

Power Trends

New York's Success & Unfinished Business

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The Drake Hotel

New York City

**I. What is the New York
Independent System Operator?**

The NYISO's Primary Purpose(s)

- **Maintaining reliability of system.**
- **Fostering and maintaining to the maximum extent possible, competitive wholesale markets for electricity.**

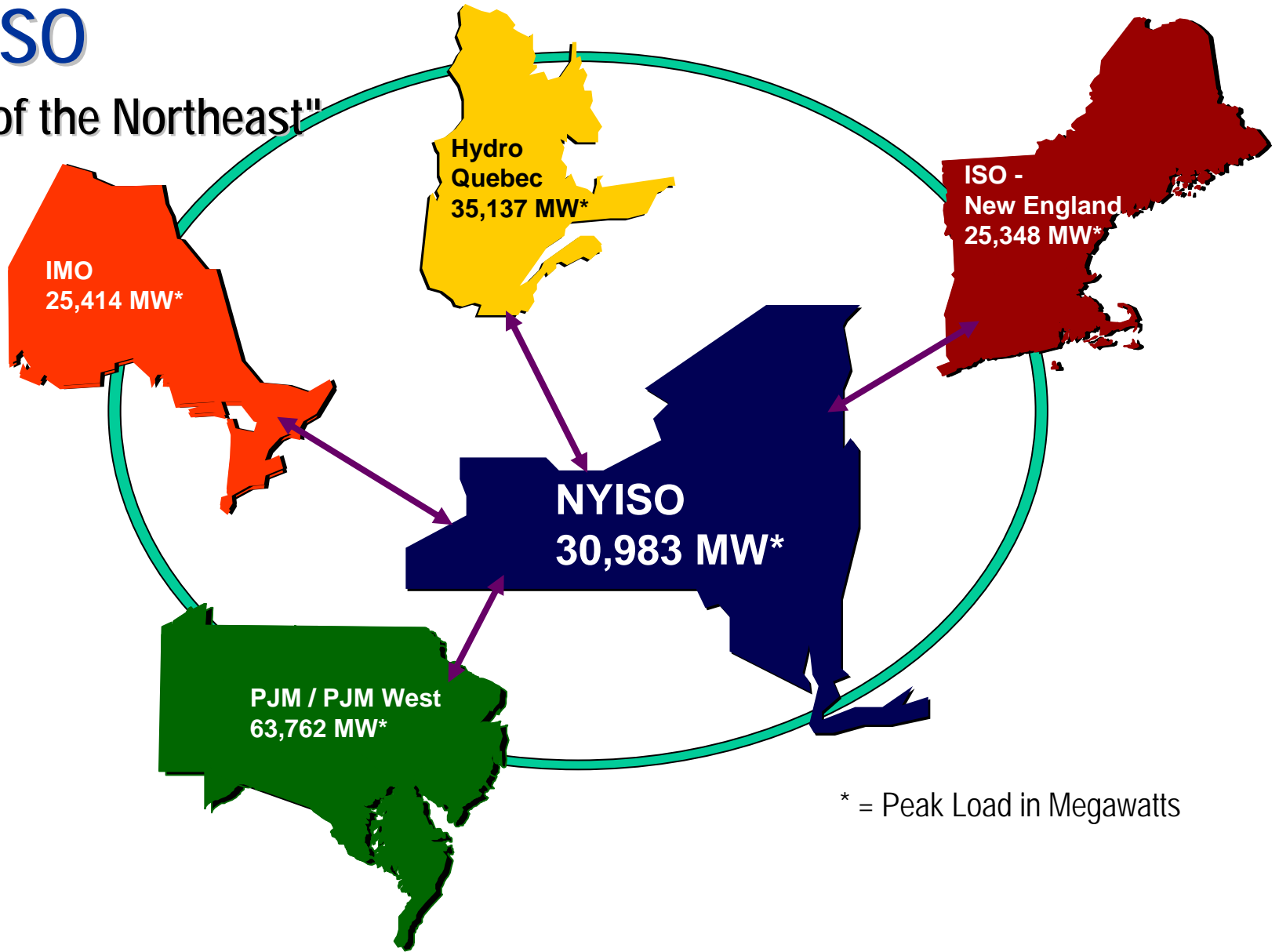


The NYISO - Background

- NYISO formed December 1, 1999.
- Highly divested and complex marketplace featuring co-optimized market clearing systems.
- 91 percent utility generation divestiture rate makes it most divested market in nation.
- NYISO market volume nearly 7 billion last year and \$23.1 billion since inception.
- Unique challenge: New York City is world's biggest and most complex load pocket. World capitals of finance and communications located within.
- Unique geography makes it the "Hub of the Northeast."

NYISO

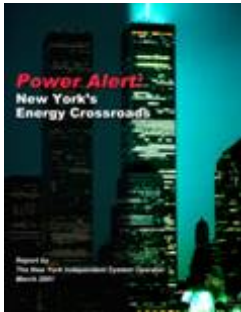
"Hub of the Northeast"



* = Peak Load in Megawatts

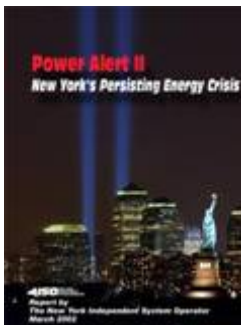
II. Background for Power Trends

Power Alert to Power Trends



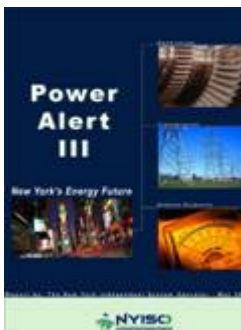
- **Power Alert I: New York's Energy Crossroads,**

- ✓ *It outlined a looming energy problem for New York State and particularly New York City; and proposed realistic solutions. This report concluded that significant additional generating capacity would enhance reliability, put downward pressure on wholesale electricity prices and benefit the environment.*



- **Power Alert II: Following the 9/11 tragedy, NYISO revisited Power Alert I, with consideration given to infrastructure damage and further potential down-turn in New York's economy created by the terrorist attacks.**

- ✓ *Power Alert II: New York's Persisting Energy Crisis, was published in March 2002 with the major finding that, although some power plants had finally been approved, New York continued to be in serious need of new electric generating plants.*



- **Power Alert III takes a more comprehensive view breaking down the future of New York's bulk power system into three components we call the three legs of the energy system stool and offers recommendations for the future:**

- 1) *supply,*
- 2) *transmission and*
- 3) *demand response and conservation.*

III. This Year's Report

Power Trends

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Success achieved since Power Alert I:

- ✓ *3,000 MW built*
- ✓ *1,500 MW of demand resources we can count on during days of peak demand*
- ✓ *330 MW new transmission*
 - Cross Sound Cable
 - Merchant Transmission Proposals
 - Planning process underway

Power Trends

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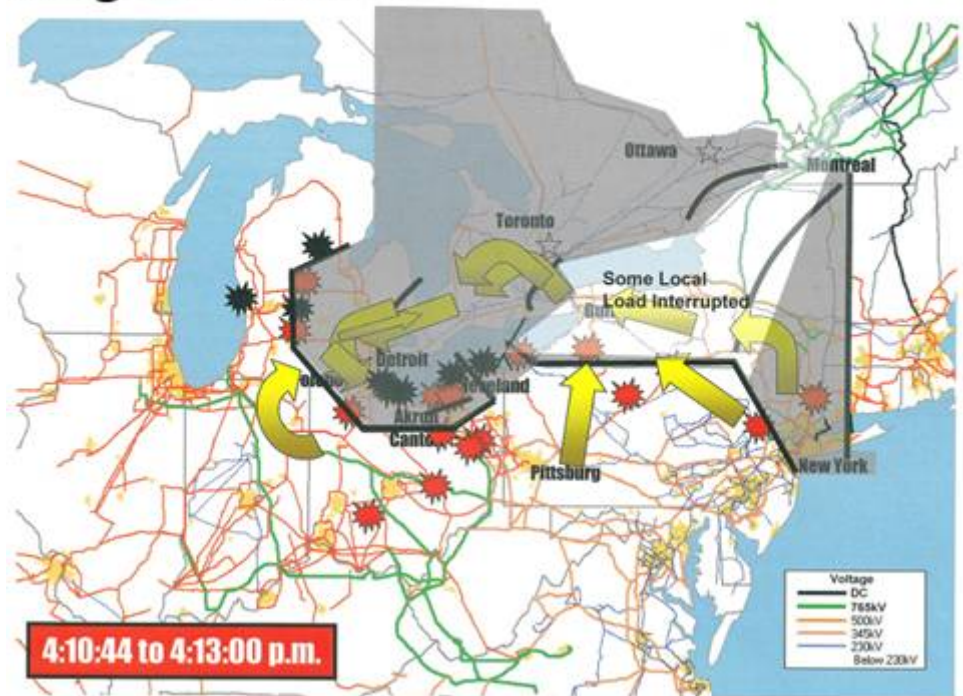
BUT New York still has unfinished business in these categories:

- ✓ *Blackout of 2003*
- ✓ *Generation*
- ✓ *Transmission*
- ✓ *Planning*
- ✓ *Markets*

Blackout of 2003

- International Task Force and NERC Recommendations – we agree
- Final report from NYISO June 2004
- Summer '04 Short-term Actions

August 14, 2003



#1 Unfinished Business

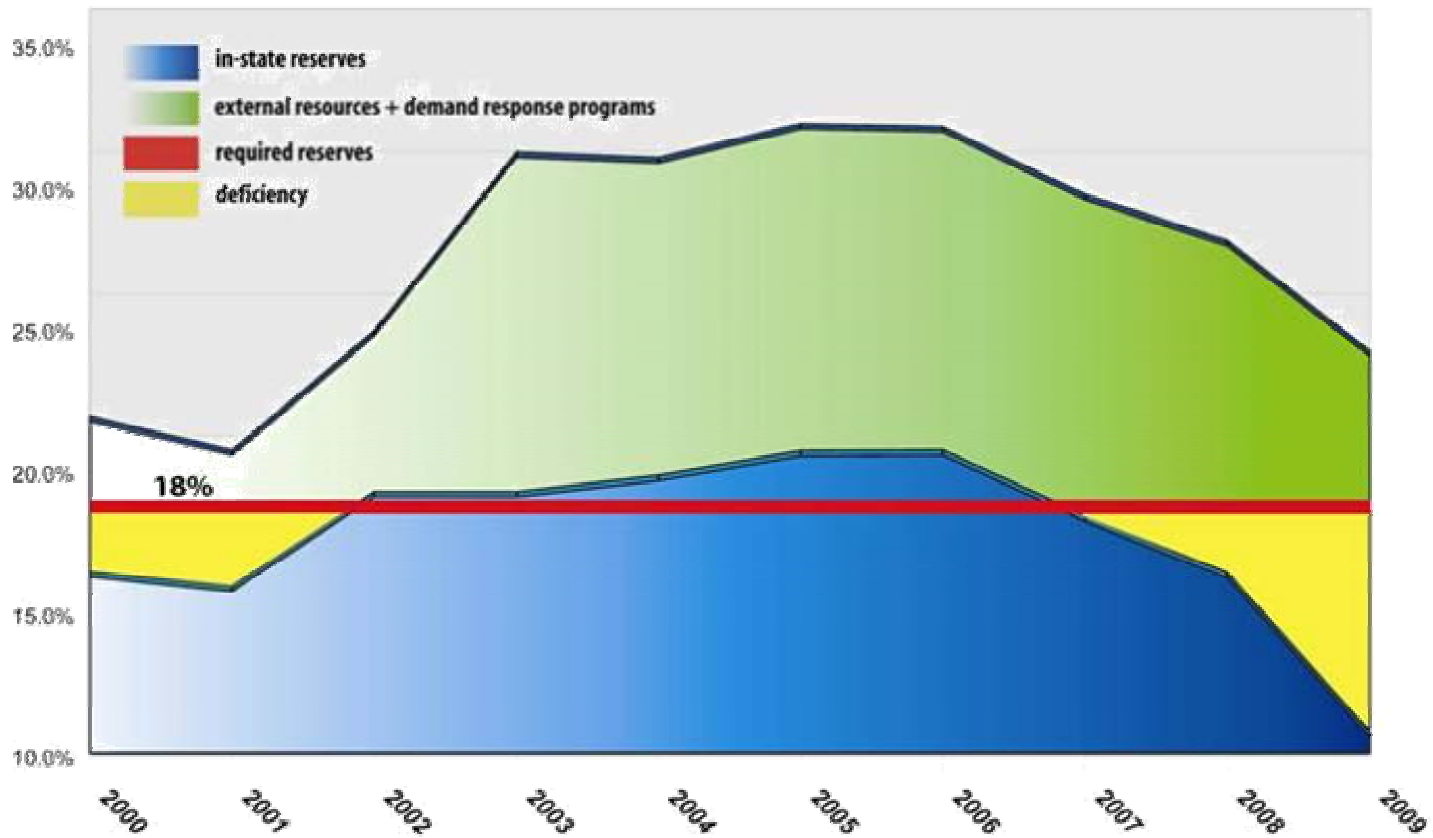
**National Mandatory
Reliability Standards!!!**

Generation

- Success
 - ✓ *More than 3,000 MW been built since our original recommendation of 5,000 MW*
 - ✓ *2,038 MW is under construction*
 - ✓ *3,120 MW with Article X approval*

Generation

New York State Reserve Margin



Note: Deficiency (in yellow) considers only in-state resources.

Generation

- This Summer in New York –

NYS Summer 2004 In-State System Load and Generating Capacity *					
Region	Requirement (Load + Reserve or Locational Requirement)	Generation Available	Margin (as of April 2004)	New Generation & SCRs Summer 2004	Projected Margin Summer 2004
NY State	37,524	37,914	+390	929	+1,319
NY City	8,920	9,061	+141	125	+ 266
LI	4,607	4,983	+ 83	107	+ 172

**In-state supplies only as of 2004. Does not include out-of-state firm imports or contracts. Approximately 2,500 MW of capacity from out-of-state resources has been available in the past. SCRs (a Demand Response Program) also assist in meeting demand in NY.*

NYC and Long Island Summer 2009 in-State System Load & Generating Capacity*			
Region	Requirement (Load + Reserve or Locational Requirement)	Generation Available	Projected Margin Summer 2009
NY City	9,580	9,300	-280
LI	5,446	5,170	-276

**Generation available does not include SCRs*

Generation

- **Upstate New York has sufficient supply well into the future**
- **NYC and Long Island require additional generation on an ongoing basis**
 - ✓ *Upstate demand is flat*
 - ✓ *NYC and Long Island demand continues to grow*

Generation

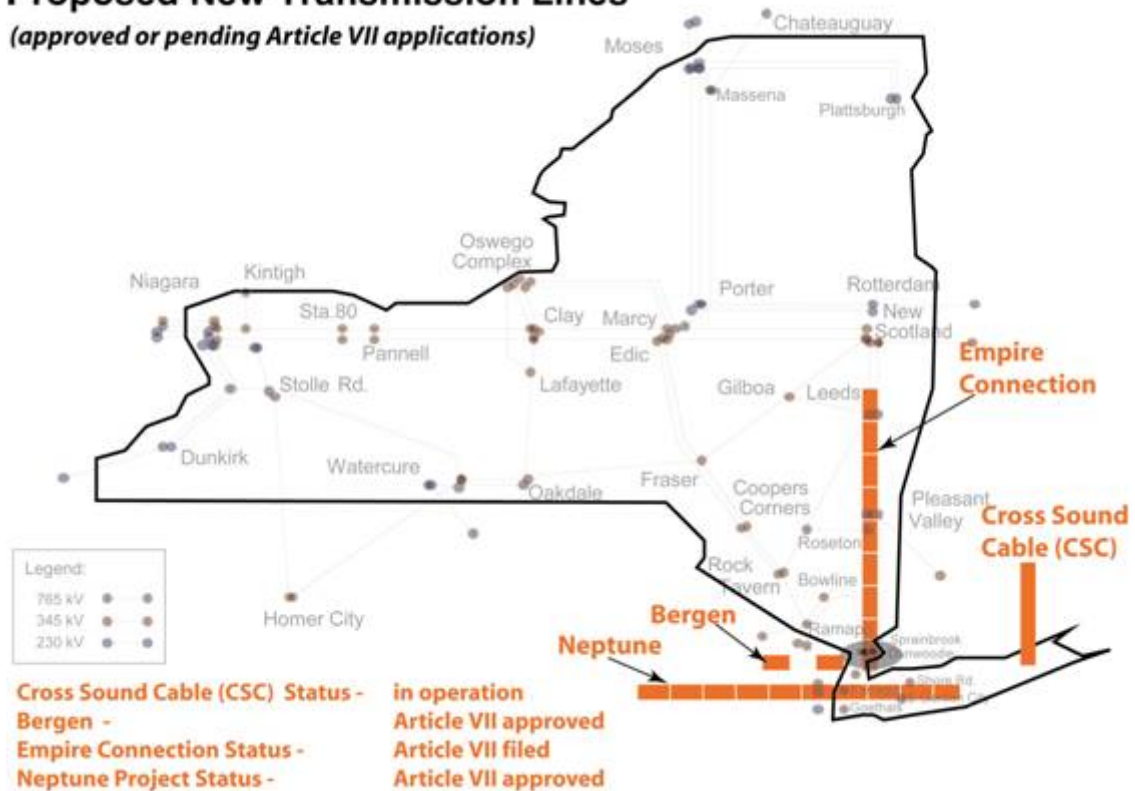
- **Unfinished Business**

- ✓ *The New York law governing power plant siting has lapsed and the State Legislature should reenact it as soon as possible;*
- ✓ *National and international conditions in energy markets have made energy investments unattractive to investors, and market innovation will be required to help rectify the problem; and*
- ✓ *In the near term, contracts or other mechanisms to provide capacity payments will be required to enable developers to attract investment, and load serving entities will need reasonable regulatory assurance of rate recovery if they are to enter into such contracts.*

Transmission

- Very limited success

Proposed New Transmission Lines
(approved or pending Article VII applications)



Transmission

- **Unfinished Business**

- ✓ *The NYISO Comprehensive Planning Process must be agreed upon and implemented this year and must contain clear responsibilities for appropriate transmission upgrades;*
- ✓ *Federal and state regulators, together, must ensure that a process exists for appropriate return on investment of any regulated system upgrades; and*
- ✓ *A fair and legal means must be provided for merchant transmission developers to exercise eminent domain powers when appropriate.*

Regional Planning

- **Success**

- ✓ *Northeast Planning Coordination Protocol Agreement*
- ✓ *Our process has been established with our Market Participants and well underway (ESPWG)*
- ✓ *Initial report out June 2004*

- **Unfinished Business**

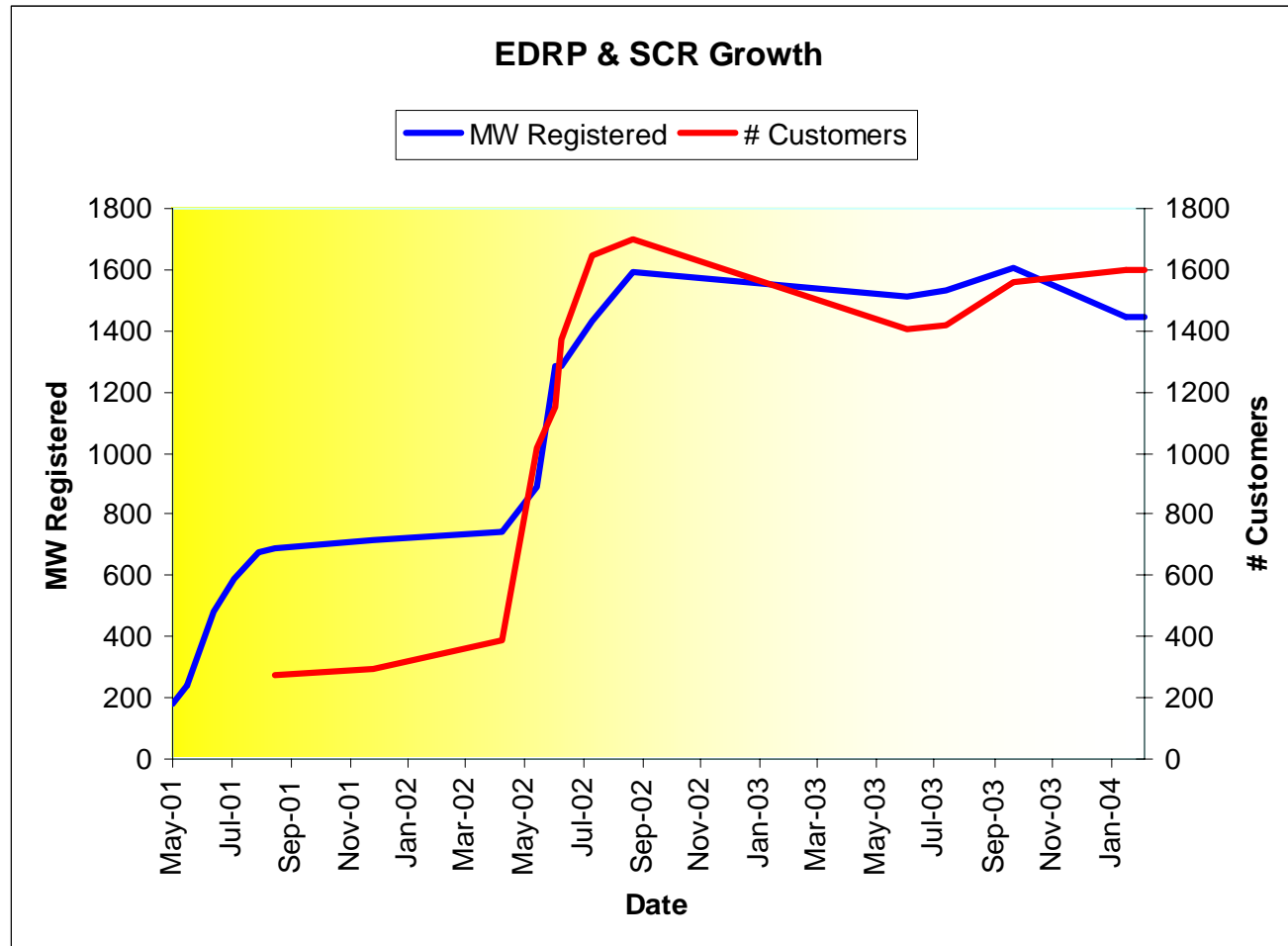
- ✓ *Need to file with FERC by 3rd quarter 2004*
- ✓ *Need to implement*
- ✓ *Need to develop the economic planning process*

Environmental Stewardship

- **Success**

- ✓ *Demand Response programs – acknowledged leaders*
- ✓ *Partnership with NYSERDA programs has vaulted to 1,500 MW*

Environmental Stewardship *Demand Response*



Environmental Stewardship

- **Unfinished Business**

- ✓ *Renewable Portfolio Standard Proceeding*
- ✓ *Phase II of NYISO / NYSERDA study on how to incorporate renewables into the markets*

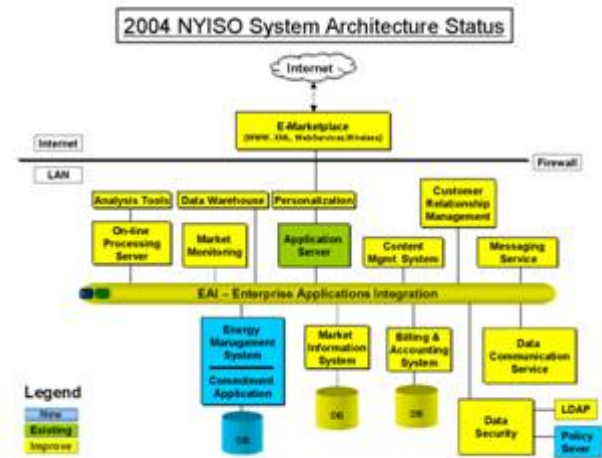
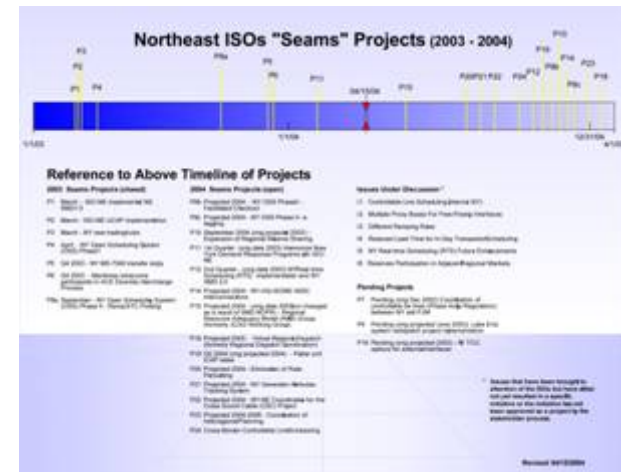
Markets

- **Success**

- ✓ *Seams Resolutions*
- ✓ *Rate Pancaking / eliminating export fees with help of our neighboring ISO-NE; NYPSC and FERC*
- ✓ *Convergence of our Day-ahead and Real-time markets*

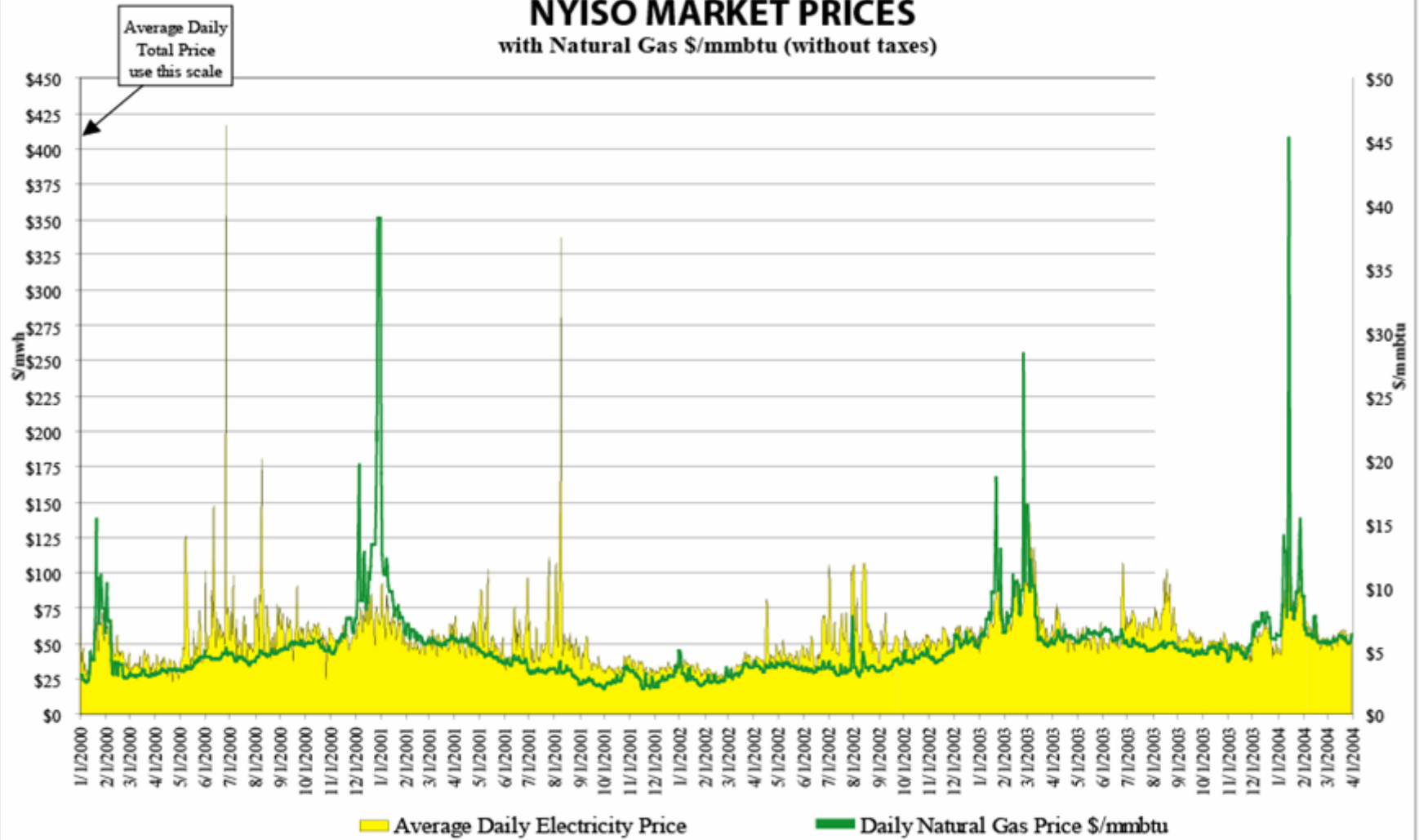
- **Unfinished Business**

- ✓ *SMD 2*
- ✓ *Virtual Regional Dispatch*

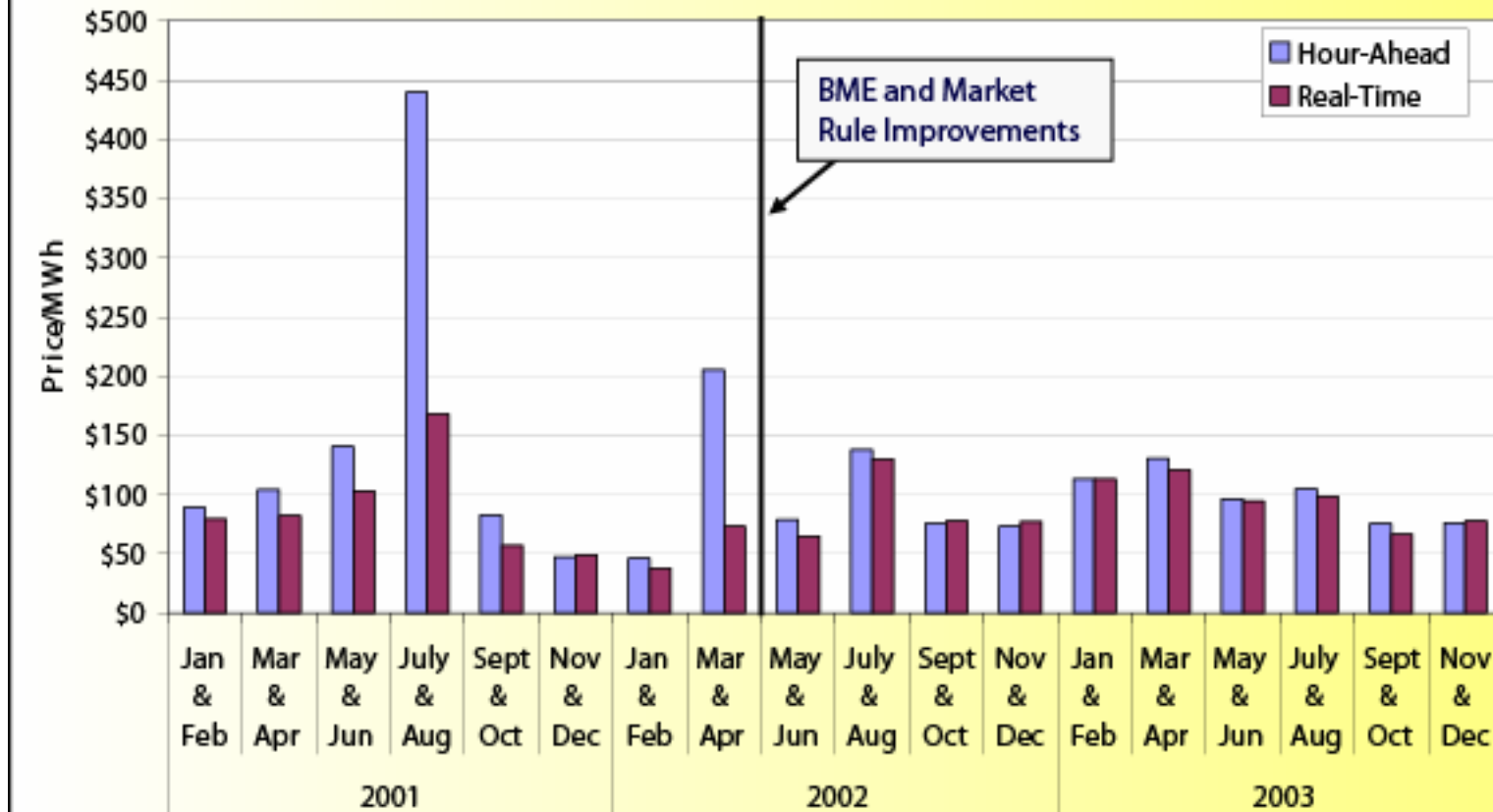


NYISO MARKET PRICES

with Natural Gas \$/mmbtu (without taxes)



Average Hour-Ahead and Real-Time Energy Prices East New York – Highest Peak Load Hours



Dr. David Patton, Independent Market Advisor, State of the Market Report 2003. Dr. Patton is an independent advisor to the NYISO Board on market matters.

Big 4 Recommendations

1. Blackout of 2003 –
Mandatory Reliability Rules
2. Implement Blackout
Recommendations
3. Renewal of Article X
4. Comprehensive Planning Process

For further information please visit

www.nyiso.com

Big 4 Recommendations

1. The Blackout of 2003 highlighted problems that can occur when just one area of an interconnected electric system malfunctions because of a failure to follow reliability standards.

Big 4 Recommendations *(continued)*

2. Of the many reports issued since the Blackout, none indicated New York operators could have taken preventative steps. Continued evaluation and enhancement of New York's grid is NYISO's personal piece of unfinished business.

Big 4 Recommendations *(continued)*

3. The state's Article X power plant siting law, which expired December 31, 2002, provided a streamlined process to review, approve and locate new generation facilities. While demand has flattened in Upstate, NYC and Long Island remain areas where demand is outpacing the construction of new supply sources. We urge the State Legislature to help recognize New York's unfinished business and reinstate Article X.

Big 4 Recommendations *(continued)*

4. Last, the NYISO must continue to aggressively achieve its two primary functions – run fair and equitable electric markets and ensure a safe and reliable electric system for New Yorkers – by working to institute a Comprehensive Planning Process. By the end of 2004, the NYISO will have in place a process to identify and resolve the major energy issues affecting New York today and in the future, such as resource adequacy, transmission adequacy and congestion costs. It remains our charge and mission to ensure that New York continues to enjoy an abundant reliable supply of electricity.