

# IEEE POWER ENGINEERING SOCIETY

## Power System Analysis, Computing and Economics Committee



### Chair

MARTIN L. BAUGHMAN  
Professor Emeritus  
The University of Texas at Austin  
5703 Painted Valley Drive  
Austin, TX 78759  
Vox: 512-345-8255  
Fax: 512-345-9880  
baughman@mail.utexas.edu

### Vice Chair

CHEN-CHING LIU  
Dept. of Electrical Eng.  
University of Washington  
Box 352500  
Seattle, WA 98195  
Vox: 206-543-2198  
Fax: 206-543-3842  
liu@ee.washington.edu

### Secretary

ROGER C. DUGAN  
Sr. Consultant  
Electrotek Concepts, Inc.  
408 N Cedar Bluff Rd  
Knoxville, TN 37923  
Vox: 865-470-9222  
Fax: 865-470-9223  
r.dugan@ieee.org

### Subcommittee Chairs

Computer & Analytical Methods  
EDWIN LIU, Chair  
Nexant, Inc.  
101, 2nd street, 11F  
San Francisco CA 94105  
Vox: 415-369-1088  
Fax: 415-369-0894  
exliu@nexant.com

Distribution Systems Analysis  
SANDOVAL CARNEIRO, JR, Chair  
Dept. of Electrical Engineering  
Federal Univ. of Rio de Janeiro  
Rio de Janeiro, RJ, Brazil  
Vox: 55-21-25628025  
Fax: 55-21-25628628  
sandoval@coep.ufrj.br

Intelligent System Applications  
DAGMAR NIEBUR, Chair  
Department of ECE  
Drexel University  
3141 Chestnut Street  
Philadelphia, PA 19104  
Vox: (215) 895 6749  
Fax: (215) 895 1695  
niebur@cbis.ece.drexel.edu

Reliability, Risk & Probability  
Applications  
JAMES D. MCCALLEY, Chair  
Iowa State University  
Room 2210 Coover Hall  
Ames, Iowa 50011  
Vox: 515-294-4844  
Fax: 515-294-4263  
jdm@iastate.edu

Systems Economics  
ROSS BALDICK, Chair  
ECE Dept., ENS 502  
The University of Texas at Austin  
Austin, TX 78712  
Vox: 512-471-5879  
Fax: 512-471-5532  
baldick@ece.utexas.edu

Past Chair  
JOANN V. STARON  
Nexant Inc/ PCA  
1921 S. Alma School Road  
Suite 207  
Mesa, AZ 85210  
Vox: 480-345-7600  
Fax: 480-345-7601  
joann.staron@pca-corp.com

## PSACE

### Paper and Panel Sessions for PSCE 2004 New York

#### **PANEL-1: Market Monitoring, Metrics, Indicators, and Mitigation**

Session Type: Panel

Sponsor: Power Systems Analysis, Computations, and Economics Committee; System Economics Subcommittee

Time: Tuesday, October 12, 09:00 - 12:00

Location: Empire State Ballroom A

Co-Chairs: B. Hobbs, The Johns Hopkins University and S. Ellis, Pacific Gas & Electric

Summary: As energy markets continue to evolve in North America, there is need to quantify and evaluate the market performance. This panel will address monitoring, mitigation, and metrics for energy markets from various perspectives. The panelists will present and comment on proposed and implemented techniques for the new 3M's for energy markets.

#### **PANEL-1.1: EXPERIENCES WITH MARKET POWER MITIGATION**

Harry Singh, Federal Energy Regulatory Commission

#### **PANEL-1.2: AN AUCTION TO PROCURE CAPACITY IN A LOAD POCKET**

Peter Cramton, University of Maryland; Joseph Bowring, PJM Interconnection, LLC; Steven Stoft, Private Consultant

#### **PANEL-1.3: ELECTRICITY MARKET POWER: TRIANGULATION OF MODELS AND ISSUES**

William Hogan, John F. Kennedy School of Government



PANEL-1.4: CONDUCT AND IMPACT VS. STATE OF THE MARKET TRIGGERS FOR AUTOMATIC MARKET MITIGATION

Shmuel Oren, University of California, Berkeley

PANEL-1.5: ENERGY MARKET MONITORING AND MITIGATION: PAST LESSONS AND CURRENT ISSUES

Farrokh A. Rahimi, Open Access Consulting

PANEL-1.6: SELF-REGULATING MARKETS FOR ELECTRICITY: LETTING CUSTOMERS INTO THE GAME:

Richard Schuler, Cornell University

**PANEL-2: Simulation Tools for Energy Markets and Physical System Operation**

Session Type: Panel

Sponsor: Power Systems Analysis, Computations, and Economics Committee

Time: Tuesday, October 12, 09:00 - 12:00

Location: Empire State Ballroom E

Chair: Steve Widergren, Pacific Northwest National Lab

Summary: As energy markets play an important role in the generation area and begin to play a greater role in retail electricity, the traditional analysis tools are inadequate for answering many of the questions arising from these changes occurring in the electric power industry. This session addresses what is being done in the way of algorithms, solution methods, and software engineering (including visualization), to model the interactions of electricity markets with physical system operations.

PANEL-2.1: POWERWEB: A TOOL FOR EVALUATING ECONOMIC AND RELIABILITY IMPACTS OF ELECTRIC POWER MARKET DESIGNS

Ray Zimmerman, Robert Thomas, Cornell University

PANEL-2.2: TRANSMISSION EXPANSION IN THE WESTERN INTERCONNECTION - THE PLANNING PROCESS AND THE ANALYTICAL TOOLS THAT WILL BE NEEDED TO DO THE JOB

Glenn Drayton, Drayton Analytics Pty Ltd; Michael McCoy, Mario Pereira, Power Systems Research, Inc.; Edward Cazalet, The Cazalet Group LLC; Mary Johannis, Dennis Phillips, Bonneville Power Administration



PANEL-2.3: VISUALIZATION APPROACHES INTEGRATING  
REAL-TIME MARKET DATA

Mark Laufenberg, PowerWorld Corporation

PANEL-2.4: ALTERNATIVE MODEL FOR AREA PRICE  
DETERMINATION IN A DEREGULATED POWER SYSTEM

Kjetil Uhlen, Ove S. Grande, Leif Warland, Gerd Solem, Ian  
Norheim, SINTEF Energy Research

PANEL-2.5: SIMULATING PRICE RESPONSIVE DISTRIBUTED  
RESOURCES

Ning Lu, Dave P. Chassin, S. E. Widergren, Pacific Northwest  
National Laboratory

**PANEL-4: Model-Driven Integration Techniques and Standards  
for Enterprise Integration**

Session Type: Panel

Sponsor: Power Systems Analysis, Computations, and Economics  
Committee

Time: Tuesday, October 12, 09:00 - 12:00

Location: Uris/Julliard

Chair: Terry Saxton, Xrensible Solutions

Summary: Model Driven Integration (MDI) is the next logical step in the evolution of the Enterprise Application Integration (EAI) methodology which strengthens the principles of EAI (i.e., loosely coupled integration via an event-driven messaging infrastructure) with the addition of common models as the basis to drive integration design and implementation. MDI methodology focuses on the modeling and semantics of business processes, common information, and information exchange through the application of international standards developed for this purpose. This panel session will present the basis for the models used in the utility real-time operations environment as well as several case histories of utilities that are deploying the MDI methodology and supporting tools in their current operations environment.

PANEL-4.1: UTILITY APPLICATIONS SHOULD BE  
INTEGRATED WITH AN INTERFACE BASED ON A  
CANONICAL DATA MODEL, NOT DIRECTLY WITH EACH  
OTHER

Greg Robinson, Joe Zhou, Xtensible Solutions

PANEL-4.2: NYISO EXPERIENCE WITH MODEL DRIVEN  
INTEGRATION



Walter Pfuntner, New York ISO

**PANEL-4.3: KEY DRIVERS AND CHALLENGES FOR MOVING TOWARD A MODEL-DRIVEN INTEGRATION SOLUTION FOR AN ESTABLISHED RTO**

Heather Forsythe, PJM Interconnection, LLC

**PANEL-4.4: MDI: A SOLUTION FOR OUTAGE MANAGEMENT**  
Dean Hengst, Exelon Corporation

**PANEL-4.5: AN INTEGRATED APPROACH TO BUSINESS MODELING, VOCABULARY MANAGEMENT, AND SOFTWARE DEVELOPMENT**

Kenneth Newberry, Tennessee Valley Authority

**PANEL-6: Market Clearing Mechanisms**

Session Type: Panel

Sponsor: Power Systems Analysis, Computations, and Economics Committee

Time: Tuesday, October 12, 14:00 - 17:00

Location: Empire State Ballroom E

Chair: Alex Papalexopoulos, ECCO International

Summary: In a competitive energy environment various products, such as energy, ancillary services and transmission are procured through auctions. The most common approach is based on sealed-bid mechanisms. This panel addresses various market clearing mechanisms and the consequences of alternative pricing rules. Three specific pricing rules are evaluated: (1) uniform pricing, (2) pay-as-bid pricing, and (3) Vickrey pricing. The results suggest that in situations where the non-homogeneous nature of the product and market incompleteness necessitate a high degree of product fragmentation, a pay-as-bid settlement approach with optimized assignment may be promising.

**PANEL-6.1: ALTERNATIVE PRICING RULES**

Peter Cramton, University of Maryland

**PANEL-6.2: WHEN IS A PAY-AS BID PREFERABLE TO UNIFORM PRICE IN ELECTRICITY MARKETS.**

Shmuel Oren, University of California, Berkeley

**PANEL-6.3: POWERWEB TESTING OF VARIOUS AUCTION CLEARING MECHANISMS FOR ELECTRICITY**

Robert Thomas, Timothy Mount, Ray Zimmerman, Cornell University



PANEL-6.4: MARKET CLEARING MECHANISMS IN  
INCOMPLETE MARKETS: EXCLUDING IMPORTERS FROM  
COMPETITIVE ELECTRICITY PRICING

Judith Cardell, Smith College

PANEL-6.5: MARKET CLEARING PRICES IN THE  
BALANCING MECHANISM OF ENGLAND AND WALES

Daniel S. Kirschen, Maria P. Garcia, University of Manchester  
Institute of Science and Technology

**PANEL-8: Transformational Communications and Control  
Programs**

Session Type: Panel

Sponsor: Power Systems Analysis, Computations, and Economics  
Committee

Time: Tuesday, October 12, 14:00 - 17:00

Location: Uris/Julliard

Chair: Eric Lightner, DOE

Summary: Continued advances in information technology and the pervasiveness of communications throughout industry and our society is changing the nature of operations and control in the power sector. This panel presents several initiatives that aim to transform the operating nature of our industry by facilitating the interoperability between components (software and hardware) from multiple parties to integrate systems on a scale difficult to imagine until now.

PANEL-8.1: IEA DEMAND RESPONSE RESOURCES PROJECT

Ross Malme, Peter Scarpelli, RETX

PANEL-8.2: MID-ATLANTIC REGIONAL SMALL GENERATOR  
INTERCONNECTION INITIATIVE

Brad Johnson, Independent Consultant

PANEL-8.3: MULTISPEAK®2 - A FRAMEWORK FOR REAL-  
TIME UTILITY SOFTWARE INTEGRATION

Gary McNaughton, Cornice Engineering, Inc.; Martin Gordon,  
National Rural Electric Cooperative Association

PANEL-8.4: DEVELOPING AN INTEGRATED ENERGY AND  
COMMUNICATIONS SYSTEMS ARCHITECTURE: THE  
INITIAL STEPS

Joseph Hughes, Donald Von Dollen, Electric Power Research  
Institute



PANEL-8.5: TRANSFORMING THE U.S. ELECTRICITY  
SYSTEM

Rob Pratt, Pacific Northwest National Laboratory

**PAPER: Power Markets and Economics**

Session Type: Panel

Sponsor: Power Systems Analysis, Computations, and Economics  
Committee

Time: Wednesday, October 13, 09:00 - 12:00

Location: Broadway/Carnegie/Alvin

Chair: Jim Waight, Siemens

Summary: This is a special paper session covering issues of power  
marketing. International experience is described. Ancillary services  
and software implementation will be described. Modeling and energy  
efficiency are covered in the papers.

PAPER.1: REGIONAL ANCILLARY SERVICES  
PROCUREMENT IN SIMULTANEOUS ENERGY/RESERVE  
MARKETS

Tong Wu, George Angelidis, ECCO; Ziad Alaywan, California ISO;  
Alex D. Papalexopoulos, ECCO

PAPER.2: MARKET MONITORING AND SMD  
IMPLEMENTATION: THE NEW YORK EXPERIENCE AND  
BEYOND

Ricardo J. Galarza, PSM Consulting

PAPER.3: FORECASTING SYSTEM IMBALANCE VOLUMES IN  
COMPETITIVE ELECTRICITY MARKETS

Maria P. Garcia, Daniel S. Kirschen, University of Manchester  
Institute of Science and Technology

PAPER.4: AN OLIGOPOLISTIC MODEL FOR POWER  
NETWORKS: BEYOND THE INCENTIVE OF THE ENERGY  
MARKET

Guillermo Bautista, Victor H. Quintana, University of Waterloo; Jose  
A. Aguado, University of Malaga

PAPER.5: PROMOTION OF ENERGY-EFFICIENCY IN THE  
ELECTRICITY SECTOR IN RESTRUCTURING MARKETS -  
THE PORTUGUESE CASE

Ana Lopes, Escola Superior de Tecnologia de Tomar; Aníbal  
Almeida, University of Coimbra





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