

COST ESTIMATING METHODOLOGIES FOR SUBSTATIONS AND TRANSMISSION PROJECTS

March 13-14, 2017
W Chicago – City Center
Chicago, IL



EUCI is authorized by IACET
to offer 1.0 CEUs for the
course

OVERVIEW

Throughout North America, the need for new utility projects is projected to grow to improve electricity delivery, increase capacities, improve reliability, and meet new standards associated with incorporating renewable energy generation into the smart grid.

In order to effectively utilize allocated and dedicated funding, it is critical for utilities, developers, sub-contractors, project managers, and suppliers to fully understand efficient utility project cost estimation, as this new infrastructure has substantial costs and risks associated with each project. In fact, new overhead transmission lines can cost \$1 million or more per mile. The process of building transmission level projects often takes many years even in the most streamlined process.

In this course, attendees will recognize the critical components to consider in a transmission project estimate. Key components of the course include all factors that impact the final cost of building this infrastructure, including permitting and siting, materials and engineering, construction, and project management.

LEARNING OUTCOMES

- Discuss utility project planning process and budget considerations utilizing industry samples of typical industry projects
- Discuss the environmental and siting processes and the impact on schedules and costs
- Analyze engineering, material cost, and construction considerations for transmission lines and substations
- Compare and contrast contracting methods to include design-bid-build vs. OE/EPC
- Identify strategies to mitigate risks across the spectrum of project types and sizes

WHO SHOULD ATTEND

- Transmission and substation project managers, estimators, and contract managers who are new to the job
- Transmission and substation engineers
- Supply chain and cost accounting professionals for utilities and other energy companies
- Generation project developers and engineers who need an understanding of transmission components and costs
- Regulatory agency staff
- Consultants and engineering firms that work within the electricity transmission sector
- Program Agenda



“Great course with knowledgeable instructors.”

Business Development, Sterling Lumber



“Very informative and encouraged attendee participation.”

Project Manager, RES-System 3

AGENDA

MONDAY, MARCH 13, 2017

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

8:30 am – 5:00 pm **Course Timing**

12:00 – 1:00 pm **Group Luncheon**

Session I: Costs for Major Utility Projects: Substations, Overhead Transmission, and Underground Transmission

Group discussion of major components, including materials and construction

Project Begins at the Substation

- Planning
- Site development
- Conduit & grounding plan
- Foundations
- Materials
- Substation bus
- Conductor/cables overhead

Transmission Lines

- Plan & profile
- Staking
- Foundations
- Structures
- Hardware

Underground Transmission Lines

- Plan & profile
- Duct bank
- Line splice and pull-through vault
- Line cable
- Line substation riser details

Session II: Permitting, Siting, and Right of Way Considerations and Costs

- Overview
- Potential impacts to project timelines and costs
- Working with municipalities
- Strategies to minimize obstacles

Session III: Methods of Contracting

- Identify common types of contracts and contract delivery methods and understand the risks and advantages/disadvantages associated with each:
- Fixed price/Lump sum
- Cost plus
- Time and material
- Traditional arrangement/Design-bid-build
 - o Project cost estimate example

AGENDA

TUESDAY, MARCH 14, 2017

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

8:30 am– 12:00 pm **Course Timing**

Session IV: Utility Cost Estimation Process

- Developing budget parameters and the project plan
- Utility estimate components
- Cost estimating best practices during the project life cycle
- Cost reference development
- Risk considerations
- Expected accuracy ranges
- Measuring performance
- Project cost estimate example

Session V: Project Cost Estimate Case Study

Class exercise to estimate major categories of project costs compared to actual costs on two real life projects.

INSTRUCTORS



Jay Turner

**EIT, PMP, Six Sigma Green Belt, LEED AP O+M
Project Cost Manger, Southern California Edison**

Jay Turner has twelve years of cost estimating, project management, root cause analysis, and process improvement experience in the utility, accounting, and consulting industries. He currently estimates construction costs as well as performs cost/benefit analyses, project prioritization, and cost and schedule performance measurement in order to plan and control project resources, costs, profitability, and risk for transmission, substation, and generation projects for Southern California Edison. Jay has been certified as a Project Management Professional by the Project Management Institute and Six Sigma Green Belt by the Institute of Industrial Engineers. He earned a Bachelor of Science in Engineering and Applied Science from the California Institute of Technology.



Edward Weber

Senior Transmission Planning Advisor/Project Manager, HDR Engineering Inc.

Ed Weber is a senior electrical engineer with over 35 years of experience in power system analysis and planning throughout the US. He has extensive experience in power system reliability compliance, and system modeling; power flow and stability analysis; transmission tariff process and generator interconnections. Ed's experience includes over 30 years of management of large power projects requiring coordination of project planning, design, and environmental activities; coordination of consultant activities; coordination of regulatory and contractual activities; interfacing with the developers and transmission owners and operators; and preparation of technical reports. He has supervised a diverse staff of professional engineers and was responsible for all facets of power system planning and operational support across the country. Since coming to HDR Engineering, Ed has worked on several large transmission and generation projects along with conducting numerous planning and interconnection studies for a long list of clients.

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, interactive group exercise, and group discussion will be used during this course.

PROCEEDINGS

The proceedings of the course will be published, and one copy will be distributed to each registrant at the course.

EVENT LOCATION

A room block has been reserved at the W Chicago City Center, 172 W Adams St, Chicago, IL 60603, for the nights of March 12 – 15, 2017. Room rates are \$129 plus applicable tax. Call **312-332-1200** for reservations and mention the EUCI event to get the group rate. The cutoff date to receive the group rate is February 19, 2017 but as there are a limited number of rooms available at this rate, the room block may close sooner. **Please make your reservations early.**

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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REGISTER 3, SEND THE 4TH FREE

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



"A great primer on estimating. Great for anyone looking to ramp up on a highly complex topic."

Director, PPL

REGISTRATION
to register [CLICK HERE](#) or

Call: 201 871 0474
fax: 253 663 7224
email: register@pmaconference.com
web: <http://pmaconference.com/>
Mail: POB 2303 Falls Church Va 22042

Please make checks payable to: "PMA"

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PLEASE REGISTER

- COST ESTIMATING METHODOLOGIES FOR SUBSTATIONS AND TRANSMISSION PROJECTS:**
 COURSE: MARCH 13-14, 2017: US \$1495,
 EARLY BIRD on or before FEBRUARY 24, 2017: 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 Account Number

Billing Address Billing City Billing State

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

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 February 10, 2017 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.