Coordinated Transaction Scheduling (CTS) between NYISO & PJM - Proposal Kickoff

Joint NYISO-PJM Meeting
November 28, 2012
Marriott Hotel - Albany
Albany, NY

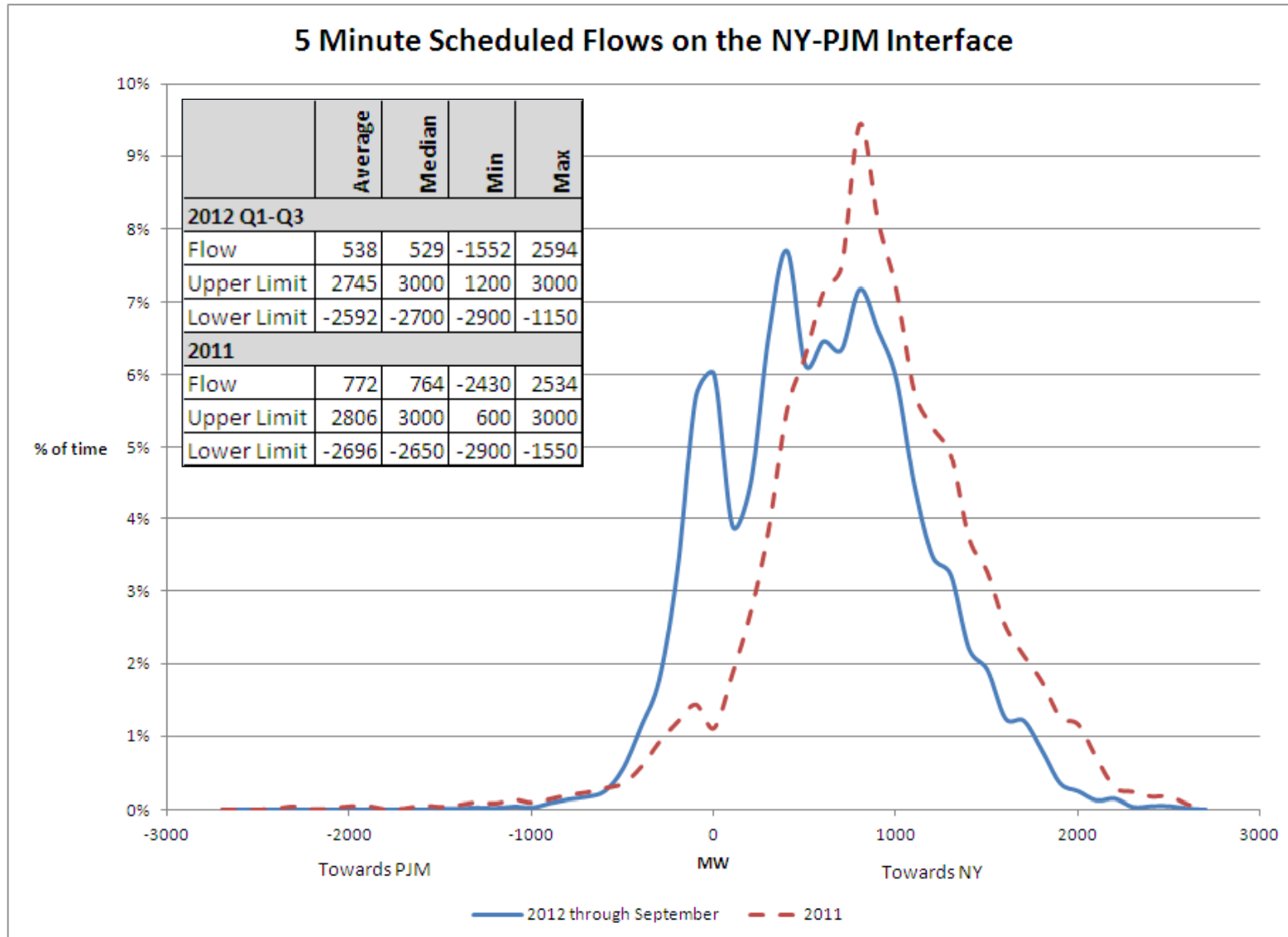# CTS Concept (Background)

- The objective of CTS is to improve interchange scheduling efficiency.

- This presentation presents a market design concept for CTS between the PJM and NYISO markets and kicks off the joint work of developing the market rules in 2013.

- The proposal is to add options for transactions: Market Participants would have the option to use either the existing economic evaluation process or CTS. <u>Both scheduling mechanisms could coexist</u>.
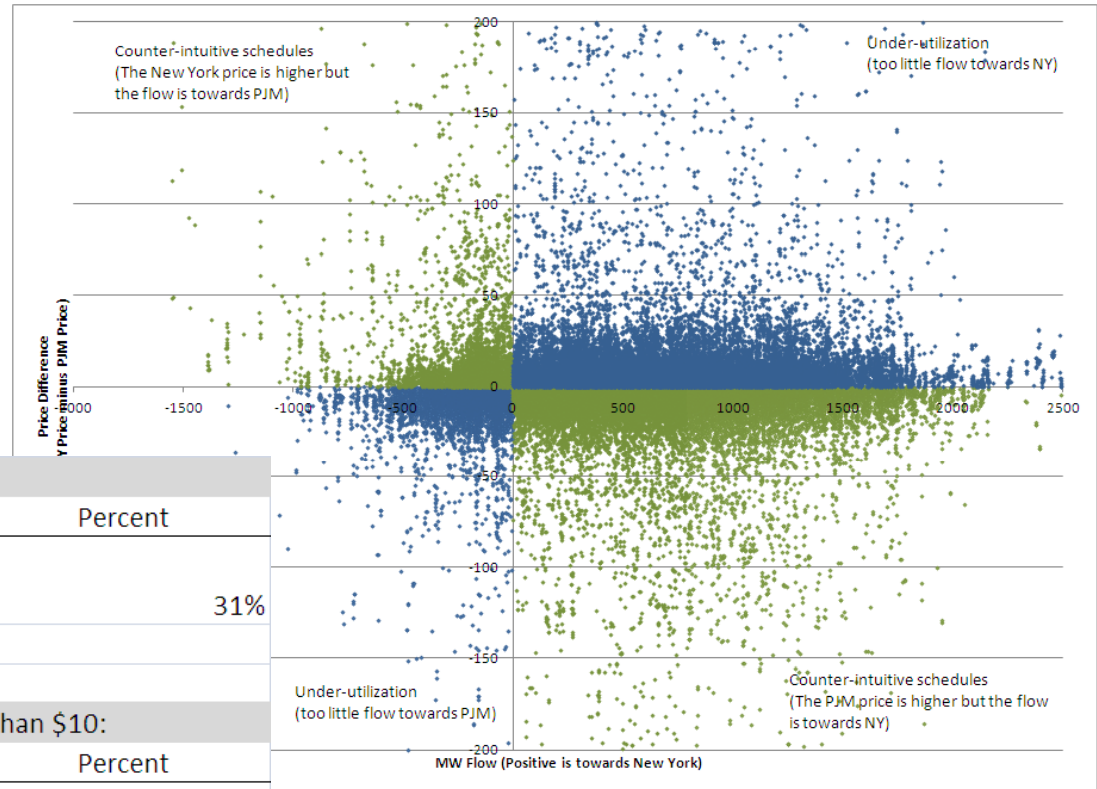
- The plan is to implement in 2014.

BACKGROUND

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Flows between NY and PJM

5 Minute Scheduled Flows on the NY-PJM Interface

	Average	Median	Min	Max
2012 Q1-Q3				
Flow	538	529	-1552	2594
Upper Limit	2745	3000	1200	3000
Lower Limit	-2592	-2700	-2900	-1150
2011				
Flow	772	764	-2430	2534
Upper Limit	2806	3000	600	3000
Lower Limit	-2696	-2650	-2900	-1550

Opportunity

The percentage of inefficient schedules is generally around 31%

2012 Q1-Q3

	Number of Intervals	Percent
When the price difference is greater than $10	23995	31%
All Intervals	77008	

Looking only at intervals when the price difference is great than $10:

	Number of Intervals	Percent
Positive Price difference	13196	55%
Negative Price difference	10799	45%
Total	23995	
Flow towards NY (positive)	19363	81%
Flow towards PJM (negative)	4632	19%
Total	23995	
Counter Intuitive	11968	50%
Under-Utilization	12027	50%
Total	23995	

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Opportunity

- ◆ **Provide additional scheduling options for market participants in addition to options available today**

- ◆ **Increase price transparency**
    - ▪ *The forward prices used in the evaluation are currently available from the NYISO and would now be made available from PJM.*

- ◆ **Increase market efficiency**
    - ▪ *Scheduling transactions involves more than just the availability of the interface but providing an additional scheduling option will help marketers arbitrage the price differences between the two control areas.*
    - ▪ *There are significant opportunities for increased efficiency: 31% of the time there is more than a $10 price difference between NY and PJM.*
    - ▪ *There are efficiency gains to be had by stopping "counter-intuitive" flows (flows that go from the high priced control area to the low priced control area).*
    - ▪ *Even when the flows are in the right direction there is usually space remaining on the interface.*

PROPOSAL

Supply Curve Development

- ◆ **We are considering a simplified model for CTS**
  - ▪ *Use the PJM proxy bus process and resulting real-time and look-ahead prices.*
    - **The economic evaluation would schedule CTS bids/offers that would be in the money given the existing/projected prices at the interface.**
    - **In practice, that means that each CTS bid/offer identifies the price difference above which the transaction is willing to flow.**
    - **This bid/offer will be converted into an ordinary economic offer (by adding/subtracting the CTS bid/offer and the current proxy bus price) for consideration in the current economic scheduling software along with other economically offered transactions.**
      - The proposal is to have the option for Market Participants to use either their existing economic evaluation process or CTS with bids/offers for 15 minute blocks. In this case both could coexist.

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CTS Concept

- **We will have to decide what features we want. The next slides cover the current proposal and some of the main decision points for CTS between NYISO and PJM**
  - *Bidding & Scheduling mechanisms and timelines*
  - *Elimination of charges*
  - *Settlement rules and intervals*
  - *Benefits evaluation*
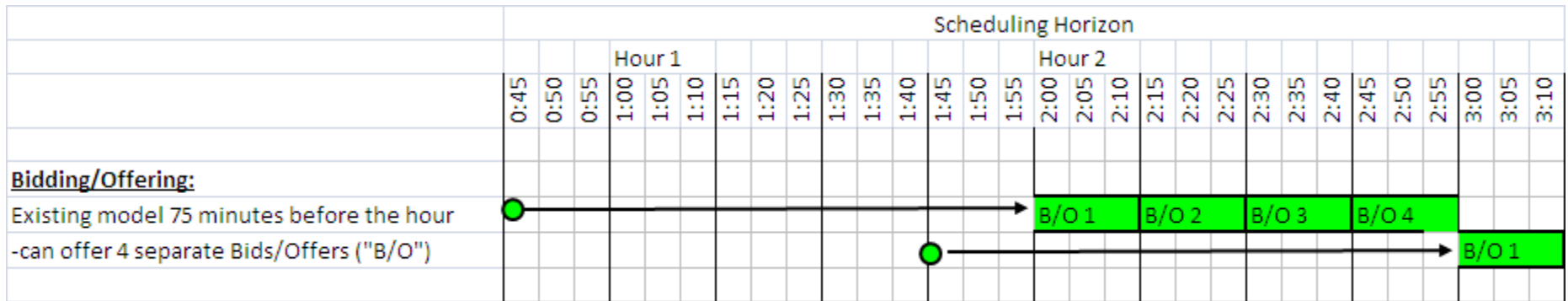 - *Proposed Timeline & Next Steps*

Bidding

- **Market Participants provide CTS bids/offers**
- **There is a single bid and coordination (check-out) happens before the economic evaluation.**
  - *Minimal changes from the current process.*
  - *Minimizes the transactions that fail after scheduling.*
  - *Speeds-up the time between the economic evaluation and when the transactions flow.*
- **Proposed design:**
  - *Bids/offers would continue to be provided hourly*
  - *New York would maintain its existing bid window (75 minutes before the market hour)*
  - *Market Participants will provide different bids/offers ($/MWh & MW) for each <u>quarter hour</u>.*

Bidding Time Line

		Scheduling Horizon																												
			Hour 1													Hour 2															
		0:45	0:50	0:55	1:00	1:05	1:10	1:15	1:20	1:25	1:30	1:35	1:40	1:45	1:50	1:55	2:00	2:05	2:10	2:15	2:20	2:25	2:30	2:35	2:40	2:45	2:50	2:55	3:00	3:05	3:10
Bidding/Offering:																															
Existing model 75 minutes before the hour		●															B/O 1		B/O 2		B/O 3		B/O 4								
-can offer 4 separate Bids/Offers ("B/O")														●															B/O 1		

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Scheduling

- ### Real Time scheduling determination.
    - *Looking to maintain NYISO's economic schedule market design & potentially leverage existing NYISO software capabilities and look ahead features.*
    - *Looking to maintain PJM's market evaluation and minimize any build out the software.*

- ### No changes expected to Day Ahead Scheduling
    - *As the Real Time market outcomes change we expect existing/proposed arbitrage mechanisms to be effective in arbitraging the Day Ahead and Real Time markets.*

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Scheduling Process

- **Proposing to set schedules every 15 minutes for the period of time 30 to 45 minutes out from when the system information is gathered by the dispatch software ("initialization").**
  - *This is referred to as "First Time Step"*
  - *15minute scheduling with PJM currently sets schedules 45 to 60 minutes from initialization("Second Time Step").*
- **Implications**
  - *Requires a pre-checkout of schedules and the pre-determination of scheduling limits because there is minimal time after the schedule determination to adjust results.*
    - **It also provides the greatest market efficiencies due to reduced forecast error.**
  - *We expect to maintain hourly scheduling for wheels only.*

Scheduling Timeline
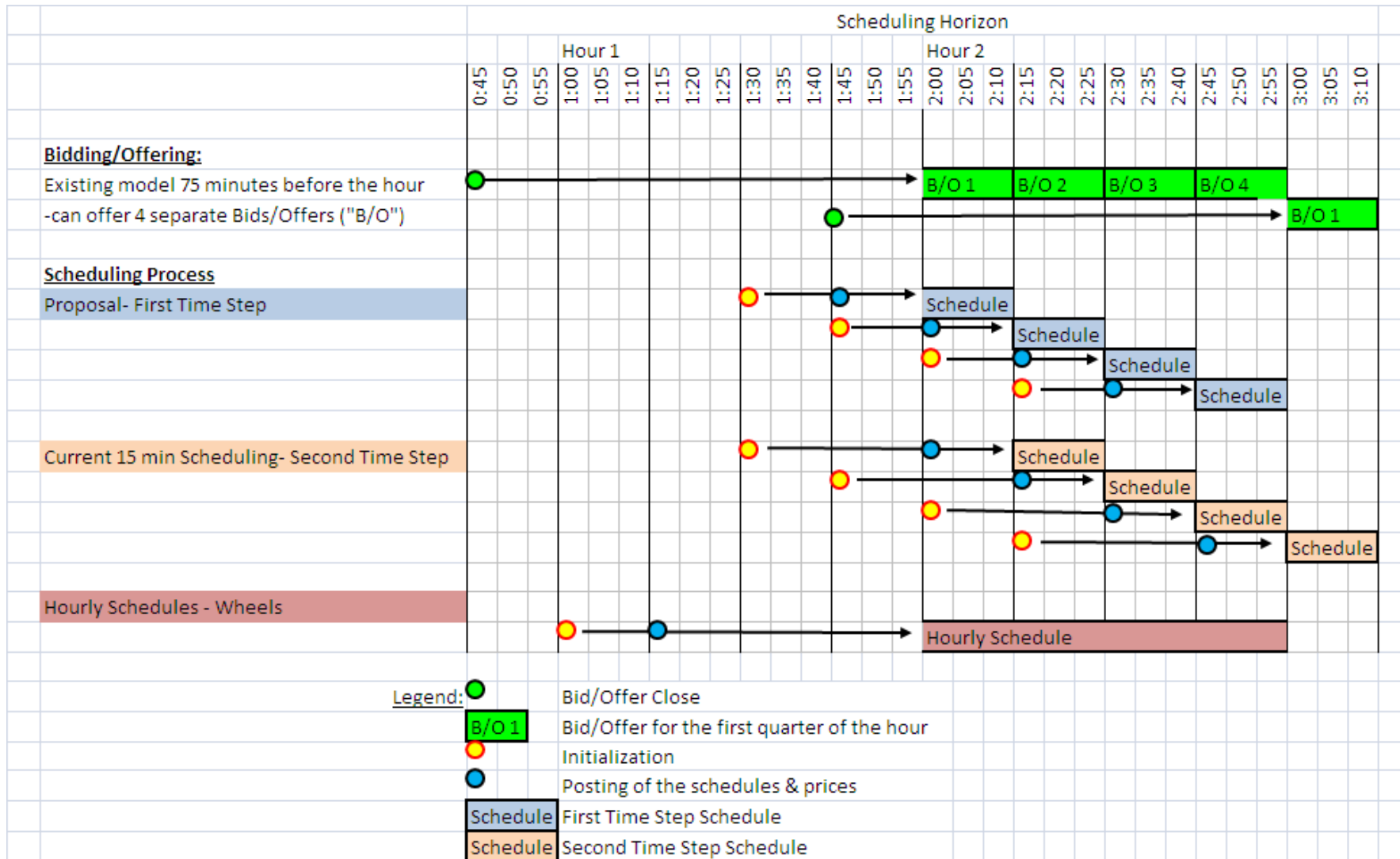
Elimination of Charges

- **There is the possibility to pursue the Elimination of Charges on both sides if there is support in both PJM and NYISO.**
    - *Fees (ex: NYISO's Rate Schedule 1)*
    - *Uplift Allocations (ex: NYISO Residuals/PJM Balancing Operating Reserves)*
    - *Transmission Service Charges*

- **Another option is to address these issues at a later time.**

- **We are seeking feedback from stakeholders on this.**

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Settlement

- **Both ISOs should settle over the same periods.**
  - *The price signal and dispatch instructions need to be aligned to prevent gaming.*
- **Settlement timing**
  - *NYISO performs 5 minute settlement*
  - *PJM is currently evaluating the feasibility of adjusting settlement timing differences for these transactions*
- **Do other rules need to be changed?**
  - *Transaction scheduling practices/rules?*
  - *Proxy bus price formation?*
  - *Pricing for Scheduled Lines?*

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Proposed Timeline and Next Steps

- **Proposed Implementation Timeline**
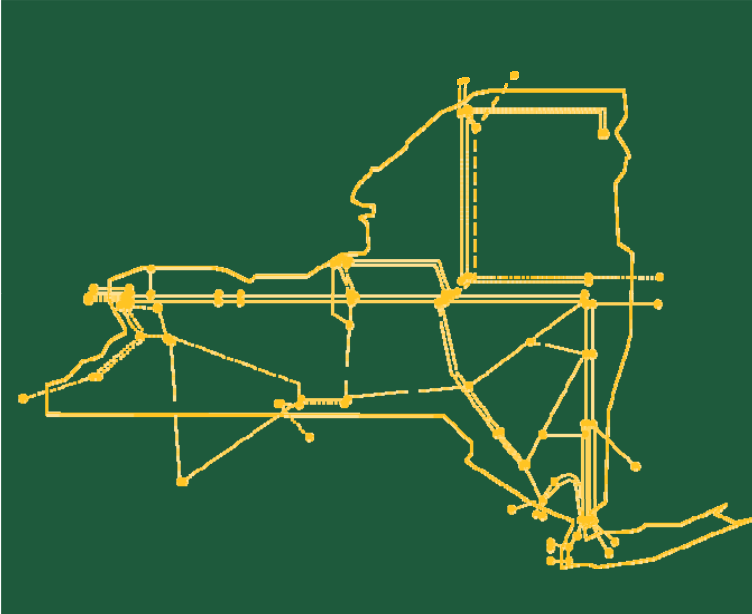 - *EOY-2012:   Introduce to Stakeholders*
  - *Mid-2013:   Market Design Approved*
  - *2014:   Implement*

- **Next Steps**
  - *Joint stakeholder meetings through the first half of 2013.*
    - **Considering having meetings every 2 months.**

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