FUNDAMENTALS OF TRANSMISSION LINE DESIGN

October 9-10, 2019
Royal Sonesta Houston
Houston, TX

“This course definitely broadened my understanding of transmission line design as well as the individual structures and their components.”

Engineer II, Ampirical Solutions

RELATED EVENT:

FUNDAMENTALS OF TRANSMISSION STRUCTURE DESIGN
October 10-11, 2019 | Houston, TX
OVERVIEW

This one-and-a-half-day course is designed to provide an introduction to transmission line concepts, definitions, and common design practices while infusing the technical tools needed to perform the work with the design concepts (PLS CADD Suite, MFAD, etc.) The first day will cover an introduction to transmission lines, electrical characteristics of lines, routing and structure spotting, conductor, hardware, and material information, and structure loading. The second day will pertain to electrical clearances, code requirements, structure spotting (ruling span vs. finite element), foundation design, and construction methods.

LEARNING OUTCOMES

- Discuss what conductors are used based on weather conditions, tensions, & electric loadings
- Identify the basics of ruling span design and structure spotting techniques
- Review physical transmission line design and the software used to perform analysis
- Examine and understand all parts, pieces, hardware, etc. of a transmission line.
- Review the basic concepts of transmission structure foundation design
- Identify the applicable codes and standards required to perform transmission line design

WHO SHOULD ATTEND

- Recent engineering graduates new to transmission structure design
- Experienced engineers new to transmission structure design
- Utility engineers requiring additional training
- Engineers new to transmission manufacturing
- Anyone interested in the design process of transmission lines

“Very informative, learned a lot!”
Engineer II, Ampirical Solutions

“Good informative course for engineers, practitioners.”
Principal Engineer, ASEC

REGISTER TODAY! CALL 303-770-8800 OR VISIT WWW.EUCI.COM
AGENDA

WEDNESDAY, OCTOBER 9, 2019

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

8:30 am – 5:00 pm  Course Timing

12:00 – 1:00 pm  Group Luncheon

Overview
• What is a Transmission Line
  o Conductors, Shield Wires, Communication Wires & Associated Hardware
  o Structures & Foundations
  o Electrical Characteristics & Grounding
  o ROW
• Design Considerations
• Design Process

Transmission Planning
• System Studies
• ROW
• Permitting
• Aerial Survey

Conductor Characteristics
• Electrical Characteristics
• Sag Tension
• Conductor Selection
• Conductor Motion

Structure Configuration & Structure Types
• Structure Types & Configurations
• Structure Materials
• Aesthetic Considerations
• Design Factors

Hardware & Assemblies
• Conductor Hardware
• Insulators
• OPGW Hardware
• Shield Wire Hardware
AGENDA

THURSDAY, OCTOBER 10, 2019

8:00 – 8:30 am   Continental Breakfast

8:30 am – 12:00 pm   Course Timing

**Electrical Clearances & Mechanical Loading**
- Design Criteria
- Weather & Load Cases
- Clearances

**Foundation Design**
- Types of Transmission Structure Foundation Design
- Software Used
- MFAD Examples

**Construction Methods & Design Considerations**
- Modifications to Existing Lines
- Stringing
- Structure Setting & Placement

COURSE INSTRUCTORS

Landon Schulze, PE  
President, ASEC Inc.

Mr. Schulze earned his B.S. in civil engineering from Texas A&M University in 2006. Since then he has worked exclusively in the power delivery industry performing detailed structural design of transmission lines, transmission structures, and substation structures. Mr. Schulze's early experience was as a consultant performing detailed EPC projects. Mr. Schulze continued his experience serving utilities and leading project execution work on over 300 miles of 345kV double circuit lattice tower design. In 2017, Mr. Schulze joined ASEC as a project manager and moved on to become President of ASEC Inc leading the company in project management, business development, internal employee professional development, proposals, budget and goal setting for the company.

Ben Averill, PE  
Sr. Engineer, ASEC Inc.

Mr. Averill earned his M.S. in Civil Engineering from the University of Wyoming in 2011 and B.S. in 2008. He received his California PE in 2013. Since then he has worked on a multitude of projects in the power delivery industry. His experience includes: designing greenfield transmission interconnects to deliver renewables to the grid, analysis and mitigation of existing structures in support of facility ratings assessments, and the rebuild of several transmission lines across the west mostly in mountainous areas. He has worked on projects incorporating transmission and distribution ranging from 4 to 345 kV. Most recently his work has included brownfield rebuilds of transmission lines. This includes analysis and mitigation of single pole structures and entire lines.
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 and open discussion will be used in the instruction of 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.

EUCI is authorized by IACET to offer 1.1 CEUs for the course.

EVENT LOCATION

A room block has been reserved at the Royal Sonesta Houston, 2222 West South Loop, Houston, TX 77027, for the nights of October 8-10, 2019. Room rates are US $199 plus applicable tax. Call 1-713-627-7600 for reservations and mention the EUCI event to get the group rate. The cutoff date to receive the group rate is September 8, 2019 but as there are a limited number of rooms available at this rate, the room block may close sooner. Please make your reservations early.

REGISTER 3, SEND THE 4TH FREE

Any organization wishing to send multiple attendees to this course may send 1 FREE for every 3 delegates registered. Please note that all registrations must be made at the same time to qualify.
REGISTRATION INFORMATION

Mail Directly To:
EUCI
4601 DTC Blvd., Ste. 800
Denver, CO 80237
OR, scan and email to: conferences@euci.com

PLEASE SELECT

COMBO PRICE: BOTH FUNDAMENTALS OF TRANSMISSION LINE DESIGN AND FUNDAMENTALS OF TRANSMISSION STRUCTURE DESIGN COURSES
OCTOBER 9-11, 2019: US $2395
EARLY BIRD on or before SEPTEMBER 20, 2019: US $2195

FUNDAMENTALS OF TRANSMISSION LINE DESIGN COURSE
OCTOBER 9-10, 2019: US $1395
EARLY BIRD on or before SEPTEMBER 20, 2019: US $1195

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ENERGIZE WEEKLY

Energize Weekly is EUCI’s free weekly newsletter, delivered to your inbox every Wednesday. We provide you with the latest industry news as well as in-depth analysis from our own team of experts. Subscribers also receive free downloadable presentations from our past events.

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?

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Zip/Postal Code

Country

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List any dietary or accessibility needs here

CREDIT CARD INFORMATION

Name on Card

Billing Address

Account Number

Billing City

Exp. Date

Billing State

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 6, 2019 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 303-770-8800. EUCI reserves the right to alter this program without prior notice.