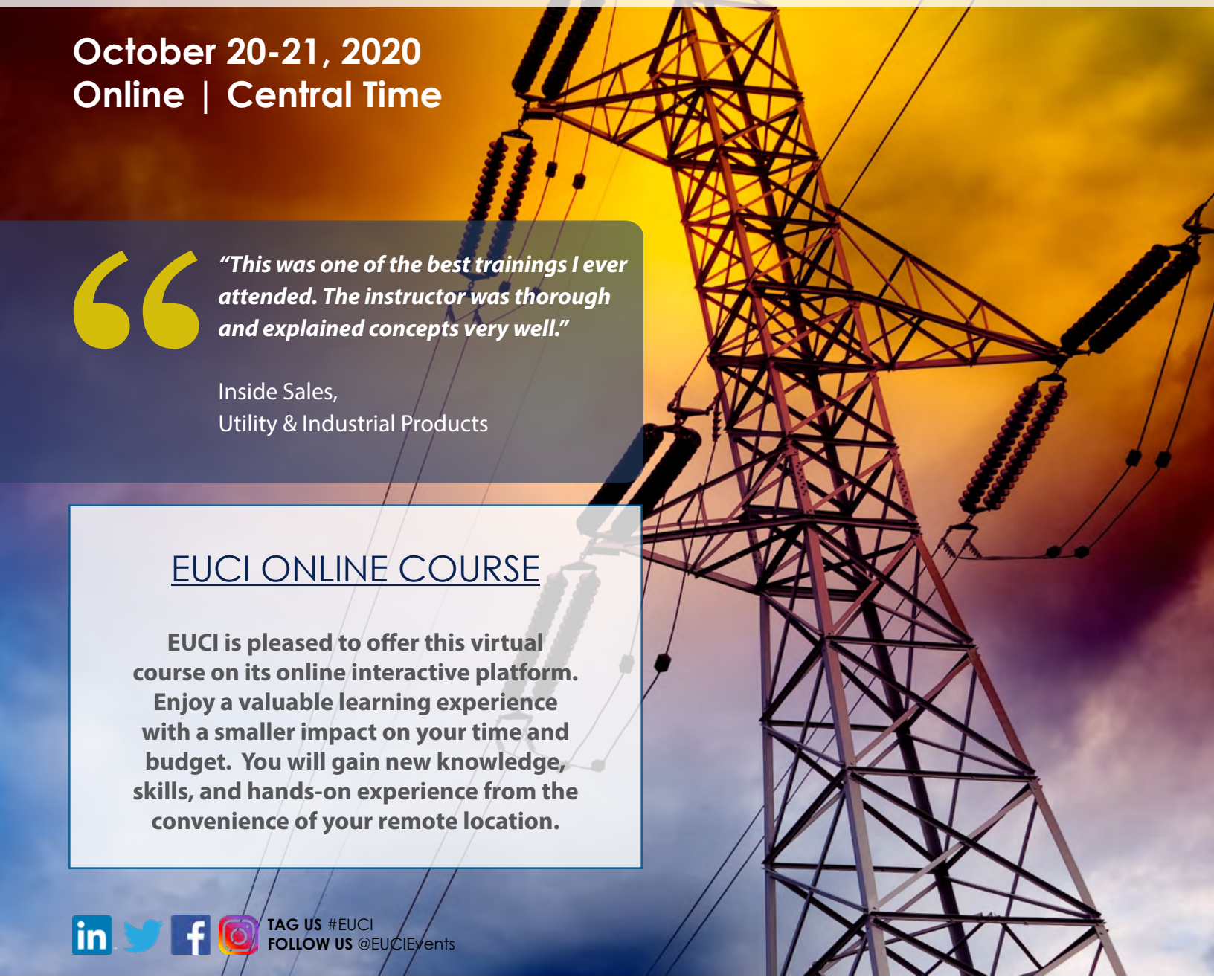
EUCI
ONLINE COURSE

AN INTRODUCTION TO ELECTRIC UTILITY SYSTEMS FOR NON-ENGINEERS

October 20-21, 2020
Online | Central Time



> ***"This was one of the best trainings I ever attended. The instructor was thorough and explained concepts very well."***
>
> Inside Sales,
> Utility & Industrial Products

EUCI ONLINE COURSE

EUCI is pleased to offer this virtual course on its online interactive platform. Enjoy a valuable learning experience with a smaller impact on your time and budget. You will gain new knowledge, skills, and hands-on experience from the convenience of your remote location.

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EUCI is authorized by IACET to offer 1.3 CEUs for the course

CPE SPONSORS
EUCI is authorized by CPE to offer 16 CEUs for the course

OVERVIEW

This course has been developed for non-engineers working for electric utilities or involved in business relationships with electric utilities. The course provides a non-technical introduction to the fundamental concepts that form the basis for the design and operation of the integrated electric utility system. The fundamental concepts underlying legacy electric power systems and how the attributes of these systems affect their operation in today's evolving market structure are addressed without reference to rigorous engineering techniques or mathematical analysis.

Challenges facing companies in today's changing regulatory and operational environment are also discussed. The course is structured for active participation by attendees, who will have ample opportunity to ask questions and discuss issues of particular interest to them. Extensive course notes are provided to everyone attending the course.

LEARNING OUTCOMES

This class provides a strong layman's understanding of the fundamental concepts underlying the design, economics, and operation of electric power systems, as well as contemporary issues facing the designers, operators, and managers of modern electric power systems. The course takes participants on a virtual tour of all functional areas of the power system where they will learn to recognize equipment and facilities in the field and understand their purpose and functioning.

Individuals who attend this course develop a "gut feel" for why electric utility systems are built and operated the way that they are. After completing the course, they should feel comfortable speaking with engineers from their company or the utility that they are dealing with, and they should know enough to ask follow-up questions to clarify their understanding of the issues that are being discussed.

Topics to be covered include:

- The components of all functional areas of electric utility systems
- The drivers of system design and operation
- Key power systems definitions and terminology
- The effects of industry and corporate changes on power systems design and operations, including
  - Alternative energy resources
  - New concepts in system architecture such as the smart grid
  - Emphasis on reliability and power quality
- Industry standards-related issues
- Challenges created by the evolving regulatory/market environment

> ***"A very useful introduction to the fundamentals of electric utility systems for the layman."***
>
> Corporate Affairs Manager, Con Edison

> ***"Very informative and great lecturer. I now have the information and knowledge I need to do my job better."***
>
> Project Regulatory Coordinator, Brazos Electric Power Cooperative

AGENDA

TUESDAY, OCTOBER 20, 2020 - CENTRAL TIME

8:45 – 9:00 am **Log In**

9:00 am – 4:30 pm **Course Timing**

12:30 – 1:15 pm **Lunch Break**

Introduction to Power Systems
- Power System Overview and Electricity Basics
- End-Use Loads and Load Characteristics

Power Generation
- Steam Power Plants
- Hydroelectric Power Plants
- Renewable Energy Resources

The Transmission System
- Alternating Current Transmission
- Direct Current Transmission
- Transmission Structures
- Transmission Interconnections, NERC, and RTOs

Substations
- Power Transformers
- Substation Equipment and Facilities

WEDNESDAY, OCTOBER 21, 2020 - CENTRAL TIME

8:45 – 9:00 am **Log In**

9:00 am – 4:30 pm **Course Timing**

12:30 – 1:15 pm **Lunch Break**

The Distribution System
- Services and Secondary Lines
- Line Transformers
- Primary Line Equipment and Facilities
- System Protection

Electrical Losses
- Line and Transformer Losses
- System Demand and Energy Losses
- Power Flow Model

Electricity Metering
- Watt-Hour and Demand Metering
- Metering High Voltages and Currents
- Special Metering Applications

Power System Restoration

INSTRUCTOR

Lawrence (Larry) J. Vogt

Vogtage Engineering Corporation

Mr. Vogt has over 45 years of experience in engineering, industrial marketing, demand-side management, and rates and regulations in the electrical utility industry. He has a comprehensive knowledge of power system planning, design, and operations, as well as forecasting, cost-of-service analysis, and electricity pricing methodologies. Mr. Vogt has served in various engineering and managerial positions at ABB Power T&D Company, Louisville Gas & Electric Company, Mississippi Power Company, Public Service Indiana (now known as Duke Energy – Indiana), and Southern Company Services. He is a member of AEE and IEEE, and he is a registered Professional Engineer in several states. Mr. Vogt has served as an expert witness in several regulatory proceedings. He has Bachelor of Science and Master of Engineering degrees in the field of electrical engineering from the University of Louisville.

Mr. Vogt is the author of several technical papers and the textbooks: Electricity Pricing: Engineering Principles and Methodologies, CRC Press, 2009 and Electrical Energy Management, Lexington Books, 1977. He is also a chapter author in the 3rd Edition of the Power Systems volume of The Electric Power Engineering Handbook, CRC Press, 2012. He has conducted numerous courses and webinars for the Electric League of Indiana, Inc., the Edison Electric Institute, EUCI, and the University of South Alabama. In addition, Mr. Vogt has served as an Adjunct Professor in Penn State University's International Power Engineering Program.

> ***"Larry is an excellent instructor and breaks down the material for us non-engineers to understand."***
>
> U.S. Department of Defense

> ***"Larry was a very knowledgeable and enthusiastic presenter. He made very technical topics relatable, which was very much appreciated."***
>
> Digital Marketing Manager, ABB

> ***"Larry did an excellent job presenting this information. The order was logical and helped build knowledge. I now have context for the often abstract discussion on transmission, distribution, and substations at work."***
>
> San Francisco Public Utility Commission

CPE CREDITS

EUCI is registered with the National Association of State Boards of Accountancy (NASBA) as a sponsor of continuing professional education on the National Registry of CPE Sponsors. State boards of accountancy have final authority on the acceptance of individual courses for CPE credit. Complaints regarding registered sponsors may be submitted to the National Registry of CPE Sponsors through its website: www.learningmarket.org.

Upon successful completion of this event, program participants interested in receiving CPE credits will receive a certificate of completion. **EUCI is authorized by CPE to offer 16 credits** for this course. There is no prerequisite for this course. **Program Level 1:** Beginner and Intermediate, **Delivery Method:** Group-Live, **Advanced Preparation:** None

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 AN-SI/ IACET Standard which is recognized internationally as a standard of good practice. As a result of their Au-thorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the AN-SI/IACET Standard.

EUCI is authorized by IACET to offer 1.3 CEUs for the course.

INSTRUCTIONAL METHODS

PowerPoint presentations will be used in this course.

ONLINE COURSE DELIVERY & PARTICIPATION DETAILS

We will be using Microsoft Teams to facilitate your participation in the upcoming event. You do not need to have an existing Teams account in order to participate in the broadcast – the online course will play in your browser and you will have the option of using a microphone to speak with the room and ask questions, or type any questions in via the chat window and our on-site representative will relay your question to the instructor.

- You will receive a meeting invitation which will include a link to join the meeting.
- Separate meeting invitations will be sent for the morning and afternoon sessions of the online course.
  - You will need to join the appropriate meeting at the appropriate time.
- If you are using a microphone, please ensure that it is muted until such time as you need to ask a question.
- The remote meeting connection will be open approximately 30 minutes before the start of the online course. We encourage you to connect as early as possible in case you experience any unforeseen problems.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

You must be logged in for the entire presentation and send in the evaluation after the online course is completed.

To Register Click Here,or

Mail Directly To:
PMA Conference Management
405 Highview Rd
Englewood NJ 07631
201 871 0474
Fax 253 663 7224
register@pmaconference.com

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PLEASE SELECT

◯ **INTRODUCTION TO ELECTRIC UTILITY SYSTEMS FOR NON-ENGINEERS ONLINE COURSE:** OCTOBER 20-21, 2020: US $1295 (Single Connection)

◯ **PACK OF 5 CONNECTIONS:** US $5180 *(20% Discount)*

◯ **PACK OF 10 CONNECTIONS:** US $9065 *(30% Discount)*

◯ **PACK OF 20 CONNECTIONS:** US $15,540 *(40% Discount)*

Online Course Delivery & Participation Details

See page 5 for information

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

Print Name | Job Title

Company

Address

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

Phone | Email

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 September 18, 2020 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.. EUCI reserves the right to alter this program without prior notice.