

Coordinated Transaction Scheduling (CTS) Credit

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Agenda

- ◆ Background
- ◆ CTS Credit Changes Timeline
- ◆ Credit Changes for LBMP bids
- ◆ Next Steps

Background - CTS

- ◆ PJM and NYISO will continue to maintain separate credit requirements.
 - *Current PJM-NYISO CTS market design will continue to maintain separate settlements.*

- ◆ CTS Transaction Bids will likely impact Real-Time Export Bidding Credit Requirements.

- ◆ LBMP External Transaction bids may have up to four distinct bid curves as part of this implementation.

- ◆ Planned implementation in 2014.

CTS Credit – Timeline

- ◆ CTS Transaction Bids will be evaluated at each point in the timeline below.
 - *Each calculated credit requirement will supersede and amend the previous one.*

Upon submission of a CTS HAM Export Bid credit will be in a “pending credit evaluation” state.

At market close using the most recently available RTC price.

Upon completion of the hour Bid in real-time until the net amount owed to the ISO is determined for settled External Transactions.

When the net amount owed is determined by the Daily Bill.

Upon payment of MP’s invoice that covers the market day.

CTS Credit – Timeline

- ◆ **Upon submission of a CTS HAM Export Bid**
 - *Different from LBMP bids, credit will not be calculated at the time of bid submission.*

 - *Bid will remain in a “Pending Credit Evaluation” state.*

CTS Credit – Timeline

- ◆ **At market close using the most recently available RTC price**
 - *Bids will be evaluated for credit approximately 75 minutes prior to the start of the bid hour.*
 - Credit will initially be held for one or two hours as an estimate until such time that LBMPs and schedules are known.
 - If the Market Participant does not have sufficient credit available, the bids will be rejected with little to no time to address.
 - *Exposure will be calculated for each 15-minute interval within the bid hour using the most recently available RTC price for that interval as the price point.*
 - Based on Market Participant input and the limited amount of time that the NYISO may be exposed (i.e. 2 to 2 ½ hours) the NYISO does not intend to add a margin to the RTC price.

CTS Credit – Timeline

- ◆ **At market close using the most recently available RTC price**
 - *The credit requirement for each CTS HAM Export Bid will be the sum of the time-weighted amount calculated for each of the 15-minute intervals within the bid hour, not to be less than zero.*
 - See example on next slide.
 - *All CTS Bids with the same Bid date/hour will be processed as one batch to determine whether or not they are accepted or rejected.*
 - If the credit support required for a batch exceeds the amount of the Market Participant's available credit support, then all of that Market Participant's Bids in that batch of Bids will be rejected.

CTS Credit – Timeline

- ◆ At market close using the most recently available RTC price



Example:

- ◆ *Most recently available RTC Price:*

- ◆ 1st interval = \$30
- ◆ 2nd interval = \$40
- ◆ 3rd interval = \$50
- ◆ 4th interval = \$50

- ◆ *Submitted Bid MWhs:*

- ◆ 1st interval = 30 + 40 + 100 = 170
- ◆ 2nd interval = 60 + 100 = 160
- ◆ 3rd interval = 0
- ◆ 4th interval = 100

- ◆ *Exposure calculation for each interval:*

- ◆ 1st interval = \$30 * 170 * .25 = \$1,275
- ◆ 2nd interval = \$40 * 160 * .25 = \$1,600
- ◆ 3rd interval = \$50 * 0 * .25 = \$0
- ◆ 4th interval = \$50 * 100 * .25 = \$1,250

Submitted Bid's credit requirement = \$4,125

Example CTS HAM Export Bid

1 st interval	MWhs	30	40	100
	Bid \$/MWH	4	5	10
2 nd interval	MWhs	60	100	
	Bid \$/MWH	3	5	
3 rd interval	MWhs	0		
	Bid \$/MWH	0		
4 th interval	MWhs	100		
	Bid \$/MWH	10		

CTS Credit – Timeline

- ◆ **Upon completion of the bid hour in real-time until the net amount owed to the ISO is determined for settled External Transactions**

- *Consistent with the existing method of calculating the credit requirement for real-time export bids.*

- *Calculation will be as follows:*

*Max (Actual_{MWh} * RT LBMP, 0) , where*

Actual_{MWh} = the total quantity of MWhs that are scheduled in real-time associated with the Customer's CTS HAM Export Bid.

RT LBMP = the Real-Time LBMP for the hour and location associated with the Customer's CTS HAM Export Bid.

CTS Credit – Timeline

- ◆ **When the net amount owed is determined by the Daily Bill**
 - *The credit requirement will be the value as determined by the Daily Bill for each CTS HAM Export Bid.*

CTS Credit – Timeline

- ◆ **Upon payment of MP's invoice for the market day**
 - *Once the invoice that covers the market day associated with the CTS HAM Export Bid has been paid, the credit requirement for that transaction will become \$0.*

CTS Credit

- ◆ CTS credit requirement will be part of the External Transactions credit requirement.

- ◆ The same suspension rules that apply to External Transactions will apply to CTS Transactions.
 - *If, at any time, the net amount owed to the ISO by a Customer as a result of External Transactions reaches fifty percent (50%)* or more of the credit support provided by the Customer, then the NYISO may cancel any pending Bids before they are accepted and may immediately suspend the Customer's authorization to engage in External Transactions until the Customer provides its required amount of credit support.*

*If 50% is reached on a business day, then MP has until 4 PM to make payment.

Credit Changes for LBMP Bids

- ◆ LBMP Import and Export HAM bids may have up to four distinct bid curves as part of this implementation.
 - *This change will impact the credit requirement for LBMP Export HAM bids.*
- ◆ To determine the hourly Real-Time credit requirement (consistent with the existing calculation deployed in June 2013) calculate values to:
 - *Offset corresponding DAM MWhs and*
 - *To group with other LBMP Export HAM Bids with the same hour/location*
- ◆ Proposed changes are as follows:
 - *Calculate the average hourly Bid MWhs.*
 - Average of the four intervals maximum bid MWhs
 - *Calculate the average hourly Bid price.*
 - Average of the four intervals maximum bid price

Next Steps

- ◆ Alignment with CTS – PJM BIC vote.
 - *Tentatively planned for August 2013.*

Appendix A

- ◆ Credit Coverage with 1 MW of Exports per hour (August 2012-February 2013) at Keystone
 - *Total Payments Due totals \$203,734.10*
 - *Total Collateral for \$ Margin Table = Hourly average RTC at T-75 + margin*
 - *Total Collateral for % Margin Table = Hourly average RTC at T-75 + (margin * Hourly average RTC at T-75)*
 - *Negative uncovered payments are not included in order to only show instances where the RTC is lower than the RTD.*
 - *Instances where RTC and RTD are equal were excluded from the Total Payments Due value*

Analysis using \$ Margin

Margin	Total Collateral	Total Uncovered Payments Due	% of Payments Due Covered
\$0.00	\$173,958.20	\$38,398.62	81.15%
\$5.00	\$199,188.20	\$25,531.85	87.47%
\$10.00	\$224,418.20	\$19,324.12	90.52%
\$20.00	\$274,878.20	\$13,509.24	93.37%
\$30.00	\$325,338.20	\$10,378.02	94.91%
\$40.00	\$375,798.20	\$8,299.12	95.93%

Analysis using % Margin

Margin	Total Collateral	Total Uncovered Payments Due	% of Payments Due Covered
0%	\$173,958.20	\$38,398.62	81.15%
5%	\$182,656.10	\$33,197.89	83.71%
10%	\$191,354.00	\$29,103.44	85.71%
20%	\$208,749.80	\$23,307.40	88.56%
35%	\$234,843.60	\$17,804.72	91.26%
50%	\$260,937.30	\$14,157.06	93.05%

Appendix B

- ◆ Credit Coverage with real exports per hour (August 2012-February 2013) at Keystone
 - *Total Payments Due totals \$41,329,697.36*
 - *Total Collateral for \$ Margin Table = Gross Exports * (Hourly average RTC at T-75 + margin)*
 - *Total Collateral for % Margin Table = Gross Exports * (Hourly average RTC at T-75 + (margin * Hourly average RTC at T-75))*
 - *Negative uncovered payments are not included in order to only show instances where the RTC is lower than the RTD.*
 - *Instances where RTC and RTD are equal were excluded from Total Payments Due value*

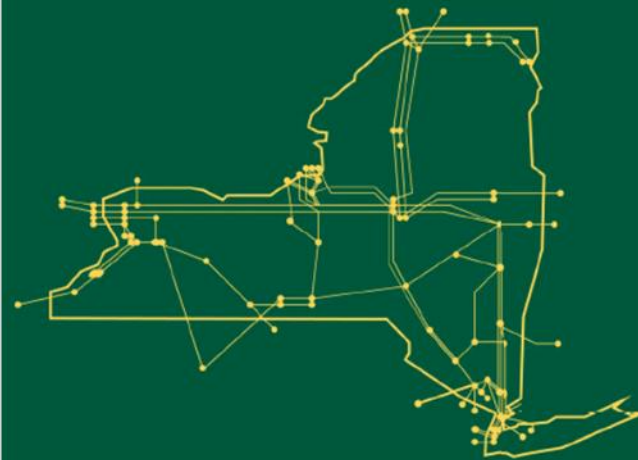
Analysis using \$ Margin

Margin	Total Collateral	Total Uncovered Payments Due	% of Payments Due Covered
\$0.00	\$33,829,591.99	\$9,468,710.71	77.09%
\$5.00	\$38,679,670.31	\$6,794,362.99	83.56%
\$10.00	\$43,529,748.64	\$5,324,604.87	87.12%
\$20.00	\$53,229,905.30	\$3,671,183.45	91.12%
\$30.00	\$62,930,061.96	\$2,727,145.78	93.40%
\$40.00	\$72,630,218.66	\$2,145,952.71	94.81%

Analysis using % Margin

Margin	Total Collateral	Total Uncovered Payments Due	% of Payments Due Covered
0%	\$33,829,591.99	\$9,468,710.71	77.09%
5%	\$35,521,071.55	\$8,434,489.34	79.59%
10%	\$37,212,551.19	\$7,605,609.75	81.60%
20%	\$40,595,510.44	\$6,401,599.09	84.51%
35%	\$45,669,949.19	\$5,218,339.75	87.37%
50%	\$50,744,387.97	\$4,400,333.89	89.35%

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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