23.4.6 Virtual Bidding Measures

23.4.6.1 Purpose

The provisions of this Section 23.4.6 specify the market monitoring and mitigation measures applicable to "Virtual Bids." "Virtual Bids" are bids to purchase or supply energy that are not backed by physical load or generation that are submitted in the ISO Day-Ahead Market in accordance with the procedures and requirements specified in the ISO Services Tariff.

To implement the mitigation measures set forth in this Section 23.4.6, the ISO shall monitor and assess the impact of Virtual Bidding on the ISO Administered Markets.

23.4.6.2 Implementation

23.4.6.2.1 Day-Ahead LBMPs and Real-Time LBMPs in each load zone shall be monitored to determine whether there is a persistent hourly deviation between them in any zone that would not be expected in a workably competitive market. Monitoring of Day-Ahead and real-time LBMPs shall include examination of the following two metrics (along with any additional monitoring tools and procedures that the ISO determines to be appropriate to achieve the purpose of this Section 23.4.6):

(1) The ISO shall compute a rolling average of the hourly deviation of real-time zonal LBMPs from Day-Ahead zonal LBMPs. The hourly deviation shall be measured as: (zonal $LBMP_{real\ time}$ - zonal $LBMP_{day\ ahead}$). Each observation of the rolling-average time series shall be a simple average of all the hourly deviations over the previous four weeks, or such other averaging period determined by the ISO to be appropriate to achieve the purpose of this Section 23.4.6.

(2) The ISO shall also compute the rolling average *percentage* deviation of real-time zonal LBMPs from Day-Ahead zonal LBMPs. This percentage deviation shall be calculated by dividing the rolling-average hourly deviation (defined in Section 23.4.6.2.1 (1) above) by the rolling-average level of Day-Ahead zonal LBMP over the same time period, using the averaging period(s) described in Section 23.4.6.2.1 (1), above.

23.4.6.2.2   If the ISO determines that (i) the relationship between zonal LBMPs in a zone in the Day-Ahead Market and the Real-Time Market is not what would be expected under conditions of workable competition, and that (ii) the Virtual Bidding practices of one or more Market Participants has contributed to an unwarranted divergence of LBMPs between the two markets, then the following mitigation measure may be imposed. Any such measure shall be rescinded upon a determination by the ISO that the foregoing conditions are not met.

23.4.6.3   Description of the Measure

23.4.6.3.1   If the ISO determines that the conditions specified in Section 23.4.6.2 exist, the ISO may limit the hourly quantities of Virtual Bids for supply or load that may be offered in a zone by a Market Participant whose Virtual Bidding practices have been determined to contribute to an unwarranted divergence of LBMPs between the Day-Ahead and Real-Time Markets. Any such limitation shall be set at such level that, and shall remain in place for such period as, in the best judgment of the ISO, would be sufficient to prevent any unwarranted divergence between Day-Ahead and Real-Time LBMPs.

23.4.6.3.2   As part of the foregoing determination, the ISO shall request explanations

of the relevant Virtual Bidding practices from any Market Participant submitting

such Bids. Prior to imposing a Virtual Bidding quantity limitation as specified

above, the ISO shall notify the affected Market Participant of the limitation.

23.4.6.4   Limitation of Virtual Bidding

If the ISO determines that such action is necessary to avoid substantial deviations of

LBMPs between the Day-Ahead and Real-Time Markets, the ISO may impose limits on the

quantities of Virtual Bids that may be offered by all Market Participants. Any such restriction

shall limit the quantity of Virtual Bids for supply or load that may be offered by each Market

Participant by hour and by zone. Any such limit shall remain in place for the minimum period

necessary to avoid substantial deviations of LBMPs between the Day-Ahead and Real-Time

Markets, or to maintain the reliability of the New York Control Area.

23.4.7   Increasing Bids in Real-Time for Incremental Energy ScheduledDay-Ahead Scheduled Incremental Energy Injections or Decreasing Bids in Real-Time for Day-Ahead Scheduled Incremental Energy Withdrawals

23.4.7.1   Purpose

This Section 23.4.7 specifies the monitoring applicable and the mitigation measures that

may be applicable to a Market Party with submitted Incremental Energy Bids in the real-time

market that exceed the Incremental Energy Bids made in the Day-Ahead Market (or mitigated

Day-Ahead Incremental Energy Bids where appropriate), for a portion of the Capacity of one or

more of its Generators or Aggregations that has been scheduled in the Day-Ahead Market.

This Section 23.4.7 also specifies the monitoring applicable and the mitigation measures

that may be applicable to a Market Party with submitted Bids in the real-time market that are less

than the Incremental Energy Bids made in the Day-Ahead Market (or mitigated Day-Ahead

Incremental Energy Bids where appropriate), for one or more of its Generators or Aggregations that has been scheduled in the Day-Ahead Market to withdraw Energy.

The purpose of the Services Tariff rules authorizing the submission of Incremental Energy Bids in the real-time market that exceed the Incremental Energy Bids made in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), of the portion of the Capacity of a Market Party's Generator that was scheduled in the Day-Ahead Market is to permit the inclusion of additional costs of providing incremental Energy in real-time Incremental Energy Bids for Generators scheduled in the Day-Ahead Market, where the additional costs of providing incremental Energy were not known prior to the close of the Day-Ahead Market.

The purpose of the Services Tariff rules authorizing the submission of Incremental Energy Bids in the real-time market less than the Incremental Energy Bids made in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), of the portion of the Capacity of a Market Party's Generator or Aggregation that was scheduled to withdraw energy in the Day-Ahead Market is to permit changes in opportunity costs to be reflected in real-time Incremental Energy Bids for Generators or Aggregations scheduled to withdraw energy in the Day-Ahead Market, where the opportunity costs of withdrawing incremental Energy has changed relative to the opportunity costs expected prior to the close of the Day-Ahead Market.

23.4.7.2   Monitoring and Implementation

23.4.7.2.1   The ISO will monitor Market Parties for unjustified interactions between a Market Party's virtual bidding and the submission of real-time Incremental Energy Bids that exceed the Incremental Energy Bids submitted in the Day-Ahead Market (or mitigated Day-

Ahead Incremental Energy Bids where appropriate), for the portion of a Generator's or an Aggregation's Capacity that was scheduled in the Day-Ahead Market.

If the Market Party has a scheduled Virtual Load Bid for the same hour of the Dispatch Day as the hour for which submitted real-time Incremental Energy Bids exceeded the Incremental Energy Bids submitted in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), for a portion of its Generator's or Aggregation's Capacity that was scheduled in the Day-Ahead Market, and any such real-time Incremental Energy Bids exceed the reference level for those Bids that can be justified after-the-fact by more than:

(i)   the lower of $100/MWh or 300%; or

(ii)   if the Market Party's Generator or Aggregation is located in a Constrained Area for intervals in which an interface or facility into the area in which the Generator or generationAggregation is located has a Shadow Price greater than zero, then a threshold calculated in accordance with Sections 23.3.1.2.2.1 and 23.3.1.2.2.2 of these Mitigation Measures;

and a calculation of a virtual market penalty pursuant to the formula set forth in Section 23.4.3.3.4 of these Mitigation Measures for the Market Party would produce a penalty in excess of $1000, then the mitigation measure specified below in Section 23.4.7.3.1 shall be imposed for the Market Party's Generator or Aggregation, along with a penalty calculated in accordance with Section 23.4.3.3.4 of these Mitigation Measures. The application of a penalty under Section 23.4.3.3.4 of these Mitigation Measures shall not preclude the simultaneous application of a penalty pursuant to Section 23.4.3.3.3 of these Mitigation Measures.

23.4.7.2.2   The ISO will monitor Market Parties for unjustified interactions between a Market Party's virtual bidding and the submission of real-time Incremental Energy Bids that are less than the Incremental Energy Bids made in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), for one or more of its Generators or Aggregations that has been scheduled in the Day-Ahead Market to withdraw Energy.

If the Market Party has a scheduled Virtual Supply Bid for the same hour of the Dispatch Day as the hour for which submitted real-time Incremental Energy Bids at a price that is lower than the Incremental Energy Bids submitted in the Day-Ahead Market (or mitigated Day-Ahead Incremental Energy Bids where appropriate), for one or more of its Generators or Aggregations that has been scheduled in the Day-Ahead Market to withdraw Energy, and any such real-time Incremental Energy Bids is less than the reference level for those Bids that can be justified after-the-fact by more than:

(i)   the lower of $100/MWh or 300%; provided however, that Bids to withdraw Incremental Energy that have an associated reference level that is between -$25 and $25 per MWh (inclusive) shall instead be subject to a threshold of $75/MWh; or

(ii)   if the Market Party's Generator or Aggregation is located in a Constrained Area for intervals in which an interface or facility into the area in which the Generator, Aggregation or generation is located has a Shadow Price greater than zero, then a threshold calculated in accordance with Sections 23.3.1.2.2.1 and 23.3.1.2.2.2 of these Mitigation Measures;

and a calculation of a virtual market penalty pursuant to the formula set forth in Section 23.4.3.3.4 of these Mitigation Measures for the Market Party would produce a penalty in excess

of $1000, then the mitigation measure specified below in Section 23.4.7.3.1 shall be imposed for

the Market Party's Generator or Aggregation, along with a penalty calculated in accordance with

Section 23.4.3.3.4 of these Mitigation Measures. The application of a penalty under Section

23.4.3.3.4 of these Mitigation Measures shall not preclude the simultaneous application of a

penalty pursuant to Section 23.4.3.3.3 of these Mitigation Measures.

23.4.7.3   Mitigation Measure

23.4.7.3.1   If the ISO determines that the conditions specified in Section 23.4.7.2.1

exist the ISO shall revoke the opportunity for any bidder of that Generator or

Aggregation to submit Incremental Energy Bids in the real-time market that

exceed the Incremental Energy Bids submitted in the Day-Ahead Market (or

mitigated Day-Ahead Incremental Energy Bids where appropriate), for portions of

that Generator's or Aggregation's Capacity that were scheduled Day-Ahead.

If the ISO determines that the conditions specified in Section 23.4.7.2.2

exist the ISO shall revoke the opportunity for the Market Party and its Affiliates

to submit Virtual Bids in the Load Zone(s) where the Withdrawal-Eligible

Generator(s) or Aggregations that include Withdrawal-Eligible Generator(s) that

has been scheduled in the Day-Ahead Market to withdraw Energy, and for which

the Market Party submitted real-time Incremental Energy Bids that were less than

the Incremental Energy Bids made in the Day-Ahead Market, are located.

23.4.7.3.1.1   The first time the ISO revokes the opportunity for bidders of a Generator

or Aggregation to submit Incremental Energy Bids in the Real-Time Market that

exceed the Incremental Energy Bids submitted in the Day-Ahead Market (or

mitigated Day-Ahead Incremental Energy Bids where appropriate), for portions of

that Generator's or Aggregation's Capacity that were scheduled Day-Ahead, mitigation shall be imposed for 90 days. The 90 day period shall start two business days after the date that the ISO provides written notice of its determination that the application of mitigation is required.

The first time the ISO revokes the opportunity for the Market Party and its Affiliates to submit Virtual Bids in the Load Zone(s) where the Generator(s) or Aggregation(s) that has been scheduled in the Day-Ahead Market to withdraw Energy, and for which the Market Party submitted real-time Incremental Energy Bids that were less than the Incremental Energy Bids made in the Day-Ahead Market, are located, mitigation shall be imposed for 90 days. The 90 day period shall start two business days after the date that the ISO provides written notice of its determination that the application of mitigation is required.

23.4.7.3.1.2   Any subsequent time the ISO revoked the opportunity for bidders of a Generator or an Aggregation to submit Incremental Energy Bids in the Real-Time Market that exceed the Incremental Energy Bids submitted in the Day-Ahead Market or mitigated Day-Ahead Incremental Energy Bids where appropriate, for portions of that Generator's or Aggregation's Capacity that were scheduled Day-Ahead, mitigation shall be imposed for 180 days. The 180 day period shall start two business days after the date that the ISO provides written notice of its determination that the application of mitigation is required.

Any subsequent time the ISO revokes the opportunity for the Market Party and its Affiliates to submit Virtual Bids in the Load Zone(s) where the Generator(s) or Aggregation(s) that has been scheduled in the Day-Ahead Market

to withdraw Energy, and for which the Market Party submitted real-time Incremental Energy Bids that were less than the Incremental Energy Bids made in the Day-Ahead Market, are located, mitigation shall be imposed for 180 days. The 180 day period shall start two business days after the date that the ISO provides written notice of its determination that the application of mitigation is required.

23.4.7.3.1.3   If bidders of a Generator or an Aggregation that has previously been mitigated under this Section 23.4.7.3 become and remain continuously eligible to submit Incremental Energy Bids in the Real-Time Market that exceed the Incremental Energy Bids submitted in the Day-Ahead Market or mitigated Day-Ahead Incremental Energy Bids where appropriate, for portions of that Generator's or Aggregation's Capacity that were scheduled Day-Ahead, for a period of one year or more, then the ISO shall apply the mitigation measure set forth in Section 23.4.7.3 of the Mitigation Measures as if the Generator or Aggregation had not previously been subject to this mitigation measure.

23.4.7.3.1.4   Market Parties that transfer, sell, assign, or grant to another Market Party the right or ability to Bid a Generator or an Aggregation that is subject to the mitigation measure in this Section 23.4.7.3 are required to inform the new Market Party that the Generator or Aggregation is subject to mitigation under this measure, and to inform the new Market Party of the expected duration of such mitigation.

23.4.8   Duration of Mitigation Measures

Except as specified in Section 23.4.5 of this Attachment H, any mitigation measure imposed as specified above shall expire not later than six months after the occurrence of the conduct giving rise to the measure, or at such earlier time as may be specified by the ISO.