EUCI Presents a Seminar on:

VALIDATING SETTLEMENT FOR ERCOT NODAL MARKET

March 17-18, 2011 • Gaylord Texan • Dallas, TX

TESTIMONIALS FROM PAST ATTENDEES

“Very well-done course! Lots of good information packed in two days!”
– Market participant who attended seminar in San Antonio

“Excellent overview on bid-to-bill issues for the Texas nodal market.”
– Market participant who attended seminar in Dallas

“Very good material! Excellent insight!”
– Market participant who attended seminar in Dallas

“The PCI instructors presented a very complex subject and made it very understandable and enjoyable for me and others. Great job!”
– Market participant who attended seminar in Houston

“I got a lot out of the course. ... Course brought together insights into concepts that I am just beginning to understand after four months in the settlement area.”
– Market participant who attended seminar in San Antonio

“Very informational! Good balance between overview and details.”
– Market participant who attended seminar in San Antonio

EUCI is authorized by IACET to offer 1.3 CEUs for this program.

This conference has been approved for 16.0 CPEs.
VALIDATING SETTLEMENT FOR ERCOT NODAL MARKET

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OVERVIEW

This two-day seminar uses simple case studies to illustrate the new settlement rules for the new ERCOT nodal market. With the start of the ERCOT nodal market, market participants have a strong need to validate ERCOT settlement charges and better understand the settlement implications on profits and losses for operating their generator portfolio and on costs to serve their retail loads in ERCOT. In this seminar, you will learn how shadow settlement can be used as a strategic tool to check ERCOT statements and invoices, identify settlement errors, submit settlement disputes, check the effectiveness of bidding strategies, and maximize the bottom-line profit for your portfolio (generators, loads, trades, virtuals, and CRRs) in the new ERCOT nodal market. The seminar covers the following “hot” issues:

- What are the main objectives of the ERCOT nodal market?
- What are the key settlement charge codes in the new ERCOT nodal market?
- How do you validate the new nodal settlement charges?
- What are the key lessons learned in validating settlement for the first two months of the market?
- What workflow processes and tools do you need to check the accuracy of ERCOT nodal settlement statements and invoices?
- What are the key differences in settlement rules between the existing zonal market and the new nodal market?
- Why perform shadow settlement? Do you need to have your own shadow settlement software to check ERCOT invoices?
- What are the main data sources for shadow settlement?
- What are the main causes for settlement disputes? What is the best way to manage settlement disputes?
- What are the key impacts of the new nodal market on retail electric providers?
- What are the key settlement charge types for retail electric providers?
- How can you use pre-settlement as a strategic tool to forecast ERCOT settlement and provide feedback to traders on bidding strategies?
- What rules does ERCOT use to penalize units for basepoint deviation?
- What rules does ERCOT use to compute day-ahead and RUC make-whole payments and charges?
- Do your plants collect enough revenues from the energy, capacity, and ancillary service markets to cover their operating and capital costs?
- Do you receive proper credits from your CRR contracts?
- What are the potential impacts of market power mitigation on settlement results?
- How can you use settlement results to compute profit and loss metrics and provide feedback to traders on the effectiveness of their bidding strategies?
- How can you quantify profit and loss gains or leakages?
- What IT infrastructure should you build to automate the bid-to-bill process?

WHO SHOULD ATTEND

- Back-office personnel who are responsible for checking the accuracy of the settlement statements and invoices issued by ERCOT
- Traders, portfolio managers, and risk managers who need to gain a better understanding of settlement rules, mitigation rules, and dispute resolution
- Power-plant managers who would like to understand the impact of ERCOT settlement on their plant profitability
- Genco executives who need a good understanding of the potential impacts of the new ERCOT nodal market on their genco profits and losses
- Employees of RTOs, attorneys, and regulators who need to understand the settlement implications of market rules, congestion management philosophy, and mitigation guidelines that will be used in the ERCOT nodal market

IACET

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.

EUCI is authorized by IACET to offer 1.3 CEUs for this program.

Requirements for Successful Completion of Program

Participants must sign in/out each day and be in attendance for the entirety of the conference to be eligible for continuing education credit.

Instructional Methods

PowerPoint presentations, classroom exercises, and discussions will be used during this course.
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PROGRAM AGENDA

THURSDAY, MARCH 17, 2011

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

Brief Overview on ERCOT Nodal Market
• Why move to nodal market?
• Objectives of new ERCOT nodal market
• Key differences in market rules between zonal and nodal markets
• Market terminology
• Nodal market instruments
• Reviewing day-ahead workflow
• Understanding SCUC objectives for DA and DRUC
• Reviewing real-time workflow for ERCOT market participants
• How does the two-step settlement work?
• Why use DAM energy-only bids and offers?
• Using CRR contracts to hedge against congestion costs
• Bid-to-bill timeline and challenges
• Key lessons learned in validating settlement in the first two months of the market
• Differences in market rules between ERCOT and other LMP markets (MISO, PJM, ISO-NE, NYISO, and CAISO)

Uses of Nodal Locational Marginal Prices in Bidding and Settlement
• Why use nodal locational marginal prices?
• Key differences between zonal and nodal LMPs
• How are nodal LMPs computed?
• Understanding impacts of flowgates on congestion
• Computing congestion rent
• Using CRR contracts to hedge against congestion costs
• Where does ERCOT get the funds to pay CRR contracts?
• Can nodal LMPs be negative?
• Day-ahead settlement calculations
• How well can you forecast day-ahead nodal LMPs?

Validating Settlement for ERCOT Nodal Market
• Key differences in settlement rules between ERCOT zonal and nodal markets
• Understanding settlement statements and charge codes for ERCOT nodal market
• Settlement calendar for ERCOT nodal market
• Why perform shadow settlement?
• Key functions of shadow settlement software
• Mapping data sources to support shadow settlement
• Downloading settlement statements and invoices from ERCOT server
• What data does ERCOT provide with the settlement extract?
• What meter data do you need to validate real-time settlement?
• What are the most common causes for settlement disputes?
• Key settlement charge types for retail electric providers
• Managing settlement disputes

CPE

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 addressed to the National Registry of CPE Sponsors, 150 Fourth Avenue North, Suite 700, Nashville, TN, 37219–2417. Web site: www.nasba.org.

CPE CREDITS
Upon successful completion of this event, program participants interested in receiving CPE credits will receive a certificate of completion.

CPE – 16.0
There is no prerequisite for this conference.

Program Level: Intermediate/Advanced
Delivery Method: Group-Live
Advanced Preparation: None

Register Today! Call 303-770-8800 or visit www.euci.com
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PROGRAM AGENDA

THURSDAY MARCH 17, 2011 (CONTINUED)

Understanding ERCOT Settlement Rules for Generators
- Computing day-ahead and real-time payments and charges for generating units
- Understanding three-part energy offers for generators
- What is current operating plan?
- Examples illustrating RT settlement
- Market principles behind make-whole payments and charges
- Computing day-ahead make-whole payments for generators
- When do my generators qualify for DA and RUC make-whole payments?
- Understanding RUC clawback charges
- Who will pay DA and RUC make-whole charges?
- Computing penalties due to basepoint deviation
- Computing payments for voltage-support services
- When do my units receive emergency payments?

Using Profit and Loss Metrics to Provide Feedback to Traders
- Using settlement results to compute DA and DART profits and losses (P&L) for your ERCOT portfolio (generators, loads, trades, virtuals, and CRRs)
- Key factors influencing profits and losses
- Computing P&L gains and leakages
- Using profit and loss metrics to provide feedback to traders on effectiveness of day-ahead and real-time bidding strategies
- Using settlement results to provide feedback to plant managers on plant performance
- Using settlement results to build key performance metrics
- Settlement forensics – where front and back offices meet

FRIDAY, MARCH 18, 2011

Continental Breakfast: 8:00 – 8:30 a.m.
Course Timing: 8:30 a.m. – 4:30 p.m.
Group Luncheon: 12:00 – 1:00 p.m.

Settlement Charge Codes for Loads and Trades
- Examples illustrating DA and RT settlement for loads
- When do loads have to pay make-whole charges?
- Validating settlement for trades (energy, capacity, and ancillary-services)
- Understanding settlement implications for submitting trades
- Can settlement location influence bottom-line profits of energy trades?
- Using trades to trade RUC capacity and ancillary-service obligations
- Why use DAM energy-only bids and offers?
- Computing ERCOT admin fees
- Understanding ERCOT revenue-neutrality credits or charges
- Computing total costs for serving loads for retail electric providers
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PROGRAM AGENDA
FRIDAY, MARCH 18, 2011 (CONTINUED)

Understanding Charge Codes for Ancillary-Service (A/S) Products
- A/S products offered under ERCOT nodal market
- Understanding lost-opportunity costs
- Understanding A/S deployment costs and probabilities
- Key changes in A/S procurement and pricing in ERCOT nodal market
- How does ERCOT compute marginal prices for ancillary services?
- Do marginal prices for ancillary services include lost-opportunity costs?
- Impacts of co-optimization on LMPs and A/S prices
- How can we verify that ERCOT DA awards are optimal for our assets?
- Does SCUC minimize ERCOT energy and ancillary-service bid costs?
- Does SCUC maximize revenues and profits for market participants?
- Understanding causes for price reversal
- Computing revenues and costs for providing ancillary services
- Case studies to illustrate settlement calculations for A/S products
- How does ERCOT allocate A/S charges?

Settlement Rules for CRR Contracts
- Types of CRR contracts
- What is congestion rent?
- How do we procure CRR contracts?
- Using CRRs to hedge against congestion costs
- Should you hedge RT congestion between trading hubs and load zones?
- How can you use settlement results to assess whether your congestion hedges are in the money?
- Settlement calculations for CRR contracts
- Special PCRR options for non-opt-in entities

Using PCI Market Simulator to Perform Bid-to-Bill Studies
- Formulating energy and ancillary-service offers
- Quantifying costs for providing ancillary services
- Computing revenues and costs for providing energy and ancillary services
- How should we formulate our energy and A/S bids to maximize our market benefits?
- Should we self-schedule to meet our energy and A/S requirements?
- Case studies illustrating ERCOT bid-to-bill workflow

Understanding Market Mitigation
- Objectives and focus of market monitoring
- Definition of market power
- Nodal market mitigation rules
- Using SCED results to mitigate real-time offers
- Impacts of IMM interventions on settlement results

Course Review and Round-Table Discussion
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INSTRUCTORS

Khai Le, Vice President, PCI
Over the past 34 years, Khai Le has conducted more than 500 seminars on market-based operations, shadow settlement, RTO operations, bidding strategies, and portfolio optimization for utilities and RTOs worldwide. He is currently working with market participants in ERCOT, CAISO, MISO, PJM, and SPP to deploy the PCI Generation Supply Management System (PCI GenManager, PCI GenTrader, and PCI GenPortal) to formulate and evaluate bidding strategies. Khai has authored over 100 technical papers on unit commitment, hydro-thermal coordination, emission dispatch, optimization methods, post analysis and short-term planning. Five of his papers have received prize awards. Khai received his B.S. from Harvey Mudd College and his M.S. from Carnegie Mellon University. He is a fellow of the IEEE and a Registered Professional Engineer in Pennsylvania.

Tony Delacluyse, Director, PCI
Tony Delacluyse is a well-recognized authority on MRTU settlement, settlement disputes, and market rules. Tony has over 22 years of experience with market settlement, trading, operational planning, and plant management. Tony participates actively in the SaMC User group meeting. He received his B.A. and his MBA from St. Ambrose University.

Scott Quin, Manager, PCI
Scott Quin has more than 20 years of experience in the electric utility industry and 15 years of practical, operations experience in the wholesale electricity market place. His experience varies broadly, from managing a 7,000+ MW portfolio of assets and load in Florida to managing state-of-the-art portfolio management software systems to providing subject matter expertise and consulting. As an active member of the Texas Nodal Transition Plan Task Force (TPTF), Scott has an excellent understanding of the new ERCOT nodal market from an operational, bidding, and settlement perspective. Scott is currently deploying the PCI GSMS suite to automate the bid-to-bill workflow for several ERCOT market participants. Scott received his B.S. in electrical engineering from Mississippi State University and his M.S. from the University of South Florida in engineering management.
**REGISTER THE FOLLOWING**

- **Validating Settlement for ERCOT Nodal Market**  
  March 17-18, 2011: US $1495  
  Early Bird on or Before March 4, 2010: US $1295

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

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