



EUCI Presents a Seminar on:

VALIDATING SETTLEMENT CHARGES IN CAISO MRTU MARKET

July 21 - 22, 2009 • Crowne Plaza Resort • Anaheim, CA

Co-Sponsored by:

IPCI

ENTERPRISE ASSET OPTIMIZATION



This course has been approved for 16.0 CPEs.



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

"Very knowledgeable instructors, excellent source of information."

Market Participant who attended MRTU seminar in Sacramento

"Excellent insight."

Market Participant who attended MRTU seminar in Sacramento

"I was very pleased with the content of the course and presentation of complex topics. Great course! I'd recommend it to anyone needing to know more about ISO settlements."

Market Participant who attended settlement seminar in Denver

"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 settlement seminar in Anaheim

"I got a lot out of the course... Course brought together insights into concepts that I am just beginning to understand after 4 months in the settlement area."

Market Participant who attended settlement seminar in San Diego

"Very informational! Good balance between overview and details."

Market Participant who attended settlement seminar in Anaheim

VALIDATING SETTLEMENT CHARGES IN CAISO MRTU MARKET

July 21 - 22, 2009

SEMINAR OBJECTIVES/LEARNING OUTCOMES

Sponsored by EUCI and PCI, this two-day seminar uses simple case studies to illustrate the new settlement rules for the new CAISO MRTU market. With the start of the CAISO MRTU market, market participants have a strong need to validate market results and better understand settlement implications. In the workshop, you will learn how shadow settlement can be used as a strategic tool to check CAISO statements and invoices, identify settlement errors, submit settlement disputes, check the effectiveness of bidding strategies, and maximize the bottom-line profit for your assets in the new CAISO MRTU market.

The seminar will discuss and review the following "hot" issues:

- What are the main objectives of the CAISO MRTU market?
- What are the key settlement charge codes in the new MRTU market?
- How do you validate the new MRTU settlement charges?
- What workflow processes and tools do you need to check the MRTU settlement statements and invoices?
- What are the key differences in settlement rules between the existing Phase-1B market and the new MRTU market?
- Why perform shadow settlement? Do you need to have your own shadow settlement software to check the CAISO invoices?
- What are the main data sources for shadow settlement?
- What are the main causes for settlement disputes? What is the best way for managing settlement disputes?
- How can you use pre-settlement as a strategic tool to provide feedback to traders on bidding strategies?
- How can you validate DA market awards?
- What rules does CAISO use to penalize units for uninstructed deviation?
- What rules does CAISO use to compute bid-recovery 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?
- What IT infrastructure should you build to automate the bid-to-bill process?

WHO SHOULD ATTEND THIS SEMINAR?

- Back-office personnel who are responsible for checking the accuracy of the settlement statements and invoices issued by CAISO
- 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 MRTU settlement on their plant profitability
- Genco executives who need a good understanding of the potential impacts of the new MRTU 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

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 up to 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 course to be eligible for continuing education credit.

Instructional Methods

Studies, PowerPoint Presentations, and Classroom Exercises will be used in this course.

VALIDATING SETTLEMENT CHARGES IN CAISO MRTU MARKET

July 21 - 22, 2009

CRITICAL MRTU CHARGE CODES

Charge Codes to be covered in EUCI Workshop	CC	Critical MRTU Charge Codes
Monthly	591	Emissions Cost Recovery
Monthly	4501	GMC - Core Reliability Services - CRS Peak Demand
RT	4505	GMC - Energy Xmission Services - Net Energy
RT	4506	GMC - Energy Xmission Services - Net Uninstructed Deviations
RT	4511	GMC - Forward Scheduling
RT	4534	GMC - Market Usage - Awarded AS
RT	4535	GMC - Market Usage Instructed Energy
RT	4536	GMC - Market Usage Uninstructed Energy
RT	4537	GMC - Market Usage Forward Energy
DA	6011	DA Energy, Congestion, Loss Settlement
RT	6044	Interim Scheduling Charge for Under-Scheduled Load
RT	6051	HASP Energy, Congestion & Loss Predispached Settlement
DA	6100	DA Spinning Reserve Capacity Settlement
RT	6170	RT Spinning Reserve Capacity Settlement
RT	6194	Spinning Reserve Obligation Settlement
DA	6200	DA Non-Spinning Reserve Capacity Settlement
RT	6270	RT Non-Spinning Reserve Capacity Settlement
RT	6294	Non-Spinning Reserve Obligation Settlement
DA	6301	DA Inter-SC Trades Settlement
RT	6351	HASP Inter-SC Trades Settlement
RT	6470	RT Instructed Imbalance-Energy Settlement
RT	6474	RT Unaccounted-for-Energy Settlement
RT	6475	RT Uninstructed Imbalance-Energy Settlement
RT	6477	RT Imbalance Energy Offset
RT	6488	Exceptional Dispatch Uplift Settlement
RT	6489	Exceptional Dispatch Uplift Allocation
DA	6500	DA RegUp Capacity Settlement
RT	6570	RT RegUp Capacity Settlement
RT	6594	RegUp Obligation Settlement
DA	6600	DA RegDown Capacity Settlement
RT	6620	Bid Cost Recovery Settlement
RT	6636	IFM Bid Cost Recovery Tier-1 Allocation Charges
RT	6637	IFM Bid Cost Recovery Tier 2 Allocation
RT	6670	RT RegDown Capacity Settlement
RT	6678	RT Bid Cost Recovery Allocation
RT	6694	RegDown Obligation Settlement
DA	6700	CRR Hourly Settlement
Monthly	6728	CRR Monthly Clearing
RT	6774	RT Congestion Offset
RT	6788	RT Congestion Credit Settlement
DA	6800	DA Residual Unit Commitment (RUC) Availability Settlement
RT	6806	DA Residual Unit Commitment (RUC) Tier 1 Allocation
RT	6807	DA Residual Unit Commitment (RUC) Tier 2 Allocation
RT	6947	IFM Marginal Losses Surplus Credit Allocation

register today! Call (201) 871-0474

VALIDATING SETTLEMENT CHARGES IN CAISO MRTU MARKET

July 21 - 22, 2009

PROGRAM AGENDA

TUESDAY, JULY 21, 2009

8:00 – 8:30 a.m. Registration and Continental Breakfast

8:30 a.m. – 5:00 p.m. Course Timing

12:00 – 1:00 p.m. Group Luncheon

Overview on CAISO MRTU Market

- Objectives of New MRTU Market
- Key Differences in Market Rules between Phase-1B and MRTU Markets
- Understanding MRTU Market Instruments: Unit Bids, Load Bids, Inter-Tie Bids, and Inter-SC Trades
- Reviewing Day-Ahead Workflow
- Understanding SCUC Objectives for MPM, RRD, IFM, and RUC
- Reviewing Hour-Ahead and Real-Time Workflow for CAISO Market Participants
- How Does the Two-Step Settlement Work?
- Bid-to-Bill Timeline & Challenges
- Key Deployment Milestones for the New CAISO Market
- Roles of SaMC
- Data that you will need to Download from Various CAISO Servers (SIBR, CMRI, ADS, OASIS, SLIC, OMAR, and SaMC) to Support Settlement
- Differences in Market Rules between CAISO and other LMP Markets (MISO, PJM, ISO-NE, NYISO, and ERCOT)

Uses of Nodal Locational Marginal Prices in Bidding & Settlement

- Using Full Network Model to Compute Nodal Locational Marginal Prices
- Key Differences between Zonal & Nodal LMPs
- Understanding Three Components of LMPs: Energy, Loss, Congestion
- How are LMPs Computed?
- Understanding Impacts of Flowgates on Congestion
- Can LMPs be Negative?
- Day-Ahead Settlement Calculations
- Using CRR Contracts to Hedge Against Congestion Costs

Running Shadow Settlement to Check MRTU Invoices

- Key Differences in Settlement Rules between Phase-1B and MRTU Markets
- Understanding MRTU Settlement Statements and Charge Codes
- Why Perform Shadow Settlement?
- Key Functions of Shadow Settlement Software
- Identifying Data Sources to Support Shadow Settlement
- What Meter Data do you need to Compute Real-Time Settlement?
- What Are the Most Common Causes for Settlement Disputes?
- Managing Settlement Disputes
- Goals for Settlement Allocation

Understanding MRTU Settlement Rules for Generators & Interties

- Computing Day-Ahead Payments for Generators & Inter-Ties
- Understanding Three-Part Energy Bids for Generators
- Examples Illustrating IFM & RUC Settlement
- Validating Real-Time Instructed and Uninstructed Imbalance-Energy Charges & Credits
- Understanding Expected-Energy Results
- How do Expected-Energy Results Influence Settlement Calculations?
- Understanding Market Principles Behind Bid-Cost Recovery (BCR) Payments
- When are Resources Eligible for BCR Payments?
- Validating BCR Payments
- How are your Resources Paid for Exceptional Dispatch?
- Computing Penalties Due to Uninstructed Deviation
- Computing GMC Charges for Generators & Inter-Ties
- How are RMR Units Paid Under the New MRTU Market?

register today! Call (201) 871-0474

VALIDATING SETTLEMENT CHARGES IN CAISO MRTU MARKET

July 21 - 22, 2009

PROGRAM AGENDA

WEDNESDAY, JULY 22, 2009

7:30 – 8:00 a.m. Continental Breakfast

8:00 a.m. – 4:00 p.m. Course Timing

12:00 – 1:00 p.m. Group Luncheon

Settlement Rules for Loads & Transactions

- Computing Day-Ahead & Real-Time Charges & Credits for Loads
- Examples Illustrating IFM & RT Settlement for Loads
- How does CAISO Allocate BCR Charges?
- When do Loads Have to Pay Bid-Cost Recovery Charges?
- Understanding Unaccounted-for-Energy Charges or Credits
- Computing GMC Charges for Loads & Exports
- Role of Inter-SC Trades and Inter-Ties in MRTU Market
- Understanding Settlement Implications for Using Inter-SC Trades
- Impacts of ETC and TOR Contracts on Settlement Calculations
- Examples Illustrating DA & RT Settlement for Inter-Ties
- Special Settlement Rules for Scheduling Coordinators with MSS Status
- Why does CAISO Provide Loss Rebates?

Understanding New MRTU Ancillary-Service (A/S) Market

- A/S Products Offered Under MRTU
- How does CAISO Compute Marginal Prices for A/S Products Under MRTU?
- Impacts of Co-Optimization on LMPs and A/S Prices
- Case Studies to Illustrate Settlement Calculations for A/S Products
- Understanding No-Pay Rules
- How can we Verify that CAISO DA Awards are Optimal for our Assets?
- Case Studies to Illustrate Settlement Calculations for A/S Products

Using Market Simulation to Evaluate Bidding Strategies and Compute Settlement

- Formulating Energy and Ancillary-Service Offers
- Computing Revenues and Costs for Providing Energy and Ancillary Services
- Case Studies Illustrating MRTU Bid-to-Bill Workflow
- Using Settlement Results 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 Performance Metrics
- Computing Day-Ahead and Real-Time Profits & Losses
- Why do Some Plants Lose Dollar Margin in Real-Time Operations?
- Settlement Forensics – Where Front & Back Offices Meet
- Why does Front Office Need to Understand Settlement?

Understanding Settlement Rules for CRR Contracts

- Types of CRR Contracts
- Settlement Calculations for CRR Contracts
- Using Settlement Results to Verify Effectiveness of CRR Contracts
- CRR Credit Requirements

Impacts of Market Mitigation on Settlement

- Rules for Market Power Mitigation (MPM)
- How does CAISO Compute Reference Bids?
- Using SCUC Results to Mitigate Bids
- Downloading MPM Bids
- Impacts of IMM Interventions on Settlement Results

Course Review & Round-Table Discussion

register today! Call (201) 871-0474

VALIDATING SETTLEMENT CHARGES IN CAISO MRTU MARKET

July 21 - 22, 2009

INSTRUCTORS

Khai Le, Vice President, PCI:

Over the past 33 years, Mr. Khai Le has conducted 500+ seminars on shadow settlement, market-based operations, RTO operations, bidding strategies, and portfolio optimization for utilities and RTOs worldwide. He is currently working with market participants in CAISO, MISO, PJM, SPP, and ERCOT to deploy the PCI Generation Supply Management System (PCI GenManager, PCI GenTrader and PCI GenPortal) to automate their bid-to-bill workflow. Khai 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 received prize awards. Khai received his BS from Harvey Mudd College and his MS from Carnegie Mellon University. He is a Fellow of the IEEE and a Registered Professional Engineer in Pennsylvania.

Doug Logan, Dean of Engineering, Walla Walla University:

Dr. Doug Logan is a recognized expert on market design, shadow settlement, CRR, and market mitigation. Doug has done extensive work with MRTU settlement charge codes and settlement allocation. He received his PhD in Engineering-Economic Systems from Stanford University and is a registered Professional Engineer.

Tony Delacluyse, Director, PCI:

Mr. 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's group meeting. He received both his BA and MBA from St Ambrose University.

CPE CREDITS



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.

There is no prerequisite for this course.

Program Level: Intermediate

Credits: 16.0

Delivery Method: Group-Live

Advanced Preparation: None

PROCEEDINGS

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

COURSE LOCATION

A room block has been reserved at the Crowne Plaza Resort Anaheim-Garden Grove. 12021 Harbor Blvd, Garden Grove, CA 92840, United States, for the nights of July 20-21, 2009. Room rate is \$151 plus applicable taxes. Call 1-714-867-5555 for reservations and mention the EUCI course to get the group rate. Make your reservations prior to June 25, 2009. There are a limited number of rooms available at the group rate. **Please make your reservations early.**

REGISTRATION INFORMATION

REMEMBER, EVERY 4TH REGISTRANT IS FREE

For instant registration, call (201) 871-0474 or fax the Registration Form to (253) 663-7224.

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.

All cancellations received on or before June 19, 2009 will be subject to a \$195 processing fee. Written cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI conference or publication. This credit will be good for six months. In case of conference cancellation, Electric Utility Consultants' liability is limited to refund of the conference registration fee only. For more information regarding administrative policies such as complaint and refunds, please contact our offices at (201) 871-0474.

EUCI reserves the right to alter this program without prior notice.

MAIL DIRECTLY TO:

The Power Marketing Association (PMA)
P.O. Box 2303
Falls Church, VA 22042

FAX TO: (253) 663-7224 **PHONE:** (201) 871-0474

PLEASE REGISTER THE FOLLOWING

- Validating Settlement Charges in CAISO MRTU Market, July 21-22, 2009, 2009, \$1495
Early Bird On Or Before July 10, 2009, \$1295

ENERGIZE WEEKLY

When you sign up to "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 22 years organizing conferences.

- Sign me up for "Energize Weekly"**

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

Name _____ Title _____

Name Preferred for Badge _____ E-Mail _____

Company _____ Telephone _____

Address _____ City _____ State _____ Zip _____

PAYMENT METHOD Please make checks payable to "PMA"

Please charge my credit card: Visa MC AMEX Security Code _____

Visa and MC cards have a 3 digit code on the signature panel on the back of the card, following the account number. American Express cards have a 4 digit code on the front of the card, above the card number.

Name on Card _____ Signature _____

Account Number _____ Exp. Date _____

Billing Address _____ Billing Zip Code _____

Or enclosed is a check for \$ _____ to cover _____ persons.

- Check here if you have any dietary or accessibility needs. We will contact you for more details.