

## Conference Program

### Thursday, March 22, 2001

7:30 am – 8:30 am	Registration and Continental Breakfast			
8:30 am – 8:45 am	Conference Opening			
8:45 am – 9:30 am	<b>Keynote Address</b> William Museler, President and CEO, New York Independent System Operator (NYISO)			
9:30 am – 9:50 am	<b>Invited Speaker</b> William M. Flynn, ESQ., President New York State Energy Research and Development Authority (NYSERDA)			
9:50 am – 10:15 am	Break			
10:15 am – 11:25 am	<b>NYISO Summer 2001 Program Overview</b> David Lawrence, Sr. Engineer, NYISO			
11:25 am – 12:15 pm	NYISERDA Session #1A <b>NYISERDA Programs and Projects</b>	Business Session #1B <b>Automating Demand Response – Case Studies</b>	Business Session #1C <b>Program Design and Implementation – Case Study</b>	Business Session #1D <b>Economics of Customer Curtailment</b>
12:15 pm – 1:15 pm	Lunch			
1:15 pm – 3:00 pm	<b>Vendor Exhibits</b>			
3:00 pm – 3:55 pm	NYISERDA Session #2A <b>Thermal Storage for PRL</b>	Business Session #2B <b>Strategies for Residential Customers</b>	Business Session #2C <b>What Are Customers Looking For In PRL Programs?</b>	Business Session #2D <b>Tracking the Load – Metering and Information Systems</b>
3:55 pm – 4:45 pm	NYISERDA Session #3A <b>Residential End-Use Technologies for PRL</b>	Business Session #3B <b>Strategies for Institutional Customers</b>	Business Session #3C <b>PRL Program Design</b>	Business Session #3D <b>Panel Presentation – Making PRL Work</b>
4:45 pm – 6:00 pm	<b>Reception</b>			



**Price-Responsive Load Management: A New Opportunity in New York State Electricity Markets**  
**March 22-23, 2001 Crowne Plaza, Albany, NY**

**Friday, March 23, 2001**

7:30 am – 8:45 am	Continental Breakfast
8:45 am – 9:15 am	<b><i>Invited Speaker</i></b> Maureen O. Helmer, Chairman, NYS Public Service Commission
9:15 am – 10:15 am	<b><i>Panel Discussion</i></b> LSE-sponsored price-responsive load programs for summer 2001  <i>Chair: David Lawrence, NYISO</i> Panel: representatives from Rochester Gas & Electric, Consolidated Edison, AES New Energy, Niagara Mohawk, Long Island Power Authority, Con Ed Solutions
10:15 am – 10:30 am	Break
10:30 am – 11:45 am	<b><i>Panel Discussion</i></b> Emergency Generation: Opportunities, Challenges, and Environmental Policies  <i>Chair: Laurence DeWitt, PACE Environmental Energy Project</i> Panel: Dawn Dana, Novus Engineering; Howard Feibus, Electrotek; John Prunkl, MetroGen; Ronald Leonard, Environmental Business Association of NY; and a representative from DEC
11:45 am – 12:00 pm	<b><i>Wrap-up</i></b>
Noon	<b><i>Conference Adjourns</i></b>

**Business Session Detail**

**Session 1A (11:25 am – 12:15 pm)**

***NYSERDA Programs and Projects***

*PON 577 – Peak Load Reduction*

Lee Smith, NYSERDA

***Residential Comprehensive Energy Management Services Program***

Eric Mazzone, NYSERDA and John Oyhenart, DMJM Harris

NYSERDA's Residential Comprehensive Energy Management (CEM) Services Program is designed to help New York residential energy users save energy and take full advantage of competition among energy suppliers. The program's key goals are to: 1) improve the collection, aggregation and dissemination of residential energy information; and 2) provide control over major energy-using equipment, encouraging residential energy efficiency and load management.



**Session 1B (11:25 am – 12:15 pm)**

***Automating Demand Response – Case Studies***

*Moderator: Ben Long, Xenergy, Inc.*

*Enabling Technologies for Advancing Real Time Demand Response Programs*

Andrew Bakey, Powerweb Technologies

A case study will be presented to demonstrate how a pharmaceutical company utilized a 10MW standby generator to take full advantage of real time price signals in the market. They utilized a software platform, a two-way gateway real time server, and a communications link to their Honeywell control system. They also made use of pager and cell phone technology for alerting them of the opportunities in the market.

*Utilizing Electronic Forward Markets for Price Responsive Load*

Jim Verna, Automated Power Exchange, Inc.

Historically, price responsive load has taken two forms: utilities providing end users rate discounts to reduce energy consumption when called upon or ISO's providing an ex-post clearing price so load receives payment as a generator. APX and First Energy have devised an approach in which end users participate in an electronic forward market with wholesale market participants. This presentation will include First Energy's experience and discuss what must be considered when designing the program, determining consumption baselines, verifying results, penalties for non-compliance, and determination of market opening and closing times.

**Session 1C (11:25 am – 12:15 pm)**

***Program Design and Implementation – Case Study***

*Moderator: Ross Malme, Retx*

*Summary of NYPA's 2000 Peak Load Management Program*

Helle Maide, New York Power Authority, Stephen Carlson and Curt Puckett, RLW Analytics, Inc.

During the summer of 2000, NYPA invoked load control on four separate occasions ranging from three to six hours. This presentation will cover the 2000 impact results highlighting lessons learned during the program year, including specific actions being taken to improve customer feedback and verification of the customer's load reduction.

**Session 1D (11:25 am – 12:15 pm)**

***Economics of Customer Curtailment***

*Moderator: Francis Cummings, Xenergy, Inc.*

*The Rationale for Market-Based Customer Curtailment*

Miles Bidwell and Carl Pechman, Powereconomics, Inc.

Demand-responsive load management is a market-based form of customer curtailment. Unlike blunt tools, such as rolling-blackouts, market based customer curtailments provide system operators with a price-rationing tool that minimizes the costs of maintaining system reliability and security. This presentation will describe the rationale for paying load to curtail, from both the demand and supply side.

*Real Prices, Real Responses: Results from a New York Real Time Price Program*

Tom Michelman, Xenergy Inc.

Revised: March 9, 2001

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The greatest unknowns for new Price-Responsive Load Management (PRLM) initiatives are the quantity, elasticity, timing and duration of the response. Fortunately, the impacts of PRLM programs have been analyzed. This presentation will include some insight into the quality and quantity of response to various price signals, by summarizing the findings of an impact evaluation of a New York utility's mature (but pilot) retail real-time pricing program.

**Session 2A (3:00 – 3:50 pm)**

***Thermal Storage for Price-Responsive Load***

*Moderator: Melissa Piper, Niagara Mohawk*

***Real Time Pricing and Thermal Storage – Still Relevant After All These Years***

Scott Englander, Tabors Caramanis & Associates (TCA)

In this presentation, TCA will identify key technical and electricity market developments that have improved the feasibility of thermal storage and other price-responsive end-use options; estimate the value of optimized, price-responsive load; and characterize the market, technology, and contractual requirements still necessary to implement cost-effective price-responsive load opportunities in our competitive markets.

**Session 2B (3:00 – 3:50 pm)**

***Strategies for Residential Customers***

*Moderator: Timothy McClive, Niagara Mohawk*

***Electric Submetering, Dual System, Integrated Building Control System***

Herbert E. Hirschfeld, P.E.

Discussion of innovative technologies utilized to satisfy multi-family building requirements regarding electrical submetering and energy management retrofits, as experienced through implementation of the following NYSERDA projects: "Submetering in Multifamily Buildings", "Dual (Energy Management/Electrical Submetering) System" and "Integrated Building Control Module".

***LIPA Air Conditioning Direct Load Control***

Michael Marks, Applied Energy Group, Inc.

LIPA will be running a pilot program this summer involving two types of innovative technologies for air conditioner peak load control via both remote pager communications and wireless on-site communications. This will allow end-use load curtailment through both customer-initiated and utility-initiated (LIPA/KeySpan) actions. This presentation will describe the design of the program, the technology being used, the anticipated results and the evaluation methodology.

**Session 2C (3:00 – 3:50 pm)**

***What Are Retail Customers Looking For in PRL Programs?***

*Moderator: Stephen Wemple, ConEd Energy*

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[www.nyiso.com](http://www.nyiso.com)



[www.nyserdera.org](http://www.nyserdera.org)

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*Great Expectations vs. False Hope – Price-Responsive Load Programs Must be Designed From the End-User’s Perspective to be Successful*

James Brew, Brickfield, Burchette, Ritts & Stone, P.C.

This presentation will examine the historical basis for interruptible service discounts and the basic failings of those options from a customer, utility and system basis. It will explain why the potential for responsive energy usage among large, demand-metered customers has been largely untapped. The presentation will explore areas of potential peak reductions that could be tapped – almost immediately – if incentives designed to motivate customers, i.e., meet their needs and objectives, are established.

*Strategies and Needs for Implementing Demand Responsiveness for Retail Customers – Creating a Virtual Utility One Store at a Time*

Mark Breuker, Service Resources, Inc.

This presentation will discuss the strategies that Service Resources Inc. is proposing for our full-service retail customers. While many larger industrial customers have the ability to self-generate power in order to remove load from the grid, a retail store does not typically have this luxury. In particular, this paper will address the special needs of retail customers, how technology is enabling these customers to participate in demand response programs, and future needs which will allow them to participate at an even greater level.

**Session 2D (3:00 – 3:50 pm)**

***Tracking the Load - Metering and Information Systems***

*Moderator: Michael Mosher, Central Hudson Enterprises Corp.*

*Performance Metering in the Deregulated Environment*

Paul Golden, Power Measurement USA

In today’s deregulated environment the requirement to actively monitor for a myriad of electrical parameters, both historical and in real time, is crucial to the success of both energy suppliers and end users. Improving reliability, reducing cost and managing energy flow are cornerstones of preventative maintenance and power quality programs.

*On a Need-to-Know Basis: Why Information is Key to A Successful PRL Program*

Dan Garvey, Lodestar Corporation

This presentation will focus on the need for information management and how that information can be used by the ISO, LSEs and end use energy consumers. We will discuss how price signals to consumers can allow end use customers to lower costs. How will end use customers get this information and what will they do with it? We will discuss how price-responsive loads bidding into a demand market can influence the overall market-clearing price.

**Session 3A (3:55 – 4:45 pm)**

***Residential End-Use Technologies for PRL***

*Moderator: Peter Douglas, NYSERDA*

*Residential End-Use Technologies: The Market-Optimized Heat Pump Water Heater*

Karl Mayer, ECR International



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Heat pump water heaters have been around for decades. The WatterSaver heat pump water heater from ECR International (in partnership with DOE, NYSERDA and the Arthur D. Little Company) has been designed to overcome the technical and economic problems associated with earlier heat pump water heaters by using an integrated design that provides for simple drop-in replacement of an existing hot water heater in an efficient, affordable and reliable package.

*Wireless RF Thermostat in Residential Load Management*

Kurt Schultz, ENERNET Corporation

This paper explores the use of the T-9000 wireless RF thermostat in room a/c applications with a pager-based direct load control interface. The ENERNET battery-operated, wireless thermostat provides properly located precision control where none previously existed. The system allows quick, minimally intrusive installations; tapping heretofore improbable, yet significant, energy conservation opportunities plus providing a sophisticated platform from which to affect direct load control.

**Session 3B (3:55 – 4:45 pm)**

***Strategies for Institutional Customers***

*Moderator: Cara Lindell, Stonewater Software*

*Load Management Performance Contracting For Institutional Customers*

Barry Holt, Xenergy Inc.

Energy savings performance contracting represents one model for negotiating multi-party price-responsive load management deals. Load management contracts must allocate risks and profits from playing the power market between the customer, the performance contractor and the commodity supplier. This presentation will present the projected economics of a sample deal to highlight the barriers and risks associated with load management services as well as critical factors required for commercial success from the perspective of customers, ESCOs and their partners, vendors, distribution companies and the ISO.

*Transforming Data into Energy Cost Reductions: Strategies for Managing and Procuring Energy in a Deregulated Market*

Terry Sick, eBidenergy, Inc.

**Session 3C (3:55 – 4:45 pm)**

***PRL Program Design***

*Moderator: Aaron Breidenbaugh, Navigant Consulting, Inc.*

*Piloting Through New Territory: Planning Our Mistakes So We Can Learn From Them*

Miriam Goldberg, Xenergy Inc.

Price volatility in competitive electric markets has led to the rapid development and deployment of price-responsive load management programs in New York and other areas. In many places, program success is equated with having a program up and running that is capable of delivering a targeted level of load relief. In the long run, however, a successful program must attract participants and be cost-effective to all the parties who have a stake in it. Drawing on experience with East Coast utilities operating in New York and elsewhere, this presentation will describe how to design data gathering and analysis from pilot to rapid-start full-scale programs to provide a basis for more accurate risk assessment and better decision-making for future programs.



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*Economics of Price Responsive Load*

Peter Blom and Larry Zanis, ConEd Solutions

This presentation discusses an analysis of NYISO's day-ahead and real-time LBMP values to quantify potential benefits of price responsive load strategies. The final cost-benefit results do show a significant opportunity for load to participate in the NYISO markets, but also point out some of the challenges and barriers (both economic and regulatory) that may hinder meaningful participation.

**Session 3D (3:55 – 4:45 pm)**

***Panel Presentation – Making PRL Work***

*Making Price-Responsive Load Management Markets Function – From Different Points of View*

Chair: Ruben Brown, The E-Cubed Company, LLC

This panel will address how the summer price-responsive load management markets in 2001 – 2003 may be able to function from the viewpoints of various market participants: developer, user, clean technology provider, information technology provider, marketers and generators.

The presentation will address the opportunities (as well as the hazards/risks) of price-responsive load activity for entities that want to try this market out. The panel will discuss opportunities for streamlining technological and market infrastructure and the potential for a successfully implemented NY program design to help reduce the pressures of price controls by bringing demand response to the competitive arena.

