**
or visit **Hyatt Place Denver Tech Center - EUCI**

OTHER NEARBY HOTELS

Hyatt Regency Denver Tech Center
7800 E. Tufts Ave
Denver, CO 80237
Phone: 303-779-1234
0.3 miles away

Hilton Garden Inn Denver Tech Center
7675 E. Union Ave
Denver, CO 80237
Phone: 303-770-4200
0.6 miles away

Denver Marriott Tech Center
4900 S. Syracuse St
Denver, CO 80237
Phone: 303-779-1100
0.7 miles away

Please make checks payable to: "PMA"

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SEE NEARBY HOTELS ON PAGE 5

PLEASE REGISTER

○ **ELECTRIC DISTRIBUTION CIRCUIT DESIGN**
April 4-5, 2018: US $1495,
Early bird on or before March 16, 2018: US $1295

How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)

Print Name | Job Title

Company

What name do you prefer on your name badge?

Address

City | State/Province | Zip/Postal Code | Country

Phone | Email

List any dietary or accessibility needs here

CREDIT CARD INFORMATION

Name on Card | Billing Address

Account Number | Billing City | Billing State

Exp. Date | Security Code (last 3 digits on the back of Visa and MC or 4 digits on front of AmEx) | Billing Zip Code/Postal Code

OR Enclosed is a check for $ _____ to cover _____ registrations.

Substitutions & Cancellations
Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before March 2, 2018 in order to be refunded and will be subject to a US $195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCI's liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices at (201) 871-0474.