

Advanced Workshop in Regulation and Competition
29th Annual Western Conference

Hyatt Regency, Monterey, California on June 22-24, 2016

The Conference features some of the latest developments in the network industries, especially energy, including:

- Deregulation
- Market Structure
- Policy and Regulatory Issues
- Environmental Policy and GHG
- Telecommunications and Water
- Pricing and Demand Response
- Capacity and Reliability

Who should attend:

- Industry Economists, Consultants and Attorneys
- Marketing and Regulatory Managers
- Regulatory Commission Staff

Dinner Speaker: Robert Kenney, Vice President, CPUC
Regulatory Relations, Pacific Gas and Electric Company

CENTER FOR
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CENTER FOR RESEARCH IN REGULATED INDUSTRIES

The *Center for Research in Regulated Industries*, located at Rutgers University, aims to further study of regulation in economics, finance, and institutions. Its publications, seminars, workshop, and courses make available the latest advances to academics, managers, and regulatory commission staff. The Center has over thirty five years of experience providing research, instruction, conferences, courses, seminars, and workshops in economics of network industries. The Center's *Journal of Regulatory Economics* is an international scholarly bi-monthly publication intended to provide a forum for the highest quality research in regulatory economics. Other research from the Center's programs has been published in the book series *Topics in Regulatory Economics and Policy*.

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www.business.rutgers.edu/CRI

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WEDNESDAY, JUNE 22, 2016

2:00 - 4:00 Registration *Mark Thomas Foyer*
 4:00 – 6:00 Welcome to Conference: Victor Glass *Spyglass 1 & 2*
Rami Kahlon: The California Drought
Carl Danner: Internal Auditing in a Regulatory Agency Context
Tim Brennan: Merger Conditions in Regulated Industries
 6:00 - 7:00 Cocktail Hour *Mark Thomas Foyer*
 7:00 – 9:00 **Dinner & Keynote Speech: Robert Kenney,** Vice President, Pacific Gas and Electric Company *Windjammer*
 9:00 – 10:00 Reception *Mark Thomas Foyer*

THURSDAY, JUNE 23, 2016

8:00 - 10:00 *Concurrent Sessions*

<p>WHOLESALE MARKETS <i>Grove</i> Chair: Eric Korman Discussants: David Brown and Megan Accordino Matthew Arenchild: Analyzing Changes in Western Markets: CAISO EIM (Costs, Benefits, and Regulatory Considerations) Keith Collins: Improving price signals in the Energy Imbalance Market Paul D. Nelson: Opportunities for Energy Market Expansion in the West Kevin Woodruff: Benefits and Costs of “Regional Integration” in the WECC</p>	<p>RETAIL PRICING <i>Pacific</i> Chair: Andre Ramirez Discussants: Cynthia Fang & Scott Murtishaw Dennis Keane: The Problem with Current Electric Rate Designs: Making Rates Sustainable Ahmad Faruqui, Neil Lessem & Dean Mountain: A Three-Year Assessment of the Impact of a Default Deployment of Time-of-Use Rates in Ontario, Canada Russell Garwacki & Reuben Behlihomji: Time-of-Use Periods for Electric Rates Katrina Jessoe, David Rapson & Jeremy Smith: Utilization and Customer Behavior: Smart Choices for the Smart Grid <i>Monterey Terrace</i></p>
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10:00 – 10:20 Coffee Break

10:20 - 11:50 *Concurrent Sessions*

<p>CAPITAL AND RATE OF RETURN <i>Grove</i> Chair: Carl Peterson Discussants: Stephen St. Marie Hung-po Chao & Robert Wilson: Coordination of Electricity Transmission and Generation Investments Amparo Nieto & Richard Druce: Regulatory Incentive Methods for Electricity Distributors: Emerging Trends Michael Vilbert, & Joseph B. Wharton: The Impact of Decoupling Ratemaking on the Cost of Capital</p>	<p>PROGRAM MEASUREMENT <i>Pacific</i> Chair: Anne-Marie Cuneo Discussants: Tim Brennan Reginald Avery Wilkins & Richard Song: Locational Targeting of EE Effectiveness Evaluation Mark Alexander: Measuring the Emissions of Plug-in Electric Vehicles Neil Lessem: Capturing Smart Meter Benefits in System-Wide Rollouts</p>
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11:50 - 1:20 Lunch Break

1:20 - 2:50 *Concurrent Sessions*

<p>REGULATORY FRAMEWORKS <i>Grove</i> Chair: Bradley Leong Discussants: Carl Silsbee & Carl R. Peterson Karl McDermott: Regulatory Lag and the Incentives Question: Fact, Fiction and Myth Richard White: Valuing Risk Information: A New Tool for Cost-Effective Regulation Darryl Biggar & Bruce Mountain: The Transactions Cost Approach to Public Utility Regulation and the Role of Customers</p>	<p>RENEWABLES <i>Pacific</i> Chair: Paul D. Nelson Discussants: Gigio Sakota Jeff Brown & Ray Williams: Impacts of State GHG Program Design in Implementing EPA’s Clean Power Plan Jiong Gong: Optimal Sizing of Portable Modular Batteries for Electric Vehicles Aidan Tuohy, Eamonn Lannoye & et.al.: Capacity Adequacy and Variable Generation</p>
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2:50 - 3:00 Break

3:00 - 4:00 *Concurrent Sessions*

<p>RESOURCE INTEGRATION <i>Grove</i> Chair: Gary Stern Discussants: Kevin Woodruff Carl Linvill: Teaching the Duck to Fly at Least Cost and with Least Resistance Gigio Sakota, Tomislav Galjanic, Muir Davis & Raymond Johnson: CAISO Market Integration of Demand Response – Experience and Challenges</p>	<p>POWER MARKET, MARKET POWER <i>Pacific</i> Chair: Charlene Zhou Discussants: Darryl Biggar Megan H. Accordino: Detecting Manipulation of Related Spot and Futures Markets Hjalmar Pihl: Natural Gas Price Volatility at Western Trading Hubs</p>
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FRIDAY, JUNE 24, 2016

8:30 - 10:30 *Concurrent Sessions***METHODOLOGY**

Chair: Carl Danner

Discussants: Tim Brennan

Zhen Wang & Ahmad Faruqui: Emerging Issues in Forecasting Energy Consumption, Peak, and Hourly Load**Amin Fakhrazari & Amitava Dhar:** A Stochastic Approach To Quantify Load Diversity Factors on Distribution Circuits**Aberto Lamadrid, W. Jeon, H. Lu and Tim Mount:** Using a Receding-Horizon Optimization to Manage Renewable Generation Efficiently II**Brian Lubeck:** Using a Gaussian Copula within a Monte Carlo Simulation Framework to Model Load Uncertainty

10:30 – 11:00 Coffee Break

11:00 - 12:30 *Concurrent Sessions***OPERATIONAL CONSIDERATIONS***Grove*

Chair: Brittney Lee

Discussants: Tim Mount

Lamine Akaba & Christine Hartmann: Machine Learning, Performance Predictors, and Demand Response**Robert Enriken, et al:** Operating Reserve Determination: Test Cases and Market Design Insights**John Ledyard & Karl McDermott:** The Behavior of Public Utilities in the Face of Demand Uncertainty, Costly Adjustments and Prudence Reviews

12:30- 12:35 Concluding Remarks – Victor Glass

DISTRIBUTED GENERATION & STORAGE*Pacific*

Chair:

Discussants: Andrew Dugowson

Rasika Athawale: Small to Big, and Again Small: Will Distributed Generation Achieve Success?**David Brown & David Sappington:** Optimal Policies to Promote Efficient Distributed Generation of Electricity**Cynthia Fang & Josh Mondragon:** Solar Adoption and Customer Demand in the Residential Sector**Udi Helman et al:** Economic Benefits of Energy Storage under California's Storage Mandate: Assessment of Different Storage Attributes and Applications under 33% and 40% RPS Scenarios*Monterey Terrace***WATER***Pacific*

Chair: Stanley Lee

Discussants: Eric Korman & Viet Truong

Michael Crew & Rami Kahlon: Franchising Revisited: Developments in the Water Sector**Richard McCann, Edward Spang & Frank Loge:** Using Water Utility Systems to Better Integrate Distributed Energy Resources**Bob Kelly:** A Brief History Of The California WRAM**SPEAKERS DISCUSSANTS & CHAIRS****Megan H. Accordino,** Associate, Analysis Group, Inc.**Lamine Akaba,** Principal, Pacific Gas and Electric Company**Mark Alexander,** EPRI**Matthew Arenchild,** Managing Director – Energy, Navigant**Rasika Athawale,** Research Manager, Rutgers University**Reuben Behlhomji,** Southern California Edison**Darryl Biggar,** Australian Competition and Consumer Commission**Tim Brennan,** University of Maryland Baltimore County**David Brown,** Assistant Professor, University of Alberta**Jeff Brown,** Principal Long Term Energy Policy, PG&E**Hung-po Chao,** President, Energy Trading Analytic**Keith Collins,** Manager, Monitoring and Reporting, California ISO**Michael A. Crew,** Professor of Regulatory Economics, Rutgers University**Anne-Marie Cuneo,** Director of Regulatory Operations, Public Utilities Commission of Nevada**Carl Danner,** Chief Internal Auditor, California Public Utilities Commission**Andrew Dugowson,** Energy & Environmental Policy, Southern California Edison**Robert Enriken,** Principal Technical Leader, EPRI**Amin Fakhrazari,** Regulatory Affairs, Pacific Gas and Electric Company**Cynthia Fang,** Rate Strategy and Analysis Manager, San Diego Gas & Electric**Ahmad Faruqui,** Principal, The Brattle Group**Russell Garwacki,** Director –Pricing Design and Research, Southern California Edison**Victor Glass,** Director CRRRI and Professor of Professional Practice, Rutgers University**Jiong Gong,** Henan University**Christine Hartmann,** Analyst, Pacific Gas and Electric Company**Udi Helman,** Consultant**Katrina Jessoe,** Assistant Professor, UC Davis**Rami Kahlon,** Director of the Water Division, California Public Utilities Commission**Dennis Keane,** Senior Manager, Rate Design and Quantitative Analysis, Pacific Gas and Electric Company**Bob Kelly,** Vice President Regulatory Affairs, Suburban Water Systems**Robert Kenney,** Vice President, CPUC Regulatory Relations, Pacific Gas and Electric Company**Eric Korman,** Vice President, Analysis Group, Inc.**John O. Ledyard,** Allen and Lenabelle Davis Professor of Economics and Social Sciences, California Institute of Technology**Brittney Lee,** Regulatory Case Administrator, San Diego Gas & Electric**Stanley Lee,** California Public Utilities Commission**Bradley Leong,** California Public Utilities Commission**Neil Lessem,** Consultant, The Brattle Group**Carl Linvill,** Principal, The Regulatory Assistance Project**Brian Lubeck,** Regulatory Affairs, Pacific Gas and Electric Company**Richard McCann,** Partner, M.Cubed**Karl A. McDermott,** Ameren Professor of Government and Business, University of Illinois-Springfield & Special Consultant, NERA Economic Consulting**Timothy D. Mount,** Professor, Cornell University**Scott Murtishaw,** Advisor, California Public Utilities Commission**Paul D. Nelson,** Market Design Manager, Southern California Edison**Amparo Nieto,** Vice President, NERA Economic Consulting**Carl R. Peterson,** Professor, University of Illinois Springfield**Hjalmar Pihl,** California ISO**Brian Prusnek,** Director of Regulatory Affairs, Sempra Energy Utilities**Andre Ramirez,** Regulatory Affairs, Southern California Edison**Gigio Sakota,** Senior Project Manager, Southern California Edison**Carl Silsbee,** Regulatory Economist**Richard Song,** Lead Analyst, Southern California Edison**Stephen St. Marie,** Policy Planning Analyst, California Public Utilities Commission**Gary Stern,** Director of Energy Policy, Southern California Edison**Viet Truong,** Utilities Engineer, California Public Utilities Commission**Aidan Tuohy,** EPRI**Michael J. Vilbert,** Principal, The Brattle Group**Zhen Wang,** Associate, The Brattle Group**Richard White,** Senior Policy Analyst, California Public Utilities Commission**Reginald Avery Wilkins,** Project Manager, Southern California Edison**Kevin Woodruff,** Principal, Woodruff Expert Services**Charlene Zhou,** Manager, Analysis Group, Inc.

ORGANIZING COMMITTEE

Matthew Arenchild (Navigant Consulting, Inc.)
Michael A. Crew (Rutgers University)
Carl Danner (California Public Utilities Commission)
Robert Entriiken (EPRI)
Cynthia Fang (San Diego Gas & Electric)
Ahmad Faruqui (Brattle Group)
Victor Glass (Rutgers University)
Rami Kahlon (California Public Utilities Commission)
Dennis Keane (Pacific Gas & Electric)
Eric Korman (Analysis Group)
Neil Lessem (The Brattle Group)
Carl B. Linvill (The Regulatory Assistance Project)
Paul Nelson (Southern California Edison)
Amparo Nieto (NERA Economic Consulting)
Kevin D. Woodruff (Woodruff Expert Services)

CONTACTING CRRRI

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HOTEL RESERVATIONS

Sufficient Rooms are reserved at the Hyatt Regency Monterey for all of the Conference participants. Reservations should be received by **June 2, 2016**. Hotel reservation can be made by using the following Passkey Link:

<https://resweb.passkey.com/go/CRRRIannualConf2016>

Hyatt Regency Monterey

1 Golf Course Road
Monterey, California, 93940, USA
1-888-421-1442

If you are not making reservations through the link above please identify yourself as being held under the group block: Rutgers University CRRRI Program.

REGISTRATION INFORMATION

To Register: Please complete and return the form to CRRRI. Registrations are accepted by mail, email, fax, and telephone. Please confirm telephone registrations by sending in a completed and signed registration form. The deadline for registrations is May 16, 2016. Registrations received after May 16, 2016 will be admitted on a space available basis.

Volume discount: Second and subsequent applications received in the same envelope, fax, email, or made at the same time by phone will receive a 5% volume discount.

Payment Information: Make checks payable to “**Rutgers University**” and mail to the attention of at the above address. Fees include prescribed learning materials, dinner on Wednesday night, June 22, 2016, all receptions and coffee breaks, but do not include lodging and other meals. The government registration fee is available for government employees.

REGISTRATION FORM: 29th Annual Western Conference

Name _____
Title: _____
Company: _____
Complete Address: _____
Telephone: _____ Fax: _____
Email: _____

Billing Information:

Payment enclosed \$1,135 U.S. Dollars
 Send invoice to participant at above address.
 Send invoice to _____
 Credit Card: VISA MC Exp. ____/____ CVC Code: ____ Card # _____

GOVERNMENT RATE: Government employees may apply for reduced enrollment fees.
 I would like to apply for the govt rate of \$610

CANCELLATION POLICY: Until May 2, 2016 cancellation is allowed without penalty and refunds will be allowed in full. After this date, the indicated fee is due in full whether or not the participant actually attends. Substitutions may be made at any time.

Signature of Participant: _____