COST ESTIMATING METHODOLOGIES FOR SUBSTATION AND TRANSMISSION PROJECTS

December 16-17, 2014
Island Hotel Newport Beach
Newport Beach, CA

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

This is a fundamentals course intended to cater to employees who are new to this topic area.

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.

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

LEARNING OUTCOMES

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

"As an environmental consultant, I learned a lot about the construction of a line which will help me provide better environmental strategies to future utility companies."

— Biologist, WRA, Inc.
AGENDA

Tuesday, December 16, 2014

12:30 – 1:00 p.m.   Registration
1:00 – 5:00 p.m.   Course Timing

Session I: Costs for Major Utility Projects: Substations, Overhead Transmission, and Underground Transmission
Group discussion and exercise of major components, including materials and construction

Project Begins at the Substation
- 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
AGENDA

Wednesday, December 17, 2014

8:00 – 8:30 a.m.  Continental Breakfast
12:00 - 1:00 p.m. Group Luncheon
8:30 a.m. – 5:00 p.m.  Course Timing

Session II: 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 III: 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 IV: 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
- EPC arrangement
- Open book EPC variations

Session V: Exercise: Example of Project Cost Estimate

“Good course to learn about cost estimation.”
— Transmission Planning Engineer, HECO

“If you are new to estimating or the industry, this is for you.”
— VP Power, American Site Builders
**INSTRUCTORS**

**Jay Turner, EIT, PMP, Six Sigma Green Belt, LEED AP O+M /**
Project Cost Manager / 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.

**Ed Weber / Senior Transmission Planning Advisor / HDR Engineering Inc.**

Ed Weber is a senior electrical engineer with 30 years of experience in power system analysis and planning throughout the upper Midwest region. He has extensive experience in power system reliability and modeling; power flow and stability analysis; transmission tariff process and generator interconnections. He has served on several national and regional work groups associated with the Mid-Continent Area Power Pool, Midwest Reliability Organization, the North American Reliability Corp, and the Western Electric Coordinating Council.

Ed’s experience includes over 20 years of management of large power facility 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 reports. During his 30 year career at Western Area Power Administration (WAPA), he supervised a diverse staff of professional engineers and was responsible for all facets of power system planning and operational support. Ed directed the initial NERC Standards and Compliance program for WAPA, Upper Great Plains Region; as well as coordinating the tariff revisions necessary to comply with FERC Order 890 - Large Generator Interconnection. Since coming to HDR Engineering, Ed has worked on several large renewable energy projects along with numerous planning studies.
INSTRUCTIONAL METHODS

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

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.

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

A room block has been reserved at the Island Hotel Newport Beach, 690 Newport Center Dr., Newport Beach, CA 92660, for the nights of December 14-16, 2014. Room rates are $189, plus applicable tax. Call 1-866-554-4620 for reservations and mention the EUCI course to get the group rate. The cutoff date to receive the group rate is November 28, 2014, but as there are a limited number of rooms available at this rate, the room block may close sooner. Please make your reservations early.

PROCEEDINGS

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

REGISTER 3 SEND 4TH FREE

Any organization wishing to send multiple attendees to these conferences 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:
Electric Utility Consultants, Inc. (EUCI)
4601 DTC Blvd., Ste. 800
Denver, CO 80237
OR, scan and email to: conferences@euci.com

PLEASE REGISTER THE FOLLOWING

☐ DISCOUNTED REGISTRATION FEE FOR ATTENDING BOTH FUNDAMENTALS OF ELECTRICITY TRANSMISSION AND COST ESTIMATING METHODOLOGIES FOR SUBSTATION AND TRANSMISSION PROJECTS
DECEMBER 15-17 2014 : US $2395
EARLY BIRD ON OR BEFORE DECEMBER 5, 2014: US $2195

☐ COST ESTIMATING METHODOLOGIES FOR SUBSTATION AND TRANSMISSION PROJECTS
DECEMBER 16-17, 2014 : US $1395
EARLY BIRD ON OR BEFORE DECEMBER 5, 2014: US $1195

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

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

All cancellations received on or before November 14, 2014, will be subject to a US $195 processing fee. Written cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event or publication. This credit will be good for six months. In case of event 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.