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# *Going Long – Capacity Markets in Action*

**Presentation by Mary Lynch,  
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to Harvard Electricity Policy Group:**

**Forty-Eighth Plenary Session**

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## *Discussion Agenda- Key Issues*

- The Mandate to Go Long – Resource Adequacy Requirements (“RAR”) – Reliability Targets
- The Problem with Energy Only Markets
- Similarities and Differences in Capacity Market Models
- The Long Term Contract Conundrum - The Regulatory Threat
- Impact on Wholesale and Retail Markets
- Some Market Results

## *Goals of RAR/capacity markets – The mandate to go long – at a crossroad?*

- Ensure that necessary grid resources are committed to meet the forecasted reliability requirements – planning reserve margins in excess of operating reserves
- Provide the market structures capable of supporting investment in existing and new resources.
- The Big Question: Can markets support merchant investment?

## *Why RAR/Capacity Markets Are Necessary –*

### *The problem with energy only markets*

- Price signals should incent capital expenditure on existing resources and the investment in new facilities when and where necessary
- Mitigation (Bid Caps, RMR, Out-of-Merit dispatch) blunts the energy and ancillary services price signal that would otherwise occur during periods of scarcity
- The separate RAR product provides the mechanism to support investors' expectation of reasonable returns on investment (the “missing money”)
- Provides a market structure that supports sustainable merchant generation investment

# *RAR and Capacity Markets - What the market models have in common*

- Planning reserve margins that exceed operating reserves
- Differentiation for load pockets
- Mechanism to provide new entry price signals
- Procedures to qualify resources
- Performance incentives and/or obligations
- Market power mitigation measures

## *RAR and Capacity Markets - Where they differ*

- Resource commitment verification
  - Several years in advance of delivery or “real time”
- Role of backstop procurement
  - “On-behalf-of” procurement
  - “Out-of-market” costs
- Price discovery mechanism
  - Demand curve clearing or bid clearing

## *The Long Term Contract Conundrum – Supporting Investment*

- What type of commitment is necessary to induce new investment?
  - Long Term (multi-year) regulatory guarantee, including rate-base and/or long term utility- backed contracts?
    - **Or**
  - Stable Market Structures that provides forward prices that allow hedging of risks?

## *Regulatory guarantee contracts - The Market Implications*

- Long term tolling agreements and/or rate-base (both backed by regulatory guarantees) will further impede market price signals in centrally dispatched markets
- Create a cycle of needing more regulatory guarantees to ensure new investment
- Undermine and preclude the possibility of merchant investment
- Limit the role of market intermediaries who provide portfolio and risk management services



## *Regulatory guarantee contracts - The Market Implications (cont'd)*

- Efforts to improve energy price signals to incent demand response will not achieve their full potential
- Full life cycle risks, including fuel price risks and operating risks will be treated as cost pass throughs; “central planning” as opposed to active risk management
- Command and control approach to investment will reduce competitive pressures for increased efficiencies, technological innovation needed for environmental improvements, discourage new entry, and impose investment risks on consumers

## *Market Stability and Ability to Hedge - The Market Implications*

- The long-term utility contract is replaced by long term market stability
- Portfolio risk management emerges to optimize products and services – varying terms and conditions
- Forward risk management eliminates after-the-fact cost recovery exercises, stranded costs
- New investments are deployed when they provide better service offerings
- Creates robust wholesale competition; provides framework for retail competition.

# *Achieving Stable Markets*

## *The implications for capacity market design*

- Commitment to market based investment must be real
- Resist the urge to mandate forward compliance demonstrations
- Limit (eliminate) backstop procurement (after all, backstop looks a lot like a utility-backed contract)
- Make continuous improvements in energy and ancillary service pricing – key for increased demand response/ reduce the capacity component value
- Link capacity price signal to energy and ancillary services

## *The New York Approach –*

### *Green = differences from other NE models*

- Capacity obligation (peak load plus planning reserve margin) announced one year forward
- Demand curve pricing established for each location (NYC, LI, ROS); adjusted every three years.
- Commitments verified each month of delivery period
- Resources not committed through bilaterals may participate on month-to-month basis
- Implemented in 2003

## *Specific NY market results:*

- Excess above minimum capacity requirement

	<b>Summer</b>	<b>Winter</b>
<b>2003</b>	5.5%	8.4%
<b>2004- 2005</b>	9.6%	
<b>2006</b>	10.3%	9.6%

- Level of imported capacity (summer)

	<b>Imports</b>	<b>Exports</b>
<b>2003</b>	1,650 MW	0
<b>2004- 2006</b>	2,755 MW (max)	0
<b>2007</b>	2,755 MW (max)	600 MW

## *Specific NY market results:*

- Generation in interconnect queue has increased.
  - 24 new fossil generation (8000+ MW)
  - 54 wind project (6000+ MW)
  - 4 nuclear repowering project (360 MW)
  - 1 coal project (536 MW)
  - 2 Hydro upgrades (160 MW)
- 16 transmission projects
- Demand response participation in markets has increased to over 1000 MW in Summer of 2007, 12.5% increase from prior year.
- Installed reserve margin has been reduced from 18% to 16.5% due to improved reliability of existing units.

## *Specific PJM market results:*

- 1300 MW of new resources cleared the auction, including upgrades of existing facilities
- 536 MW of which were demand response resources.
- 2300 MW of postponed retirements



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**Questions?**