SUBSTANTIVE SETTLEMENTS ISSUES DISCUSSION

Agenda Item 5

June 23, 2003

ISO-NE Markets Committee

NYISO Market Structures Working Group

VRD Imbalance Issue
System Conditions Example

	NY	NE
Net Participant Interchange:	100 MW ➔	

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Participant Interchange refers to transactions arranged by Participants

   that are economic and checked out

      – able to clear in the financial markets.

Net Participant Interchange is the Sum of:

     * Day-Ahead Transactions confirmed for Real-Time Delivery

     and

     * Cleared Incremental Real-Time Transactions

VRD Imbalance Issue

System Conditions Example

	NY	NE
Net Participant Interchange:	100 MW →	
ISO *Physical* Interchange	**300 MW →**	

- **ISO's will schedule the Physical Interchange based upon system economics, not on sum of Participant financial transactions.**

VRD Imbalance Issue

System Conditions Example

	NY	NE
Net Part. Interchange	100 MW ➔	
ISO Physical interchange	300 MW ➔	

- **LMP/LBMP (post VRD)**   **40$/MW**   **45$/MW**

$5 price differential remains after the ISOs schedule a 300mw transfer

VRD Imbalance Issue

System Conditions Example

	NY	NE
	NY	NE
Net Part. Interchange	100 MW →	
ISO Physical interchange	300 MW →	
– LMP/LBMP (Post VRD)	40$/MW	45$/MW

VRD MWs to be settled   (300 – 100)   = 200MW

- **The amount of energy transactions settled financially must equal the physical schedule of 300 mw.**
  - **100 MW are settled as Participant Transaction**
  - **200 MW are settled as VRD transaction**

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VRD Imbalance Issue

System Conditions Example

	NY		NE
Net Participant Interchange	100 MW ➜		
ISO Physical interchange	300 MW ➜		
– LMP/LBMP (Post VRD)	40$/MW		45$/MW
VRD MW to be settled	(300 – 100)	=	200MW

VRD $ to be settled   (200 * (45 – 40)) = $1,000

VRD Imbalance Issue

System Conditions Example

VRD $ to be settled   (200 * (45 – 40)) = $1,000

- **Congestion on interface and/or conservative ISO scheduling should create a trend toward positive balance for distribution**

However

- **Imbalance could at times be negative**

VRD Imbalance Issue

Distribution of imbalance ($1,000 in example)

Alternatives:

*Real-Time auction revenue rights to VRD transactions

> **-Not attractive if prices converge**
> **-Congestion would make rights valuable**

VRD Imbalance Issue

Distribution of imbalance ($1,000 in example)

Alternatives:

* Real-Time auction revenue rights to VRD transactions

*Split Savings

(There are numerous ways that the savings could be split between the markets)

VRD Imbalance Issue

Distribution of imbalance ($1,000 in example)

Alternatives:

* Real-Time auction revenue rights to VRD transactions

* Split Savings

*Delivering Area

Receiving area experiences the benefit of lower prices as the result of VRD; distributing any price residual price separation benefits to the delivering area will have support

VRD Imbalance Issue

Distribution of imbalance ($1,000 in example)

Alternatives:

*Auction rights to VRD transactions

*Split Savings

*Delivering Area

***Other**

- **Detailed, collaborative work may engender other options**

Notification Timing Issue

Timing of Checkout

- ISOs will schedule Physical interchange
- Physical schedule does not require Part. checkout
- Timing of Part. Financial checkout to be reviewed
    - Holds potential for reduced notification times

Notification Timing Issue
Timing of Checkout Without VRD

One Hour

T-60   T

Bid

BME

Security

Checkout

30 Minute Start Notice   Ramp
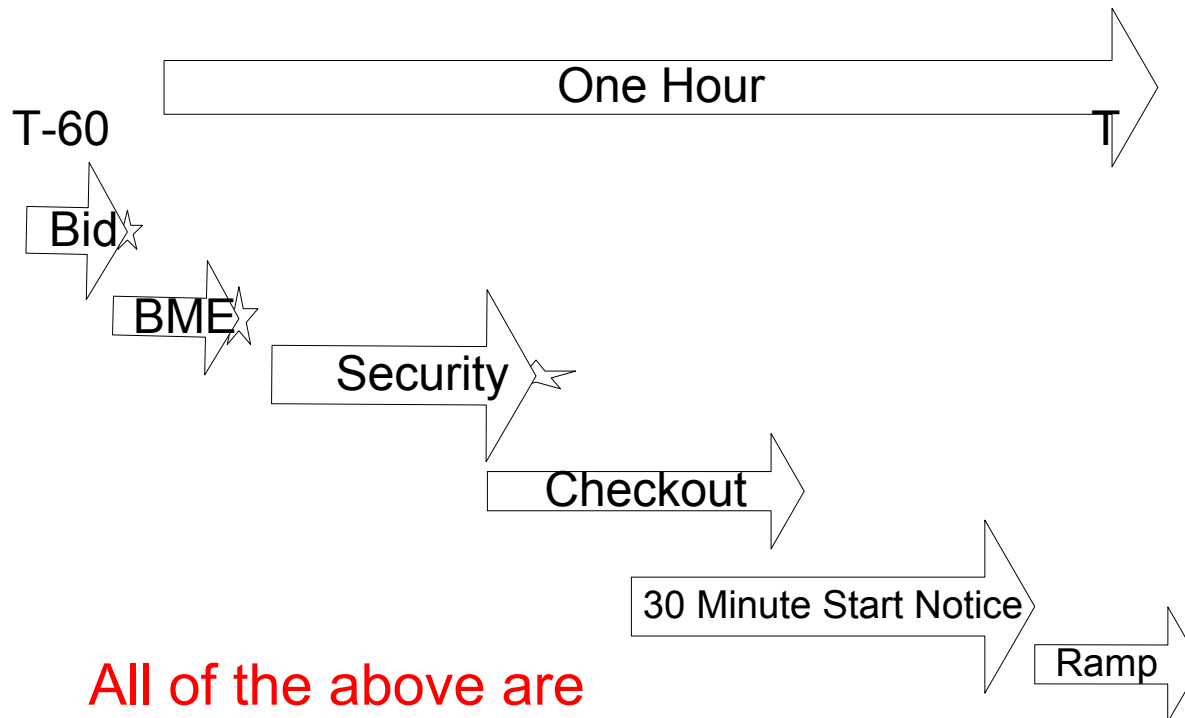
**All of the above are
subject to review**

Over Booking Issue

ISOs Schedule VRD Energy to *approach* price convergence

Conservative VRD

Avoid consequences of over scheduling

Sellers' price **always>** buyers' price

or

Real-time congestion charges

Risk of over booking (by Participants) when physical direction is predictable.

Over Booking Issue

	NY	NE
Net D. A. Part. Interchange	100 mw	➔
ISO Physical interchange	300 mw	➔
LMP/LBMP (Post VRD)	40$/mw	45$/mw

(Same conditions used in earlier example)

Over Booking Issue

	NY	NE
Net D. A. Part. Interchange	100 MW	➔
ISO Physical interchange	300 MW	➔
LMP/LBMP (Post VRD)	40$/MW	45$/MW

Participant

Real time additions **1,500 MW ➔**

Settlements R.T. **(1,500 mw) * ($5/MW) = $7,500**

Over Booking Issue

The $7,500 example

- **Incentive for participants to schedule large financial transactions**
  - Direction of flow is predictable +
  - ISOs set physical flow to create small price separation (could potentially remain large, if interface is congested)

Over Booking Issue

Options:

- Limitations on Real-time bidding quantities

- Introduce a Real-time congestion charge
  - Real-time FTRs for Real-time Transactions
  - Similar to Real time Bi-lateral arrangements

- Other

Scarcity Pricing Issue

- VRD will reduce incidence of scarcity pricing
- However, whenever market prices are being set under Scarcity Pricing agreements
  - Prices may not reflect location of most efficient resource
  - Alternate VRD scheduling will need to be considered

Additional Issues

- Dispatch of Controllable lines

- Details of charging Out-service on VRD transactions if Out-service is retained

- Regulation, Operating Reserve, etc.
  - Participant transactions still subject to these charges

- Operational procedures

End of Slides for Agenda Item 5

SUBSTANTIVE SETTLEMENTS ISSUES DISCUSSION