

Market Design Concepts to Prepare for Significant Renewable Generation: More Frequent Transaction Scheduling

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MIWG

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NYS CLEAN ENERGY STANDARD GOALS



	Carbon Pricing in the Wholesale Markets	Market Design Concepts to Prepare for Significant Renewable Generation
Forum	Integrating Public Policy Task Force (IPPTF)	Market Issues Working Group (MIWG)
Led by	NYISO + NY DPS + NYSERDA	NYISO
Objective	To further explore options to incorporate the cost of carbon dioxide into wholesale energy markets with the goal of contributing to achieving New York State's public policies, while providing the greatest benefits at the least cost to consumers and appropriate price signals to incentivize investment and maintain grid reliability.	To propose, analyze and develop new energy and capacity market products and/or rule changes that would incent the participation of resources that can enhance the availability, flexibility, predictability, and dispatchability of the NY Power System.
2018 Deliverables	Draft proposal and supporting rationale for how carbon could be priced in NY's wholesale electricity markets.	<ol style="list-style-type: none"> 1. Market Design Concept Proposals for viable near-term products and rule enhancements. 2. 3-5 year vision for market design.



MASTER PLAN - Q2 2018

Agenda

- Background
- Benefits of More Frequent Transaction Scheduling
- Summary of External Transaction Scheduling with Neighboring Control Areas
- ISO-RT0 Interest in More Frequent Transaction Scheduling
- Next Steps

Background

- **The NYISO conducted a preliminary review of the market design concepts proposed in the Market Assessment with 50% Renewables report.**
- **Concepts were evaluated according to the following criteria:**
 - Whether the product or rule change would incentivize performance attributes such as availability, predictability, flexibility, and dispatchability.
 - Need demonstrated by the results of the NYISO's 2017 Market Assessment.
 - Anticipated future system need based on observations from other control areas or other NYISO studies.
- **The NYISO recommends that concepts which may offer benefits but are not yet well defined be prioritized as future studies or longer-term market design efforts.**

Background

- **The NYISO recommended that the following design concepts be developed during Q1 and Q2 2018:**
 1. Flexible ramping product to address forecast uncertainty
 2. Re-evaluate shortage pricing for Ancillary Services
 3. Review performance incentives for negative LBMP's
 4. More frequent transaction scheduling
- **Market Design Concept Proposals for these products or rule changes will be considered for inclusion in the Master Plan.**

The Benefits of More Frequent Transaction Scheduling

- Today, external transaction schedules can change once every quarter hour at interfaces where 15-minute transactions are enabled and once every hour everywhere else.
- The ability to schedule transactions more frequently in real-time could provide additional flexibility to the power system to respond to sudden changes in intermittent output like those observed in the Market Study.
- More frequent transaction scheduling could benefit neighboring control areas that also expect intermittent penetration to increase.

The Benefits of More Frequent Transaction Scheduling

- As more intermittent renewable resources are integrated into the bulk power system, net load variability is expected to increase.
- **More frequent transaction scheduling with our neighbors could:**
 - expand the set of resources available to balance the system, which could lower the cost to serve load in New York
 - lower the cost to meet reliability standards because neighboring systems could efficiently provide additional power during times of shortages
 - provide a quicker response rate to real-time events
- **More frequent transaction scheduling could help improve price convergence between RTC and RTD.**
 - 5 minute interchange scheduling could provide RTD with additional scheduling flexibility.
 - 15 minute interchange scheduling could improve convergence as binding RTC schedules would be established closer to real-time.

Summary of Transaction Scheduling with External Control Areas

Neighboring Control Areas	Proxy Bus Name	Scheduling Bid Type Options	15 min Transaction Scheduling	60 min Transaction Scheduling
Hydro Quebec	Chateauguay -Import/Export	LBMP	X	X
Hydro Quebec	Wheel	LBMP		X
Hydro Quebec	Cedars	LBMP		X
ISO-NE	Sandy Pond - A/C Interface	CTS	X	
ISO-NE	Cross Sound Cable	LBMP		X
ISO-NE	Northport Norwalk 1385	LBMP		X
Ontario	Bruce - A/C Interface	LBMP		X
PJM	Keystone - A/C Interface	CTS & LBMP	X	
PJM	Neptune	CTS & LBMP	X	
PJM	VFT	CTS & LBMP	X	
PJM	HTP	CTS & LBMP	X	

* An exception to the current scheduling frequency above – Wheels through NYCA are always scheduled on an hourly basis, for example a wheel from HQ to NY to NE will have an hourly scheduling frequency

ISO-RTO Interest in More Frequent Transaction Scheduling

- **Hydro-Quebec**
 - HQ has supported this initiative in the past and has expressed an interest in moving forward with 5-minute transaction scheduling.
- **ISO-NE**
 - ISO-NE has expressed interest in exploring the potential for more frequent scheduling.
- **IESO**
 - IESO has expressed interest in more frequent transaction scheduling.
 - IESO does not currently have the system capabilities to move forward with a design and would likely not be able to partner with NYISO for a few years.
- **PJM**
 - NYISO has not discussed this topic with PJM recently.

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Next Steps

- **The continued evaluation and implementation of more frequent transaction scheduling depends upon the ability and willingness of neighboring control areas to effectuate the necessary changes.**
 - The NYISO will continue discussions with HQ and ISO-NE on design feasibility and determine the most available approach for a near-term design concept.
- **Anticipated upcoming MIWG dates:**
 - 5/9/2018
 - 5/23/2018
- **Final Master plan to be presented in June of 2018.**

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Questions?

We are here to help. Let us know if we can add anything.

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policy makers, stakeholders and investors in the power system



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