EUCI Presents a Web Conference Series on:

SMART DISTRIBUTION GRIDS (SDGS)

TOOLS FOR ENGINEERING DESIGN, AUTOMATED PLANNING AND ADVANCED DISTRIBUTION AUTOMATION

April 6, 8, 13, 15, 2010 • 12:00 – 1:30 PM Eastern Time

AUTHORIZED IACET PROVIDER

EUCI is authorized by IACET to offer 0.1 CEU per webinar.

OVERVIEW

Smart distribution systems or grids (SDGs) will be markedly different from their legacy counterparts due to the infusion of new technologies and topologies. Better communications, computing and control schemes, distributed energy sources including microgrids and power electronic equipment are being introduced at an unprecedented pace. New topologies such as looped and network structures are being adopted to provide increased reliability and efficiencies to customers.

This four part webinar series is designed to provide comprehensive coverage on smart distribution systems engineering. The duration of each part of the webinar series is 90 minutes. Each part is designed to be independent of each other so that a potential participant can decide which ones to choose, and register for one or more parts based on their background, experience, goals and requirements. The primary objective of the series provides a strong foundation for smart distribution system designers, planners and operators for arriving at cost-effective solutions and strategies. It will enable an engineer or a practicing individual in a utility or industrial environment to design, plan and operate current and future systems. The webinars can also be taken by those who have a basic understanding of power and energy systems and need practical training in this field. The webinars will also expose and stimulate those engineers who are not familiar with smart grids. The material is designed to serve as a useful reference in day-to-day functions. It also allows gaining self-paced, in-depth knowledge with the aid of practical examples. The topics covered include the latest developments occurring in the industry.

Session I: Basic concepts and equipment models for SDG
Session II: Performance analysis metrics, methods and tools for optimization
Session III: The important and complex topic of automated planning and engineering design for SDG
Session IV: Real-time operation and automation of SDG

Several practical examples and cases will be presented in this four part series.

WHO SHOULD ATTEND

1. Smart grid system planners, operators, and designers
2. Personnel in smart grid equipment manufacturing companies
3. University professors and graduate students
4. Power system software developers
5. Electric power industry consultants

LEARNING OBJECTIVES

1. Construct a strong foundation on the basic concepts and equipment used or will be installed for SDGs
2. Review and develop device models required for SDGs
3. Review performance analysis tools and methods for SDGs
4. Design and plan current and smart grid distribution systems
5. Review how to automate and operate SDGs for optimal performance in real-time
6. Review the role of inter-operability standards
7. Identify and solve practical examples

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EUCI has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 1760 Old Meadow Road, Suite 500, McLean, VA 22102. In obtaining this approval, EUCI has demonstrated that it complies with the ANSI/IACET Standards which are widely recognized as standards of good practice internationally.

As a result of their Authorized Provider membership status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standards.

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Requirements for Successful Completion of Program
Participants must be logged in to the web conference for its entirety to receive continuing education credit.

Instructional Methods
Web based PowerPoint presentation and on-line interactive question/ answer session.

April 6, 2010 :: 12:00 – 1:30 PM Eastern Time

Session 1 – **Basic Concepts and SDG Overview**

- State of global power delivery systems
- Overview of distribution systems
- Smart Distribution Grid (SDG)
- Definitions
- Why, what and how?
- Vision, challenges and opportunities

Equipment Models for SDG
- The need for modified models
- Impact of new technologies on equipment modeling
- Adequacy of current models for major equipment
- Single-phase, three-phase and multiphase models
- Discussion on line, transformer and demand (load) models

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Session 2 – **Performance Indices, Importance**

- Importance of key performance indices for SDG success
  - o Customer expectations and cost of service
  - o Efficiency
  - o Reliability
- Discussion on other relevant indices
- Modifications required for SDG performance evaluation
  - o Impact of new models
  - o Data handling and requirements
  - o Other considerations

Performance Analysis Methods
- Three-phase power flow analysis
- Three-phase short circuit analysis
- Voltage regulation with fixed and switched capacitors
- Reliability and power quality assessment methods

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Session 3 – **SDG Automated Planning**

- Review of methods
- Urban, suburban and rural load characteristics
- Load and demand models
- Load evaluation and demand forecasting
- GIS and other tools to automate the process

Engineering Design
- Design criteria and standards (voltage, equipment)
- Design of substations, primary and secondary systems
- Design evaluation
- Asset management

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Session 4 – **Distribution Automation Functions**

- Automation functions
- Economic & technical feasibility
- Intelligent voltage/var control
- Loss minimization
- Demand Side Management (DSM)
- Fault detection, location and prediction
- Outage management and restoration
- Role of Advanced Metering Infrastructure (AMI)

Integrated Demand Management Systems (IDMS)
- IDMS trends and technologies
- DSCADA and IDMS architecture
- Database managements systems
- Role of GIS for smart automation

ABOUT THE INSTRUCTOR

S.S. (Mani) Venkata, Professor Emeritus and Chair, Iowa State University Affiliate Professor, University of Washington President, Venkata Consulting Solutions (VCS) Inc.
S. S. (Mani) Venkata, PhD, P.E. is a Fellow of the IEEE. Mani has offered training courses on basic protection, wide-area system protection, distribution systems, planning and automation, power quality, reliability, safety, and power system analysis to more than 20 utilities, industries, and federal agencies. He has also provided technical and consulting services to many electrical and process industries. He has published and/or presented over 300 publications in refereed journals and conference proceedings, and is a co-author of the book *Introduction to Electric Energy Systems* (Prentice-Hall Publications, 1987). He is a registered professional engineer in the states of Washington and West Virginia.

Mani is President of Venkata Consulting Solutions Inc. He also teaches at the University of Washington, Seattle, WA as Professor of Electrical Engineering. Until recently Mani was with KEMA as Vice-President. Prior to 2005, he has held administrative and academic positions at Clarkson University, Iowa State University, University of Washington, West Virginia University, and University of Massachusetts. He has been very active in the IEEE for the past 40 years. He served as a member of the Power Engineering Society (PES) Executive Committee and Governing Board and as the Vice-President of Publications during 2004-2007. In 1996 he received the Outstanding Power Engineering Educator Award from the IEEE Power Engineering Society. He also received the Third Millennium Award from the IEEE in 2000.

LOGGING IN TO THE WEB CONFERENCE

After registration, each registrant will receive a confirmation of payment or an invoice, depending on method of payment. Each registrant will also receive an e-mail with appropriate login information and more information regarding the event 24 hours prior to the start of the event. To log on, you will need a Windows PC with a broadband connection and audio system.

WHAT IS A SINGLE SITE CONNECTION?

A site connection allows a single connection to the web conference. That connection is open to any number of users in a collaborative setting. Because there are no travel expenses and only a single registration fee is required, each additional participant lowers the cost per participant significantly.

By purchasing a site connection, you can invite as many people as you would like to view and participate in the session from a single location. Set up the session in a conference room and project the presentation and chat on a large screen. You also have rights to distribute copies of the presentation materials to everyone involved. Please note that audio is received via the computer sound system and must be broadcast to your group.

If for any reason a relevant stakeholder cannot co-locate for the session, we encourage you to include that person by purchasing an additional connection at the reduced fee of $195 per session. This will ensure that every member of a team receives the same relevant, timely information in the most efficient way.

If you have any technical or purchasing questions, please contact us at (303) 770.8800.
Start Time: 12:00 PM Eastern Time
United States Regional Start Times:
9:00 AM Pacific :: 10:00 AM Mountain :: 11:00 AM Central :: 12:00 PM Eastern
Use the time zone converter at (http://www.timezoneconverter.com/cgi-bin/tzc.tzc) to find your correct start time.

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REGISTRATION INFORMATION

Mail or fax this form along with payment. You will receive a confirmation and/or invoice within 48 hours. Make checks payable to EUCI.

MAIL DIRECTLY TO:
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PHONE:
(303) 770.8800

REFUND / CANCELLATION POLICY

All cancellations received prior to March 19, 2010 will be subject to a $50 processing fee per webinar per registrant. Written cancellations received after this date will create a partial credit of the tuition good toward any other EUCI conference, publication or webinar. This credit will be valid for six months. No refunds will be given after March 19, 2010 in any case. In case of webinar cancellation, EUCI's liability is limited to refund of the webinar registration fee only.

PLEASE REGISTER THE FOLLOWING

☐ **BEST VALUE:** Smart Distribution Grids (SDGs) All Four Sessions, April 6, 8, 13, 15, 2010, Single Site Connection: US $1045,
Early Bird on or Before January 11, 2010: US $995

☐ Smart Distribution Grids (SDGs) Three Sessions, Single Site Connection: US $845,
Early Bird on or Before January 11, 2010: US $795

☐ Smart Distribution Grids (SDGs) Two Sessions, Single Site Connection: US $600,
Early Bird on or Before January 11, 2010: US $560

☐ Smart Distribution Grids (SDGs) One Session, Single Site Connection: US $345,
Early Bird on or Before January 11, 2010: US $295

Choose the sessions you would like to attend below.

Additional site connections: US $295 each
Early Bird on or Before January 11, 2010 US $195 each
(Select site connections below)

ENERGIZE WEEKLY
When you sign up for "Energize Weekly" you will receive a new conference presentation each week via email on a relevant industry topic. The presentations are selected from a massive library of over 1000 current presentations that EUCI has gathered during its 23 years organizing conferences.

☐ **Sign me up for "Energize Weekly"**

How did you hear about this event?
(Direct email, Colleague, Speaker(s), etc.)

_____

Select sessions you would like to attend, number of site connections you would like for each.

☐ **Session 1** Number of additional site connections _____
☐ **Session 2** Number of additional site connections _____
☐ **Session 3** Number of additional site connections _____
☐ **Session 4** Number of additional site connections _____

☐ **Web Conference Presentations Available on CD:**
CDs are available 48 hours after the web conference is complete. The cost for one CD is US$295 [add US$50 for international shipments]. See above pricing for discounts on multiple CD orders.
Upon receipt of payment the CD will be shipped to you. NOTE: All presentation CD sales are final and are non-refundable.
Session 1: ☐ **Session 2:** ☐ **Session 3:** ☐ **Session 4:** ☐

Name _____ Job Title _____

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Account Number _____ Exp. Date _____

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Or enclosed is a check for $ _____ to cover _____ connections.

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