

## ATTACHMENT H

### NYISO Market Monitoring Plan

#### Market Mitigation Measures

##### 1. PURPOSE AND OBJECTIVES

a) These NYISO market power mitigation measures (“Mitigation Measures”) are intended to provide the means for the NYISO to mitigate the market effects of any conduct that would substantially distort competitive outcomes in the New York Electric Markets administered by the NYISO, while avoiding unnecessary interference with competitive price signals. Consistent with the provisions of the Plan, these Mitigation Measures are intended to minimize interference with open and competitive markets, and thus to permit, to the maximum extent practicable, price levels to be determined by competitive forces under the prevailing market conditions. To that end, the Mitigation Measures authorize the mitigation only of specific conduct that exceeds well-defined thresholds specified below.

b) In addition, the NYISO shall monitor the markets it administers for conduct that it determines constitutes an abuse of market power but does not trigger the thresholds specified below for the imposition of mitigation measures by the NYISO. If the NYISO identifies any such conduct, and in particular conduct exceeding the thresholds for presumptive market effects specified in Section 3.2.3 below, it shall make a filing under § 205 of the Federal Power Act, 16 U.S.C. § 824d (1999) (“§ 205”) with the Commission requesting authorization to apply appropriate mitigation measures. Any such filing shall identify the particular conduct the NYISO believes warrants mitigation, shall propose a specific mitigation measure for the conduct, and shall set forth the NYISO’s justification for imposing that mitigation measure.

## **2. CONDUCT WARRANTING MITIGATION**

### **2.1 Definitions**

The following definitions are applicable to this Attachment H:

“Constrained Area” shall mean: (a) the In-City area, including any areas subject to transmission constraints within the In-City area that give rise to significant locational market power; and (b) any other area in the New York Control Area that has been identified by the NYISO as subject to transmission constraints that give rise to significant locational market power, and that has been approved by the Commission for designation as a Constrained Area.

“Electric Facility” shall mean an electric generation resource or a transmission facility.

“New Capacity” shall mean a new generating unit, a substantial addition to the capacity of an existing unit, or the reactivation of all or a portion of a unit that has been out of service for five years or more that commences commercial service after the effective date of this definition.

### **2.2 Conduct Subject to Mitigation**

Mitigation Measures may be applied: (i) to the bidding, scheduling or operation of an “Electric Facility”; or (ii) as specified in § 2.4(b).

### **2.3 Conditions for the Imposition of Mitigation Measures**

a) To achieve the foregoing purpose and objectives, Mitigation Measures should only be imposed to remedy conduct that would substantially distort or impair the competitiveness of any of the New York Electric Markets administered by the NYISO. Accordingly, the NYISO shall seek to impose Mitigation Measures only to remedy conduct that:

- (1) is significantly inconsistent with competitive conduct; and
- (2) would result in a material change in one or more prices in a New York Electric Market or production cost guarantee payments (“guarantee payments”) to a Market Party.

b) In general, the NYISO shall consider a Market Party's conduct to be inconsistent with competitive conduct if the conduct would not be in the economic interest of the Market Party in the absence of market power. The categories of conduct that are inconsistent with competitive conduct include, but may not be limited to, the three categories of conduct specified in Section 2.4 below.

## **2.4 Categories of Conduct that May Warrant Mitigation**

a) The following categories of conduct, whether by a single firm or by multiple firms acting in concert, may cause a material effect on prices or guarantee payments in a New York Electric Market if exercised from a position of market power. Accordingly, the NYISO shall monitor the New York Electric Markets for the following categories of conduct, and shall impose appropriate Mitigation Measures if such conduct is detected and the other applicable conditions for the imposition of Mitigation Measures are met:

- (1) *Physical withholding of an Electric Facility*, that is, not offering to sell or schedule the output of or services provided by an Electric Facility capable of serving a New York Electric Market. Such withholding may include, but not be limited to, (i) falsely declaring that an Electric Facility has been forced out of service or otherwise become unavailable, (ii) refusing to

offer bids or schedules for an Electric Facility when it would be in the economic interest, absent market power, of the withholding entity to do so, or (iii) operating a generating unit in real-time to produce an output level that is less than the NYISO's dispatch instruction.

- (2) *Economic withholding of an Electric Facility*, that is, submitting bids for an Electric Facility that are unjustifiably high so that (i) the Electric Facility is not or will not be dispatched or scheduled, or (ii) the bids will set a market clearing price.
- (3) *Uneconomic production from an Electric Facility*, that is, increasing the output of an Electric Facility to levels that would otherwise be uneconomic in order to cause, and obtain benefits from, a transmission constraint.

b) Mitigation Measures may also be imposed to mitigate the market effects of a rule, standard, procedure or design feature of a New York Electric Market that allows a Market Party to manipulate market prices or otherwise impair the efficient operation of that market, pending the revision of such rule, standard, procedure or design feature to preclude such manipulation of prices or impairment of efficiency.

c) Taking advantage of opportunities to sell at a higher price or buy at a lower price in a market other than a New York Electric Market shall not be deemed a form of withholding or otherwise inconsistent with competitive conduct.

d) The NYISO shall monitor New York Electric Markets for other categories of conduct, whether by a single firm or by multiple firms acting in concert, that have material effects on prices or guarantee payments in a New York Electric Market. The NYISO shall: (i) seek to amend the foregoing list as may be appropriate, in accordance with the procedures and requirements for amending the Plan, to include any such conduct that would substantially distort or impair the competitiveness of any of the New York Electric Markets administered by the NYISO; and (ii) seek such other authorization to mitigate the effects of such conduct from the FERC as may be appropriate.

### **3. CRITERIA FOR IMPOSING MITIGATION MEASURES**

#### **3.1 Identification of Conduct Inconsistent with Competition**

Conduct that may potentially warrant the imposition of a mitigation measure includes the categories described in Section 2.4 above, which shall be detected through the use of indices and screens developed, adopted and made available as specified in the Plan. The thresholds listed in sections 3.1.1 to 3.1.3 below shall be used to identify substantial departures from competitive conduct indicative of an absence of workable competition.

##### **3.1.1 Thresholds for Identifying Physical Withholding**

a) Except as specified in subsection (d) below, the following initial thresholds will be employed by the NYISO to identify physical withholding of a generating unit:

- (1) Withholding that exceeds the lower of 10 percent or 100 MW of a unit's capability, or the lower of 5 percent or 200 MW of a bidding entity's total capability; or
- (2) Operating a unit in real-time at an output level that is less than 90 percent of the NYISO's dispatch level for the unit (i.e., basepoint);

b) The amounts of generating capacity considered withheld for purposes of applying the foregoing thresholds shall include unjustified deratings, and the portions of a generating unit's output that is not bid or subject to economic withholding. The amounts deemed withheld shall not include generating output that is subject to a forced outage or capacity that is out of service for maintenance in accordance with an NYISO maintenance schedule, subject to verification by the NYISO as may be appropriate that an outage was forced.

c) A transmission facility shall be deemed physically withheld if it is not operated in accordance with NYISO instructions and such failure to conform to NYISO instructions causes or contributes to transmission congestion. A transmission facility shall not be deemed withheld if it is subject to a forced outage or is out of service for maintenance in accordance with a NYISO maintenance schedule.

d) Minimum quantity thresholds shall not be applicable to the identification of physical withholding by an Electric Facility in a Constrained Area.

### **3.1.2. Thresholds for Identifying Economic Withholding**

a) The following thresholds shall be employed by the NYISO to identify economic withholding that may warrant the mitigation of a unit in an area that is not a Constrained Area, or in a Constrained Area during periods not subject to transmission constraints affecting the Constrained Area, and shall be determined with respect to a reference level determined as specified in Section 3.1.4:

- (1) Energy and Minimum Generation Bids: A 300 percent increase or an increase of \$100 per MWh, whichever is lower; provided, however, that Energy or Minimum Generation Bids below \$25 per MWh shall be deemed not to constitute economic withholding.
- (2) Real-time Spinning Reserves Bids: A 300 percent increase or an increase of \$50 per MW, whichever is lower; provided, however, that Operating Reserves bids below \$5 per MW shall be deemed not to constitute economic withholding.
- (3) All Other Reserves Bids: A 300 percent increase or an increase of \$100 per MW, whichever is lower; provided, however, that Operating Reserves bids below \$5 per MW shall be deemed not to constitute economic withholding.
- (4) Start-up Costs Bids: A 200 percent increase.
- (5) Time-based bid parameters: An increase of 3 hours, or an increase of 6 hours in total for multiple time-based bid parameters. Time-based bid parameters include, but are not limited to, start-up times, minimum run times and minimum down times.
- (6) Bid parameters expressed in units other than time or dollars: A 100 percent increase for parameters that are minimum values, or a 50 percent decrease for parameters that are maximum values (including but not limited to ramp rates and maximum stops).

b) The following thresholds shall be employed by the NYISO to identify economic withholding that may warrant the mitigation of a unit in an area that is a Constrained Area, and shall be determined with respect to a reference level determined as specified in Section 3.1.4:

- (1) For Energy and Minimum Generation Bids for the Real-Time Market: for intervals in which an interface into the area in which a generator is located has a shadow price greater than zero, the lower of the thresholds specified for areas that are not Constrained Areas or a threshold determined in accordance with the following formula -

$$\textit{Threshold} = \frac{2\% * \textit{Average Price} * 8760}{\textit{Constrained Hours}}$$

where:

Average Price = the average price in the Real-Time Market in the Constrained Area over the past 12 months, adjusted for fuel price changes, and adjusted for Out-of-Merit Generation dispatch as feasible and appropriate; and

Constrained Hours = the total number of hours over the prior 12 months in which the shadow price has been greater than zero on all interfaces or facilities leading into the Constrained Area in which the generator is located. For the In-City area, "Constrained Hours" shall also include the number of hours that a Storm Watch is in effect. Determination of the number of Constrained Hours shall be subject to adjustment by the NYISO to account for significant changes in system conditions.

- (2) For so long as the In-City area is a Constrained Area, the thresholds specified in subsection (1) shall also apply: (a) in intervals in which the transmission capacity serving the In-City area is subject to Storm Watch limitations; (b) to an In-City unit that is operating as Out-of-Merit Generation; and (c) to a unit dispatched as a result of a Supplemental Resource Evaluation.
- (3) For Energy and Minimum Generation Bids for the Day-Ahead Market: for all Constrained Hours (as defined above) for the unit being bid, a threshold determined in accordance with the formula specified in subsection (1) above, but where Average Price shall mean the average price in the Day-Ahead Market in the Constrained Area over the past twelve months, adjusted for fuel price changes; provided that the use of such thresholds shall commence upon the date specified by the NYISO in notifying the Market Parties of the implementation of automated mitigation procedures that apply the foregoing formula to the Constrained Area Day-Ahead Market.

(4) For purposes of subsections (b)(1), (2) and (3) above and § 3.2.1(3) below, the term “shadow price” shall mean the value of relieving one megawatt of congestion on a constraint, as determined by the SCD in the Real-Time Market and the SCUC in the Day-Ahead Market.

(5) The thresholds listed in Sections 3.1.2(a)(2) through (a)(6).

### **3.1.3. Thresholds for Identifying Uneconomic Production**

a) The following threshold will be employed by the NYISO to identify uneconomic production that may warrant the imposition of a mitigation measure:

- (1) Energy scheduled at an LBMP that is less than 20 percent of the applicable reference level and causes or contributes to transmission congestion; or
- (2) Real-time output from a generating unit that exceeds 110 percent of the NYISO’s real-time dispatch instruction (i.e., basepoint), and causes or contributes to transmission congestion.

### **3.1.4. Reference Levels**

a) A reference level for each component of a generator’s bid shall be calculated on the basis of the following methods, listed in the order of preference subject to the existence of sufficient data:

- (1) The lower of the mean or the median of a unit’s accepted bids or bid components in competitive periods over the previous 90 days for similar hours or load levels, adjusted for changes in fuel prices;
- (2) The mean of the LBMP at the unit’s location during the lowest-priced 25 percent of the hours that the unit was dispatched over the previous 90 days for similar hours or load levels, adjusted for changes in fuel prices; or
- (3) A level determined in consultation with the Market Party submitting the bid or bids at issue and intended to reflect a unit’s marginal costs, provided such consultation has occurred prior to the occurrence of the conduct being examined by the NYISO, and provided the Market Party has provided data on a unit’s operating costs in accordance with specifications provided by the NYISO. The NYISO’s determination of a generating unit’s marginal costs shall include an assessment of the unit’s incremental operating costs in accordance with the



following formula, and such other factors or adjustments as the NYISO shall reasonably determine to be appropriate based on such data as may be furnished by the Market Party or otherwise available to the NYISO:

((heat rate \* fuel costs) + (emissions rate \* emissions allowance price) + other variable operating and maintenance costs)).

Issued by: William J. Museler, President  
Issued on: July 2, 2002

Effective: June 1, 2002

b) If sufficient data do not exist to calculate a reference level on the basis of either of the first two methods and the third is not applicable or an attempt to determine a reference level in consultation with a Market Party has not been successful, the NYISO shall determine a reference level on the basis of:

- (1) the NYISO's estimated costs of an Electric Facility, taking into account available operating costs data, appropriate input from the Market Party, and the best information available to the NYISO; or
- (2) an appropriate average of competitive bids of one or more similar Electric Facilities.

c) Notwithstanding the foregoing provisions, the reference level for New Capacity for the three year period following commencement of its commercial operation shall be the higher of (i) the amount determined in accordance with the provision of § 3.1.4(a) or (b), or (ii) the average of the peak LBMPs over the twelve months prior to the commencement of operation of the New Capacity in the zone in which the New Capacity is located during hours when units with operating characteristics similar to the New Capacity would be expected to run. For entities owning or otherwise controlling the output of capacity in the New York Control Area other than New Capacity, the provisions of this paragraph shall apply only to net additions of capacity during the applicable three year period.

### **3.2. Material Price Effects or Changes in Guarantee Payments**

#### **3.2.1. Market Impact Thresholds**

In order to avoid unnecessary intervention in the New York Electric Markets, Mitigation Measures shall not be imposed unless conduct identified as specified above (i) causes or contributes to a material change in one or more prices in a New York Electric Market administered by the NYISO, or (ii) substantially increases guarantee payments to participants in the New York Electric Market. Initially, the thresholds to be used by the NYISO to determine a material price effect or change in guarantee payments shall be:

- (1) an increase of 200 percent or \$100 per MWh, whichever is lower, in the hourly day-ahead or real-time energy LBMP at any location, or of any other price in a New York Electric Market administered by the NYISO; or
- (2) an increase of 200 percent in guarantee payments to a Market Party for a day;  
or

- (3) for a Constrained Area generating unit subject to a conduct threshold specified in § 3.1.2.b(1) or § 3.1.2b(2) in the Real-Time Market, (i) the scheduling of such unit in the prior SCD interval, or (ii) if the unit is not scheduled, a determination that the reference level for such unit is less than the offer price of the marginal resource by more than the amount of the applicable conduct threshold; provided, however, that mitigation measures shall not be imposed if the sum of the shadow prices on any transmission interface into or in the Constrained Area leading to the area in which such unit is located is less than the dollar amount of the applicable conduct threshold.
- (4) for a Constrained Area generating unit subject to a conduct threshold specified in § 3.1.2(b) in the Day-Ahead Market: for all Constrained Hours (as defined above) for the unit being bid, a threshold determined in accordance with the formula specified in § 3.1.2b)(1) above; provided that the use of such thresholds shall commence upon the date specified by the NYISO in notifying the Market Parties of the implementation of automated mitigation procedures that apply the foregoing formula to the Constrained Area Day-Ahead Market.

### **3.2.2. Price Impact Analysis**

a) When it has the capability to do so, the Market Monitoring Unit, in consultation with the Market Advisor, shall determine the effect on prices or guarantee payments of questioned conduct through the use of sensitivity analyses performed using the NYISO's Security Constrained Unit Commitment computer model ("SCUC") or the NYISO's Security Constrained Dispatch computer model ("SCD"), and such other computer modeling or analytic methods as the Market Monitoring Unit or the Market Advisor shall deem appropriate. Pending development of the capability to use the SCUC or SCD models, the Market Monitoring Unit, in consultation with the Market Advisor, shall determine the effect on prices or guarantee payments of questioned conduct using the best available data and such models and methods as they shall deem appropriate.

b) As soon as practicable, the NYISO shall implement automated procedures within the SCUC that will: (i) determine whether any Day-Ahead Market bids that have not been adequately justified to the Market Monitoring Unit and the Market Advisor exceed the thresholds for economic withholding specified in Section 3.1.2; and if so, (ii) determine whether such bids would cause material price effects or changes in guarantee payments as specified in Section 3.2.1.

c) The NYISO shall forgo performance of the additional SCUC passes necessary for automated mitigation of bids for a given Day-Ahead Market if evaluation of unmitigated bids results in prices at levels at which it is unlikely that the thresholds for bid mitigation will be triggered.

### **3.2.3. Section 205 Filings**

In addition, the NYISO shall make a filing under § 205 with the Commission seeking authorization to apply an appropriate mitigation measure to conduct that departs significantly from the conduct that would be expected under competitive market conditions but does not rise to the thresholds specified in sections 3.1.1 through 3.1.3 above if that conduct has a significant effect on market prices or guarantee payments as specified below, unless the NYISO determines, from information provided by the Market Party or Parties that would be subject to mitigation or other information available to the NYISO that the conduct and associated price or guarantee payments are attributable to legitimate competitive market forces or incentives. For purposes of this section, conduct shall be deemed to have an effect on market prices or guarantee payments that is significant if it exceeds one of the following thresholds:

- (1) an increase of 100 percent in the hourly day-ahead or real-time energy LBMP at any location, or of any other price in a New York Electric Market administered by the NYISO; or
- (2) an increase of 100 percent in guarantee payments to a Market Party for a day.

### **3.3 Consultation with a Market Party**

If through the application of an appropriate index or screen or other monitoring of market conditions, conduct is identified that (i) exceeds an applicable threshold, and (ii) has a material effect, as specified above, on one or more prices or guarantee payments in a New York Electric Market administered by the NYISO, the Market Monitoring Unit shall, as and to the extent specified in the Plan, contact the Market Party engaging in the identified conduct to request an explanation of the conduct. If a Market Party anticipates submitting bids in a market administered by the NYISO that will exceed the thresholds specified in Section 3.1 above for

identifying conduct inconsistent with competition, the Market Party may contact the NYISO to provide an explanation of any legitimate basis for any such changes in the Market Party's bids. If a Market Party's explanation of the reasons for its bidding indicates to the satisfaction of the NYISO, in consultation with the Market Advisor, that the questioned conduct is consistent with competitive behavior, no further action will be taken. Upon request, the NYISO shall also consult with a Market Party with respect to the information and analysis used to determine reference levels under § 3.1.4 for that Market Party. If cost data or other information submitted by a Market Party indicates to the satisfaction of the NYISO, in consultation with the Market Advisor, that the reference levels for that Market Party should be changed, revised reference levels shall be determined, communicated to the Market Party, and implemented, as soon as practicable.

#### **4. MITIGATION MEASURES**

##### **4.1. Purpose**

If conduct is detected that meets the criteria specified in Section 3, the appropriate mitigation measure described in this Section shall be applied by the NYISO. The conduct specified in Sections 3.1.1 to 3.1.3 shall be remedied by the prospective application of a default bid measure as described in Section 4.2. If a bidding entity engages in physical withholding by providing the NYISO false information regarding the derating or outage of an Electric Facility or does not operate a generating unit in conformance with NYISO dispatch instructions such that the prospective application of a default bid is not feasible, or if otherwise appropriate to deter either physical or economic withholding, the NYISO shall apply the sanction described in Section 4.3.

##### **4.2. Default Bid**

###### **4.2.1. Purpose**

A default bid shall be designed to cause a Market Party to bid as if it faced workable competition during a period when (i) the Market Party does not face workable competition, and (b) has responded to such condition by engaging in the physical or economic withholding of an Electric Facility. In designing and implementing default bids, the NYISO shall seek to avoid causing an Electric Facility to bid below its marginal cost.

###### **4.2.2. Implementation**

a) If the criteria contained in Section 3 are met, the NYISO may substitute a default bid for a bid submitted for an Electric Facility. The default bid shall establish a maximum or minimum value for one or more components of the submitted bid, equal to a reference level for that component determined as specified in Section 3.1.4.

b) An Electric Facility subject to a default bid shall be paid the LBMP or other market clearing price applicable to the output from the facility. Accordingly, a default bid shall not limit the price that a facility may receive unless the default bid determines the LBMP or other market clearing price applicable to that facility.

c) The NYISO shall not use a default bid to determine revised market clearing prices for periods prior to the imposition of the default bid, except as may be specifically authorized by the Commission.

d) As soon as practicable, the NYISO shall automate implementation of the default bid mitigation measure within the SCUC if the results of the automated assessment described in Section 3.2.2.b) indicate that the criteria for mitigation are met, subject to the following requirements.

- (1) Automated mitigation procedures shall not be applied to hydroelectric resources or external units. In addition, except as specified below the following shall not be mitigated on an automated basis: (i) bids by a Market Party or its Affiliates that together have bidding control over 50 MW or less of capacity; or (ii) bids by a Market Party or its Affiliates that together have bidding control over 50 MW or more of capacity if the bids by such entities that meet the applicable conduct test for mitigation are for an amount of capacity that totals 50 MW or less. The foregoing exemptions shall be reduced or discontinued for any Market Party or its Affiliates determined by the NYISO, after consulting with the bidding entity as specified in Section 3.3, to be submitting bids that constitute economic withholding that has a significant effect on prices or guarantee payments.
- (2) Automated mitigation measures shall not be applied if the price effects of the measures would cause the average day-ahead energy price in the mitigated locations or zones to rise over the entire day.
- (3) Automated mitigation measures shall be applied to Minimum Generation and Start-up bids meeting the applicable conduct test and resulting in increases in LBMPs that meet the applicable impact test. When mitigation of Minimum Generation is warranted, mitigation shall be imposed from the first hour in which the impact test is met to the last hour in which the impact test is met, or for the duration of the mitigated unit's minimum run time, whichever is longer. Automated mitigation measures shall not be

applied to Minimum Generation bids applicable to units to be started after hour 20 in a dispatch day and that have a minimum run time of at least 4 hours.

- (4) The posting of the Day-Ahead schedule may be delayed if necessary for the completion of automated mitigation procedures.
- (5) Bids not mitigated under automated procedures shall remain subject to mitigation by other procedures specified herein as may be appropriate.

e) A Real-Time mitigation measure imposed in a Constrained Area in accordance with the conduct thresholds of Sections 3.1.2(b)(1) or (2) and the impact thresholds of Section 3.2.1(3) shall remain in effect for the duration of any hour in which there is an interval for which such mitigation is deemed warranted.

#### **4.3. Sanctions**

##### **4.3.1. Types of Sanctions**

They NYISO may impose financial penalties on a Market Party in amounts determined as specified below.

##### **4.3.2. Imposition**

The NYISO shall impose financial penalties as provided in this section 4.3, if the NYISO determines in accordance with the thresholds and other standards specified in this Addendum A that; (i) a Market Party has engaged in physical withholding, including providing the NYISO false information regarding the derating or outage of an Electric Facility; or (ii) a Market Party has failed to operate a generating unit in conformance with NYISO dispatch instructions, and such conduct has caused a material increase in one or more prices or guarantee payments in a New York Electric Market administered by the NYISO; or (iii) Load Serving Entity has been subjected to a Penalty Level payment in accordance with section 4.4 below.

#### 4.3.3. Base Penalty Amount

a) Financial penalties shall be determined by the product of the Base Penalty Amount, as specified below, times the appropriate multiplier specified in Section 4.3.4:

MW meeting the standards for mitigation during Mitigated Hours \* Penalty LBMP.

b) For purposes of determining a Base Penalty Amount, the term “Mitigated Hours” shall mean: (i) for a Day-Ahead Market, the hours in which conduct was mitigated; (ii) for a Real-Time Market, the hours in the calendar day in which the conduct was first mitigated; and (iii) for load bids, the hours giving rise to Penalty Level payments.

c) For purposes of determining a Base Penalty Amount, the term “Penalty LBMP” shall mean: (i) for a seller, the LBMP at the generator bus of the withheld resource; and (ii) for a Load Serving Entity, its zonal LBMP.

d) Real-Time LBMPs shall not be revised as a result of the imposition of a financial obligation as specified in this section, except as may be specifically authorized by the Commission.

#### 4.3.4. Multipliers

The Base Penalty Amount specified in Section 4.3.3 shall be subject to the following multipliers:

a) For the first instance of a type of conduct by a Market Party meeting the standards for mitigation, the multiplier shall be one (1).

b) For the second instance within the current or the two immediately previous capability periods of substantially similar conduct in the same market by a Market Party or its Affiliates, the multiplier shall be one (1),

c) For the third instance within the current or the two immediately previous capability periods of substantially similar conduct in the same market by a Market Party or its Affiliates, the multiplier shall be two (2),

d) For the fourth or any additional instance within the current or immediately previous capability period of substantially similar conduct in the same market by a Market Party or its Affiliates, the multiplier shall be three (3).



#### **4.3.5. Dispute Resolution**

a) The exclusive means for the resolution of disputes arising from or relating to the imposition of a sanction under this Section 4.3 shall be the dispute resolution provisions of the NYISO Market Monitoring Plan and this Addendum A to the Market Monitoring Plan. The scope of any such proceeding shall include resolution of any dispute as to legitimate justifications, under applicable legal, regulatory or policy standards, for any conduct that is asserted to warrant a penalty. Any or all of the issues in any such proceeding may be resolved by agreement of the parties.

b) Payment of a financial penalty may be withheld pending conclusion of any arbitration or other alternate dispute resolution proceeding instituted pursuant to the preceding paragraph and any petition to FERC for review under the Federal Power Act of the determination in such dispute resolution proceeding; provided, however, that interest at the NYISO's average cost of borrowing shall be payable on the amount of any unpaid penalty from the date of the infraction giving rise to the penalty to the date of payment. The exclusive remedy for the imposition of a financial penalty, to the exclusion of any claim for damages or any other form of relief, shall be a determination that a penalty should not have been imposed, and a refund with interest of paid amounts of a penalty determined to have been improperly imposed, as may be determined in the applicable dispute resolution proceedings.

c) This Section 4.3 shall not be deemed to provide any right to damages or any other form of relief that would otherwise be barred by Section 12 of the Market Monitoring Plan or Section 6 of this Addendum A to the Market Monitoring Plan.

d) This Section 4.3 shall not restrict the right of any party to make such filing with the Commission as may otherwise be appropriate under the Federal Power Act.

#### **4.3.6. Disposition of Penalty Funds**

Except as specified in Section 4.4.3(b), amounts collected as a result of the imposition of financial penalties shall be credited against costs collectable under Rate Schedule 1 of the NYISO Services Tariff.

#### **4.4. Load Bid Measure**

##### **4.4.1. Purpose**

As initially implemented, the NYISO market rules allow loads to choose to purchase power in either the Day-Ahead Market or in the Real-Time Market, but provide other Market Parties less flexibility in opting to sell their output in the Real-Time Market. As a result of this and other design features, certain bidding practices may cause Day-Ahead LBMPs not to achieve the degree of convergence with Real-Time LBMPs that would be expected in a workably competitive market. A temporary mitigation measure is specified below as an interim remedy if conditions warrant action by the NYISO until such time as the NYISO develops and implements an effective long-term remedy, if needed. These measures shall only be imposed if persistent unscheduled load causes operational problems, including but not limited to an inability to meet unscheduled load with available resources. The NYISO shall post a description of any such operational problem on its web site.

##### **4.4.2. Implementation**

a) 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.

b) The NYISO shall compute the average hourly deviation between day-ahead and real-time zone prices, measured as:  $(\text{Zone Price}_{\text{real time}} / \text{Zone Price}_{\text{day ahead}}) - 1$ . The average hourly deviation shall be computed over a rolling eight week period or such other period determined by the NYISO to be appropriate to achieve the purpose of this mitigation measure.

c) The NYISO shall also estimate and monitor the average percentage of each Load Serving Entity's load scheduled in the Day-Ahead Market, using a methodology intended to identify a sustained pattern of under-bidding as accurately as the NYISO deems practicable. The average percentage will be computed over a specified time period determined by the NYISO to be appropriate to achieve the purpose of this mitigation measure.

d) If the NYISO 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, (ii) one or more Load Serving Entities have been meeting a substantial portion of their loads with purchases in the Real-Time Market, and (iii) that this practice has contributed to an unwarranted divergence of LBMP between the two markets, then the following mitigation measure may be imposed. Any such measure shall be rescinded upon a determination by the NYISO that any one or more of the foregoing conditions is not met.

#### **4.4.3 Description of the Measure**

a) The NYISO may require a Load Serving Entity engaging in the purchasing practice described above to purchase or schedule all of its expected power requirements in the Day-Ahead Market. A Load Serving Entity subject to this requirement may purchase up to a specified portion of its actual load requirements (the "Allowance Level") in the Real-Time Market without penalty, as determined by the NYISO to be appropriate in recognition of the uncertainty of load forecasting.

b) Effective with the imposition of the foregoing requirement, all purchases in the Real-Time Market in excess of this Allowance Level (the "Penalty Level") shall be settled at a specified premium over the applicable zone LBMP. Revenues from such premiums, if any, shall be rebated on a *pro rata* basis to the Market Parties that scheduled energy for delivery to load within New York in the Day-Ahead Market for the day in which the revenues were collected.

c) The Allowance Level and the Penalty Level shall be established by the NYISO at levels deemed effective and appropriate to mitigate the market effects described in this Section 4.4. In addition, the Penalty Level payments shall be waived in any hour in which the Allowance Level is exceeded because of unexpected system conditions.

#### **4.5 Installed Capability Market Mitigation Measures**

a) If and to the extent that sufficient installed capability is not under a contractual obligation to be available to serve load in New York and if physical or economic withholding of installed capability would be likely to result in a material change in the price for installed capability in all or some portion of New York, the NYISO, in consideration of the comments of the Market Parties and other interested parties, shall amend this Addendum, in accordance with the procedures and requirements for amending the Plan, to implement appropriate mitigation measures for installed capability markets.

b) Sales or resales of Unforced Capacity from the In-City units specified below shall be at prices not higher than \$112.95 per kW-year, the translated equivalent value of the \$105 per kW-year price cap for Installed Capacity for the specified units approved by the Commission. *Consolidated Edison Company of New York, Inc.*, 84 FERC ¶ 61,287 (1998). The specified units are: Arthur Kill Units 2 and 3, the Arthur Kill Gas Turbine, the Astoria Gas Turbines, Ravenswood Units 1, 2 and 3, the Ravenswood Gas Turbines, Astoria Units 3, 4 and 5, the Gowanus Gas Turbines, the Narrows Gas Turbines, the East River Generating Station, and the Waterside Generating Station.

c) In the event an In-City mitigated unit, as specified above, fails to comply with the Unforced Capacity auction offer requirements in section 5.13.1 of the Services Tariff, the mitigated unit will be required to pay to the ISO an amount equal to the ISO Capacity Deficiency Charge for such period times its rated capacity at the time of the divestiture. The ISO will distribute this deficiency charge among the proper In-City LSEs under procedures determined by the ISO and stakeholders.

## **4.6. Virtual Bidding Measures**

### **4.6.1. Purpose**

The provisions of this section 4.5 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 NYISO Day-Ahead Market in accordance with the procedures and requirements specified in the NYISO Services Tariff.

### **4.6.2. Implementation**

a) 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.

b) The NYISO shall compute the average hourly deviation between day-ahead and real-time zone prices, measured as:  $(\text{Zone Price}_{\text{real time}} / \text{Zone Price}_{\text{day ahead}}) - 1$ . The average hourly deviation shall be computed over a rolling four week period or such other period determined by the NYISO to be appropriate to achieve the purpose of this mitigation measure.

c) If the NYISO 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 NYISO that the foregoing conditions are not met.

### **4.6.3. Description of the Measure**

a) If the NYISO determines that the conditions specified in § 4.5.2 exist, the NYISO 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 NYISO, would be sufficient to prevent any unwarranted divergence between Day-Ahead and Real-Time LBMPs.

b) As part of the foregoing determination, the NYISO 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 NYISO shall notify the affected Market Participant of the limitation.

#### **4.6.4. Limitation of Virtual Bidding**

If the NYISO determines that such action is necessary to avoid substantial deviations of LBMPs between the Day-Ahead and Real-Time Markets, the NYISO 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.

#### **4.6.5. Monitoring and Analysis of Virtual Bidding Market Design and Rules**

The Market Monitoring Unit, in consultation with the New York ISO Market Advisor, shall monitor and assess the impact of Virtual Bidding on the competitive structure and performance of, and the economic efficiency of, the New York Electric Markets. Such monitoring and assessment shall include the effects, if any, of Virtual Bidding on any automated mitigation procedures, or any mitigation measures specified in Section 5 of these Market Mitigation Measures, administered by the NYISO. The New York ISO Market Advisor together with the Market Monitoring Unit shall prepare and submit to the Board, the Market Participants, and Interested Government Agencies a report on the results of such monitoring and assessment not later than 45 days after the end of each of the first four Capability Periods following the commencement of Virtual Bidding. Such report shall include any recommendations of the New York ISO Market Advisor or the Market Monitoring Unit for the improvement of the New York Electric Markets, or of the monitoring, reporting and other functions undertaken pursuant to this Plan, to accommodate Virtual Bidding. Following the submission of the last of the reports specified above, an assessment of the market impacts of Virtual Bidding shall be included in the annual reports required by Section 10.1 of the NYISO Market Monitoring Plan.

#### **4.7 Duration of Mitigation Measures**

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 NYISO.

### **5. OTHER MITIGATION MEASURES**

#### **5.1 Facilitation of Real-Time Mitigation in Constrained Areas**

To facilitate the application of the Real-Time mitigation measures specified in this Attachment H for Constrained Areas, all generating units located in a Constrained Area that are capable of doing so shall operate On-Dispatch, unless such a unit is subject to contractual obligations in existence prior to the effective date of this provision that would preclude such operation.

#### **5.2 In-City Day-Ahead Mitigation Measures**

Prior to the implementation of the automated mitigation measures described in § 3.1.2(b)(3), the following mitigation measures shall be applied if the NYISO determines that transmission constraints on or into the In-City transmission system either will (i) limit the source of generating units, other than In-City generating units, that can supply energy to meet In-City load, *i.e.*, energy dispatch, or (ii) require that certain In-City generating units be committed, whether or not they are in merit for energy dispatch purposes, to meet local reliability rules. *i.e.*, unit commitment.

##### **5.2.1 Mitigation Measures Applicable to the Energy Market**

The mitigation measures applicable to the dispatch of energy shall be implemented for all 24 hours of the NYISO's Day-Ahead unit commitment if the NYISO's Day-Ahead unit commitment passes indicate that the LBMP at any of the In-City generating units during any hour of the following day would be greater than one hundred and seven (107%) of the LBMP at the Indian Point Unit 2. When these mitigation measures are implemented, the NYISO

shall replace the as-submitted bids for any of the In-City generating units with Energy, Minimum Generation and Start-Up bids at the reference levels applicable to such unit, determined as set forth above, to determine the unit commitment and schedules and the hourly energy prices for the Day-Ahead Market. The as-submitted bids for any In-City generating unit shall only be replaced if they are greater than the reference level for such affected In-City generating unit.

### **5.2.2 Mitigation Measures Applicable to Unit Commitments**

a) These mitigation measures will be implemented when the NYISO's day-ahead unit commitment requires an In-City generating unit to be committed to meet local reliability requirements, under circumstances where the In-City generating unit would not otherwise have been committed under the NYISO's least-cost dispatch. Mitigation measures will not be implemented under circumstances where local reliability criteria require an In-City generating unit to be committed, but such generating unit would have been committed under the NYISO's least-cost dispatch.

b) When the NYISO's day-ahead unit commitment identifies an In-City generating unit that was required to be committed due to second contingency constraints, that generating unit's bids for Start-up and Minimum Generation will be replaced by the bids at the applicable reference level. For any day that an In-City generating unit's Start-up and Minimum Generation bids are replaced, bids at the applicable reference level shall apply in all hours of such day.

### **5.2.3 Market Power Mitigation Measures Applicable to Sales of Spinning Reserves**

a) Local reliability rules require that specified amounts of Spinning Reserves be provided by In-City generating units. The Spinning Reserve-capable portion of each In-City generating unit must be made available to the NYISO for purposes of meeting the In-City Spinning Reserve requirement.

b) The market power mitigation measures applicable to Spinning Reserves will be implemented when the NYISO's least-cost dispatch requires that one or more of the In-City generating units be committed to meet the In-City Spinning Reserve requirement. For any day that an In-City generating unit is committed to meet the In-City Spinning Reserve requirement under circumstances where such generating unit would not otherwise have been committed under the NYISO's least-cost dispatch, the market power mitigation measures applicable to the unit commitment market, as described in § 5.2.2 above, shall apply in all hours of the day.



c) In addition, In-City generators must bid zero (\$0) for the availability portion of the Spinning Reserves bid. The implementation of this mitigation measure will have no effect on an In-City generating unit's ability to recover the market-clearing price for lost opportunity costs or market-clearing availability price established by the NYISO for the sale of Spinning Reserves.

### **5.3 FERC-Ordered Measures**

In addition to any mitigation measures specified above, the NYISO shall administer, and apply when appropriate in accordance with their terms, such other mitigation measures as it may be directed to implement by order of the FERC.

## **6. DISPUTE RESOLUTION**

If a Market Party has reasonable grounds to believe that it has been adversely affected because a Mitigation Measure has been improperly applied or withheld, it may seek a determination in accordance with the dispute resolution provisions of the New York Independent System Operator Agreement whether, under the standards and procedures specified above and in the Plan, the imposition of a Mitigation Measure was or would have been appropriate. In no event, however, shall the NYISO be liable to a Market Party or any other person or entity for money damages or any other remedy or relief except and to the extent specified in the Plan.

## **7. EFFECTIVE DATE**

These Mitigation Measures shall be effective as of the date they are approved by the FERC, or as specified in any Temporary Extraordinary Procedures approved by FERC for implementation coincident with the initiation of the New York Electric Markets administered by the NYISO.