



April 1, 2010

**VIA HAND DELIVERY**

Honorable Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

**Re: ISO New England Inc. and New England Power Pool,  
Docket No. ER10- -000; FCM Conforming Changes to Appendix A to Market  
Rule 1**

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act,<sup>1</sup> ISO New England Inc. (the "ISO") and the New England Power Pool ("NEPOOL") Participants Committee<sup>2</sup> (together, the "Filing Parties") hereby jointly submit an original and five copies of this transmittal letter and revised tariff sheets that revise Appendix A to Market Rule 1 to conform that appendix with the market-related requirements scheduled to go into effect on June 1, 2010 with the commencement of the first Capacity Commitment Period of the Forward Capacity Market (for 2010-2011) (the "FCM Conforming Changes"). In support of the FCM Conforming Changes, this filing also includes the testimony of Mario S. DePillis, Jr., Ph.D., Supervisor of Market Assessment in the ISO's Market Monitoring Department, which is sponsored solely by the ISO (the "DePillis Testimony").

The Filing Parties request that the FCM Conforming Changes become effective June 1, 2010 to coincide with the effectiveness of a number of other tariff changes associated with the beginning of the first FCM Capacity Commitment Period that also will become effective on that date.

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<sup>1</sup> 16 U.S.C. § 824d (2006 and Supp. II 2009).

<sup>2</sup> Capitalized terms used but not defined in this filing are intended to have the meaning given to such terms in the ISO New England Inc. Transmission, Markets and Services Tariff, FERC Electric Tariff No. 3 ("ISO Tariff"), the Second Restated New England Power Pool Agreement, and the Participants Agreement. Market Rule 1 is Section III of the ISO Tariff.

## I. DESCRIPTION OF THE FILING PARTIES; COMMUNICATIONS

The ISO is the private, non-profit entity that serves as the regional transmission organization (“RTO”) for New England. The ISO operates the New England bulk power system and administers New England’s organized wholesale electricity market pursuant to the ISO Tariff and the Transmission Operating Agreement with the New England transmission owners. In its capacity as an RTO, the ISO also has the objective to assure that the bulk power supply system within the New England Control Area conforms to proper standards of reliability as established by the Northeast Power Coordinating Council and the North American Electric Reliability Corporation.

NEPOOL is a voluntary association organized in 1971 pursuant to the New England Power Pool Agreement, and it has grown to include more than 410 members. The Participants include all of the electric utilities rendering or receiving services under the ISO Tariff, as well as independent power generators, marketers, load aggregators, brokers, consumer-owned utility systems, demand response providers, developers, end users and a merchant transmission provider. Pursuant to revised governance provisions accepted by the Commission in *ISO New England Inc. et al.*, 109 FERC ¶ 61,147 (2004), the Participants act through the NEPOOL Participants Committee. The Participants Committee is authorized by Section 6.1 of the Second Restated NEPOOL Agreement and Section 8.1.3(c) of the Participants Agreement to represent NEPOOL in proceedings before the Commission. Pursuant to Section 2.2 of the Participants Agreement, “NEPOOL provide[s] the sole Participant Process for advisory voting on ISO matters and the selection of ISO Board members, except for input from state regulatory authorities and as otherwise may be provided in the [ISO] Tariff, [Transmission Operating Agreement] and the Market Participant Services Agreement included in the [ISO] Tariff.”

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## II. STANDARD OF REVIEW

The instant revisions are submitted pursuant to Section 205 of the Federal Power Act, which “gives a utility the right to file rates and terms for services rendered with its assets.”<sup>4</sup> Under Section 205, the Commission “plays ‘an essentially passive and reactive’ role”<sup>5</sup> whereby it “can reject [a filing] only if it finds that the changes proposed by the public utility are not ‘just and reasonable.’”<sup>6</sup> The Commission limits this inquiry “into whether the rates proposed by a utility are reasonable -- and [this inquiry does not] extend to determining whether a proposed rate schedule is more or less reasonable than alternative rate designs.”<sup>7</sup> The revision “need not be the only reasonable methodology, or even the most accurate.”<sup>8</sup> As a result, even if an intervenor or the Commission develops an alternative proposal, the Commission must accept this Section 205 filing if it is just and reasonable.<sup>9</sup>

## III. BACKGROUND; DESCRIPTION OF THE FCM CONFORMING CHANGES

In light of the approaching commencement date for the first Commitment Period for the Forward Capacity Market, the ISO reviewed the pertinent sections of the ISO Tariff to consider whether changes were necessary to conform those sections to the provisions of Section III.13 of Market Rule 1, as they have been modified in preparation for the first Commitment Period.

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<sup>3</sup> Due to the joint nature of this filing, the Filing Parties respectfully request a waiver of Section 385.2003 of the Commission’s regulations to allow the inclusion of more than two persons on the service list in this proceeding.

<sup>4</sup> *Atlantic City Elec. Co. v. FERC*, 295 F.3d 1, 9 (D.C. Cir. 2002).

<sup>5</sup> *Id.* at 10 (quoting *City of Winnfield v. FERC*, 744 F.2d 871, 876 (D.C. Cir. 1984)).

<sup>6</sup> *Id.*

<sup>7</sup> *City of Bethany v. FERC*, 727 F.2d 1131, 1136 (D.C. Cir. 1984).

<sup>8</sup> *Oxy USA, Inc. v. FERC*, 64 F.3d 679, 692 (D.C. Cir. 1995).

<sup>9</sup> *Cf. Southern California Edison Co., et al.*, 73 FERC ¶ 61,219 at 61,608 n.73 (1995) (“Having found the Plan to be just and reasonable, there is no need to consider in any detail the alternative plans proposed by the Joint Protesters.” (citing *City of Bethany*, 727 F.2d at 1136)).

Among the portions of the tariff that required modification was Appendix A to Market Rule 1. Appendix A contains the ISO's market monitoring and mitigation provisions.

The DePillis Testimony describes the FCM Conforming Changes and the reasons for the changes. These changes are in four sections of Appendix A:

- III.A.4 (Physical Withholding);
- III.A.5.2.1.1 (Resources with Partial Capacity Supply Obligations);
- III.A.5.6.1 (Methods for Determining Reference Levels); and
- III.A.5.9. (Determination of Offer Competitiveness During Shortage Event).

These changes are just and reasonable, for the reasons set forth below.

**A. Section III.A.4 (Physical Withholding)**

Section III.A.4 describes thresholds and tests that the Internal Market Monitor uses to evaluate whether a Market Participant is offering the energy of a resource into the New England Markets in such a manner that it constitutes physical withholding of the resource's energy.

The FCM Conforming Changes clarify Section III.A.4 to reflect that the Internal Market Monitor reviews Market Participant resource offer activities for attempts to manipulate market prices through physical withholding without regard to whether the resource has a Capacity Supply Obligation ("CSO") to provide capacity in the Forward Capacity Market. The revisions also remove provisions that call for the Internal Market Monitor to apply the sanctions in Appendix B to Market Rule 1 in the event that a Market Participant's behavior constitutes physical withholding. Instead, the Internal Market Monitor will evaluate attempts to manipulate market prices through physical withholding for potential referral to the Commission as a "Market Violation," under Appendix A, again, without regard to whether the offending resource has a CSO in the Forward Capacity Market. In and of itself, however, failure to offer non-CSO MWs is not a Market Violation and therefore would not form the basis of a referral to the Commission.<sup>10</sup>

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<sup>10</sup> Under the FCM rules, resources without a CSO are not required to submit offers into either the Day-Ahead or Real Time Energy Markets.

**B. Section III.A.5.2.1.1 (Resources with Partial Capacity Supply Obligations)**

Section III.A.5.2.1.1 pertains to the scenario in which a resource has a partial CSO, *i.e.*, a CSO less than its full capability, and permits calculation of which price and quantity blocks of a Supply Offer are exempt from evaluation.

The FCM Conforming Changes include three modifications to this section. First, the language is updated to reflect the terminology of the Forward Capacity Market.

Second, the revised language identifies which megawatts of each resource are non-CSO megawatts and thus not subject to mitigation in the Day-Ahead Energy Market. By way of background, when a resource is derated for a generator outage, the settlement rules in Section III.13 credit the maximum available megawatts against its CSO, rather than use a proration methodology to determine the CSO megawatts. The same methodology will be used in Section III.A.5.2.1.1 to determine which megawatts of a resource are subject to mitigation. The DePillis Testimony provides an example of the application of the methodology.

Third, in some limited circumstances, as illustrated in the DePillis Testimony, multiple assets are treated as a single resource for purposes of the Forward Capacity Market (*i.e.*, cleared in the FCA as a single capacity resource), but are treated separately for the purpose of energy market participation (*i.e.*, offer submission and scheduling). In these circumstances, a method is needed to map the CSO onto the megawatts offered from the underlying assets in order to determine which price and quantity offer blocks to evaluate for mitigation in the Day-Ahead Energy Market. The FCM Conforming Changes address this need by establishing a default allocation method that prorates the Capacity Supply Obligation across the resource's underlying assets. The changes also allows a Market Participant to propose to the Internal Market Monitor in advance of a month how it would prefer to allocate its CSO to the assets comprising the Resource. The Internal Market Monitor will review such allocations for non-competitive behavior prior to approval.

**C. Section III.A.5.6.1 (Methods for Determining Reference Levels)**

The FCM Conforming Changes ensure that the Reference Level, itself, is set at the appropriate value for purposes of mitigation. By way of background, Section III.A.5.6.1 of Appendix A addresses the calculation of Reference Levels for resources, *i.e.*, the value to which a resource's offer will be mitigated if the resource's offer fails the conduct and impact tests. Three methods are used to calculate Reference Levels, depending on the information available. The first, and preferred, method is based on offers made for the resource over the last 90 days that were accepted in the market. If insufficient data is available for the first method, then the second method is used. The second method uses market clearing prices at the resource's location during the lowest-priced 25% of the hours that the resource was dispatched over the previous 90 days. If there is insufficient data for either of the first two methods, then the third approach is used. The third approach uses cost and technical data to estimate the resource's marginal costs.

At times, the Reference Level calculated according to either of the first two methods falls below the marginal cost estimate calculated under the third method. In this case, mitigation below marginal cost is prevented by explicit language in existing Section III.A.5.7.3 of Market Rule 1.<sup>11</sup> The result under the existing rule is as if the Reference Level were set to the estimated marginal cost. However, the actual Reference Level is not changed and remains below the estimated marginal cost.

Under the FCM Conforming Changes, Section III.A.5.6.1 is modified to provide that the Reference Level is pre-set to equal the value that would be used in mitigation. Accordingly, there will be no difference between the Default Offer and the Reference Level.

This change impacts the evaluation of offline resource availability in the FCM for the purpose of assessing Shortage Event availability scores (*i.e.*, whether a capacity resource is considered available during a Shortage Event or whether it receives a Shortage Event penalty). Under the Forward Capacity Market rules, the Internal Market Monitor is required to evaluate the competitiveness of a resource's offer if the resource was not available during a Shortage Event due to its lack of quick-start capability or on-line status. If the Internal Market Monitor determines that the resource was offered competitively, it may be deemed available and avoid a penalty, as discussed further below in relation to Section III.A.5.9.

The Forward Capacity Market rules prescribe that the Internal Market Monitor use Reference Levels to conduct this evaluation of competitiveness, with the expectation that the Reference Level values are a reflection of the resource's marginal costs. Unless the rules for determining Reference Levels are revised so that Reference Levels are an explicit reflection of estimated marginal costs, this expectation is not necessarily met. The FCM Conforming Changes resolve this potential inconsistency by setting the Reference Level equal to the estimated marginal cost, when estimated marginal cost is greater than the otherwise calculated Reference Level calculated using one of the first two methods in Section III.A.5.6.1.

#### **D. III.A.5.9 (Determination of Offer Competitiveness During Shortage Event)**

The FCM Conforming Changes add a new Section III.A.5.9 to Appendix A that describes how the Internal Market Monitor evaluates the competitiveness of an offer during a Forward Capacity Market Shortage Event. By way of background, resources that have a CSO are required to be either producing energy, providing reserve, or otherwise available under the FCM rules during such an event. If the resource is off-line and cannot start quickly enough to provide energy within 30 minutes, then it is determined to be unavailable and is assessed a penalty, unless the resource has offered competitively but has not cleared the Day-Ahead Energy Market,

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<sup>11</sup> That section provides: "In designing and implementing Default Offers, the Internal Market Monitor shall seek to avoid causing a resource to offer below its marginal cost."

has not been committed by the ISO for reliability during its resource adequacy assessment, and its unit characteristics satisfy the requirements of Section III.13.7.1.1.3.<sup>12</sup>

The need for the new Section III.A.5.9 stems from a requirement stated in the Forward Capacity Market rules. Section III.13.7.1.1.3(c) of Market Rule 1 states:

For a resource that is off-line with a metered output equal to zero and available for dispatch and following ISO dispatch instructions and has a cold notification plus cold start-up time of less than or equal to 12 hours (16 hours, during the first five Capacity Commitment Periods for resources with notification plus start-up times greater than 12 hours as of June 16, 2006) and the output, up to the Capacity Supply Obligation, was competitively offered into the Energy Market (*i.e., capacity from the listed portion of the resource was offered at or below the appropriate Reference Level plus applicable conduct thresholds*) but was not committed by the ISO and was consequently unavailable within 30 minutes, the available MW in an hour shall be the resource's Economic Maximum Limit, as submitted or redeclared by the Lead Market Participant.<sup>13</sup>

The italicized phrase requires the ISO to determine competitiveness using Reference Levels, but does not provide further details. Section III.A.5.9 of Appendix A is submitted herein to provide those details, and provides a two-stage competitiveness evaluation.

The first stage of the evaluation examines whether the resource offered competitively enough to be committed at minimum load.<sup>14</sup> This would, in most cases, have allowed it to be available in real-time and avoid a shortage penalty outside of Section III.13.7.1.1.3(c). If the resource does not pass this first minimum load test, then the entire resource is determined to be non-competitive.

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<sup>12</sup> These provisions apply to resources other than Intermittent Resources. In lieu of Shortage Event penalties, the capacity credit of an Intermittent Resource is set based on its historic generation levels during peak hours.

<sup>13</sup> Emphasis added.

<sup>14</sup> The first stage evaluates the offer parameters that are primarily involved in the commitment decision and that could have prevented the resource from being brought on-line at its minimum load level. These parameters include the energy price of the offer blocks up to the Economic Minimum Level, No Load Fee, Start-up Fee, and Minimum Run Time. The value of each of these Supply Offer parameters is evaluated against mitigation thresholds set forth in Section III.A.5.3.1 and III.A.5.3.3. If an offer parameter exceeds the applicable threshold, the resource is determined to be offered non-competitively.

The second stage of the evaluation examines the competitiveness of the incremental energy offer blocks above minimum load.<sup>15</sup> Application of this stage allows the resource to receive credit in its Shortage Event availability score for incremental energy offer blocks that are competitively offered, and results in the application of a penalty only for the non-competitively offered blocks. .

#### **IV. STAKEHOLDER PROCESS**

The NEPOOL Markets Committee, at its January 5, 2010 meeting, voted 99.21% to recommend NEPOOL Participants Committee support for the FCM Conforming Changes. The NEPOOL Participants Committee unanimously approved the FCM Conforming Changes at its February 5, 2010 meeting as part of its Consent Agenda, with only one abstention noted.<sup>16</sup>

#### **V. REQUESTED EFFECTIVE DATE**

The Filing Parties request an effective date of June 1, 2010 for the FCM Conforming Changes.

#### **VI. ADDITIONAL SUPPORTING INFORMATION**

Section 35.13 of the Commission's regulations generally requires public utilities to file certain cost and other information related to an examination of traditional cost-of-service rates.<sup>17</sup> However, the FCM Conforming Changes are not traditional "rates," and the Filing Parties are not traditional investor-owned utilities. In light of these circumstances, the Filing Parties submit the following additional information in substantial compliance with relevant provisions of Section 35.13, and request a waiver of Section 35.13 of the Commission's regulations to the extent the content or form deviates from the specific technical requirements of the regulations.

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<sup>15</sup> The second stage evaluates the resource's incremental energy offer blocks above the Economic Minimum Limit. The price-quantity pairs are evaluated under the mitigation thresholds in Sections III.A.5.3.1 and III.A.5.3.3. If the offer exceeds the threshold, the incremental energy offer (and all blocks above that offer block) is deemed non-competitive. All competitive blocks are considered available for the purpose of applying the Shortage Event penalty exception. For example, for an offline resource with a 100 MW Capacity Supply Obligation, if the lowest priced 80 MW are competitive, but the top 20 MW are not, the resource is assessed a Shortage Event penalty only on the non-competitive 20 MW.

<sup>16</sup> The Consent Agenda for a Participants Committee meeting, similar to the Consent Agenda for a Commission open meeting, is a group of actions (each recommended by a Technical Committee or subgroup established by the Participants Committee) to be taken by the Participants Committee through approval of a single motion at a meeting. All recommendations voted on as part of the Consent Agenda are deemed to have been voted on individually and independently. The Participants Committee's approval of the February 5, 2010 Consent Agenda included its support for the FCM Conforming Changes.

<sup>17</sup> 18 C.F.R. § 35.13 (2010).

35.13(b)(1) - Materials included herewith are as follows:

- ♦ This transmittal letter;
- ♦ Blacklined Tariff Sheets reflecting the revisions submitted in this filing (Attachment 1);
- ♦ Clean Revised Tariff Sheets reflecting the revisions submitted in this filing (Attachment 2);
- ♦ Testimony of Mario S. DePillis, Ph.D., Supervisor of Market Assessment in the ISO's Market Monitoring Department, sponsored solely by the ISO (Attachment 3); and
- ♦ List of governors, utility regulatory agencies in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont, and other entities, to which a copy of this filing has been sent (Attachment 4).

35.13(b)(2) - The Filing Parties request that the revisions become effective June 1, 2010.

35.13(b)(3) - Pursuant to Section 17.11(e) of the Participants Agreement, Governance Participants are being served electronically rather than by paper copy. The names and addresses of the Governance Participants are posted on the ISO's website at [http://www.iso-ne.com/regulatory/ferc/nepool/gov\\_ptcpts\\_eserved.pdf](http://www.iso-ne.com/regulatory/ferc/nepool/gov_ptcpts_eserved.pdf). A copy of this transmittal letter and the accompanying materials have also been sent to the governors and electric utility regulatory agencies for the six New England states that comprise the New England Control Area, the New England Conference of Public Utility Commissioners, Inc., and to the New England States Committee on Electricity. Their names and addresses are shown in Attachment 4. In accordance with Commission rules and practice, there is no need for the Governance Participants or the entities identified on Attachment 4 to be included on the Commission's official service list in the captioned proceeding unless such entities become intervenors in this proceeding.

35.13(b)(4) - A description of the materials submitted pursuant to this filing is contained in Section VI of this transmittal letter.

35.13(b)(5) - The reasons for this filing are discussed in Section IV of this transmittal letter.

35.13(b)(6) - The ISO's approval of the revision is evidenced by this filing. With respect to NEPOOL's approval, as noted in Section V of this transmittal letter, these changes reflect the support of the Participant Processes required by the Participants Agreement, having been unanimously approved by the NEPOOL Participants Committee as described in Section V of this transmittal letter.

35.13(b)(7) - The Filing Parties do not have knowledge of any relevant expenses or costs of service that have been alleged or judged in any administrative or judicial proceeding to be

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illegal, duplicative, or unnecessary costs that are demonstrably the product of discriminatory employment practices.

## VII. CONCLUSION

For the reasons stated herein, the Filing Parties respectfully request that the Commission accept the FCM Conforming Changes as filed, without condition, suspension, or hearing, to be effective June 1, 2010.

Please acknowledge receipt of the foregoing by date-stamping the enclosed extra copies of this filing and returning them to the courier delivering this filing.

Respectfully submitted,

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## III.A.2. Functions of the Market Monitor

### III.A.2.1. Core Functions of the Internal Market Monitor and External Market

**Monitor.** The Internal Market Monitor and External Market Monitor will perform the following core functions:

(a) Evaluate existing and proposed market rules, tariff provisions and market design elements, and recommend proposed rule and tariff changes to the ISO, the Commission, Market Participants, public utility commissioners of the six New England states, and to other interested entities, with the understanding that the Internal Market Monitor and External Market Monitor are not to effectuate any proposed market designs (except as specifically provided in Section III.A.2.4.4, Section III.A.5.109 and Section III.A.7 of this *Appendix A*). In the event the Internal Market Monitor or External Market Monitor believes broader dissemination could lead to exploitation, it shall limit distribution of its identifications and recommendations to the ISO and to the Commission, with an explanation of why broader dissemination should be avoided at that time. Nothing in this Section III.A.2.1(a) shall prohibit or restrict the Internal Market Monitor and External Market Monitor from implementing Commission accepted rule and tariff provisions regarding market monitoring or mitigation functions that, according to the terms of the applicable rule or tariff language, are to be performed by the Internal Market Monitor or External Market Monitor.

(b) Review and report on the performance of the New England Markets to the ISO, the Commission, Market Participants, the public utility commissioners of the six New England states, and to other interested entities.

(c) Identify and notify the Commission's Office of Enforcement of instances in which a Market Participant's behavior, or that of the ISO, may require investigation, including suspected tariff violations, suspected violations of Commission-approved rules and regulations, suspected market manipulation, and inappropriate dispatch that creates substantial concerns regarding unnecessary market inefficiencies.

**III.A.2.2. Functions of the External Market Monitor.** To accomplish the functions specified in Section III.A.2.1 of this *Appendix A*, the External Market Monitor shall perform the following functions:

(ii) *Uneconomic production from a Resource*, that is, increasing the output of a Resource to levels that would otherwise be uneconomic, absent an order of the ISO, in order to cause, and obtain benefits from, a transmission constraint.

(iii) *Anti-Competitive Increment Offers and Decrement Bids*, which are bidding practices relating to Increment Offers and Decrement Bids that cause Day-Ahead LMPs not to achieve the degree of convergence with Real-Time LMPs that would be expected in a workably competitive market, more fully addressed in Section III.A.8 of this *Appendix A*.

(iv) *Anti-Competitive Demand Bids*, which are addressed in Section III.A.7 of this *Appendix A*.

(v) Other categories of conduct, that have material effects on prices or NCPC payments in the New England Markets. The Internal Market Monitor, in consultation with the External Market Monitor, shall: (i) seek to amend *Appendix A* as may be appropriate to include any such conduct that would substantially distort or impair the competitiveness of any of the New England Markets; and (ii) seek such other authorization to mitigate the effects of such conduct from the Commission as may be appropriate.

(k) Perform such additional monitoring as the Internal Market Monitor deems necessary, including without limitation, monitoring for:

(i) Anti-competitive gaming of ~~ICAP~~ Resources;

(ii) Conduct and market outcomes that are inconsistent with competitive markets;

(iii) Flaws in market design or software or in the implementation of rules by the ISO that create inefficient incentives or market outcomes;

(iv) Actions in one market that affect price in another market;

(v) Other aspects of market implementation that prevent competitive market results, the extent to which market rules, including this *Appendix A*, interfere with efficient market operation, both short-run and long-run; and

(vi) Rules or conduct that creates barriers to entry into a market.

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**III.A.3.1.2. Consideration of Information in All Cases.** In every case, the Internal Market Monitor will consider all available explanations of behavior that are based on a Market Participant's cost of providing any market product, including

- (a) Any relevant opportunity costs,
- (b) The need to shape bids and offers for a Limited Energy Resource to maximize the economic value from that Resource over time given the unique characteristics of the Resource, and
- (c) any special price limitations applicable to dual-fuel Resources.

**III.A.3.1.3. Advance Consultation by Market Participant.** If a Market Participant anticipates submitting offers in a market administered by the Internal Market Monitor that will exceed the thresholds specified in Sections III.A.4, III.A.5, III.A.6, III.A.7, or III.A.8 for identifying conduct inconsistent with competition, the Market Participant may contact the Internal Market Monitor to provide an explanation of any legitimate basis for any such changes in the Market Participant's offers. If a Market Participant's explanation of the reasons for its bidding indicates to the satisfaction of the Internal Market Monitor that the questioned conduct is consistent with competitive conduct, no further action will be taken.

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### III.A.4. Physical Withholding

**III.A.4.1. Identification of Conduct Inconsistent with Competition.** This Section defines thresholds used to identify possible instances of physical withholding ~~in the Internal Market Monitor's evaluation of whether to issue a Formal Warning pursuant to **Appendix B**.~~ This Section does not limit the Internal Market Monitor's ability to refer potential instances of physical withholding to the Commission, ~~for a determination regarding the application of monetary sanctions. For energy Resources, only Resources required to offer in the Day Ahead Energy Market will be evaluated for physical withholding in the Day Ahead Energy Market. All Resources will be evaluated in the Real Time Energy Market. Transmission facilities will be evaluated both Day Ahead and in Real Time. In addition to being subject to Mitigation Measures contained in this **Appendix A**, Market Participants may be subject to sanctions contained in **Appendix B** to this Market Rule.~~

**III.A.4.2.** Generally, physical withholding involves not offering to sell or schedule the output of or services provided by a Resource capable of serving the New England Markets when it is economic to do so. Physical withholding may include, but is not limited to:

- (a) falsely declaring that a Resource has been forced out of service or otherwise become unavailable,
- (b) refusing to make a Supply Offer, or schedules for a Resource when it would be in the economic interest absent market power, of the withholding entity to do so,
- (c) operating a Resource in Real-Time to produce an output level that is less than the ISO Dispatch Rate, or

(d) operating a transmission facility in a manner that is not economic, is not justified on the basis of legitimate safety or reliability concerns, and contributes to a binding transmission constraint.

**III.A.4.2.III.A.4.3. Thresholds for Identifying Physical Withholding.**

**III.A.4.2.1.III.A.4.3.1. Initial Thresholds.** Except as specified in subsection III.A.4.3.4~~III.A.4.2.4~~ below, the following initial thresholds will be employed by the Internal Market Monitor to identify physical withholding of a Resource:

- (a) Withholding that exceeds the lower of 10% or 100 MW of a Resource's capacity;
- (b) Withholding that exceeds in the aggregate the lower of 5% or 200 MW of a Market Participant's total capacity for Market Participants with more than one Resource; or
- (c) Operating a Resource in Real-Time at an output level that is less than 90% of the ISO's Dispatch Rate for the Resource.

**III.A.4.2.2.III.A.4.3.2. Adjustment to Generating Capacity.** The amounts of generating capacity considered withheld for purposes of applying the foregoing thresholds shall include unjustified deratings, that is, falsely declaring a Resource derated, and the portions of a Resource's available output that ~~are~~ is not scheduled, offered, or that exceeds the economic withholding thresholds. 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 ISO maintenance schedule, subject to verification by the Internal Market Monitor as may be appropriate that an outage was forced.

**III.A.4.2.3.III.A.4.3.3. Withholding of Transmission.** A transmission facility shall be deemed physically withheld if it is not operated in accordance with ISO instructions and such

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failure to conform to ISO instructions causes 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 an ISO maintenance schedule, subject to verification by the Internal Market Monitor as may be appropriate that an outage was forced.

**III.A.4.2.4.III.A.4.3.4. Resources in Congestion Areas.** Minimum quantity thresholds shall not be applicable to the identification of physical withholding by a Resource in an area the ISO has determined is congested.

**III.A.4.3.III.A.4.4. Hourly Market Impact and NCPC Thresholds.** Before evaluating possible instances of physical withholding for imposition of sanctions, the Internal Market Monitor shall investigate the reasons for the change in accordance with Section III.A.3. If the physical withholding in question is not explained to the satisfaction of the Internal Market Monitor, the Internal Market Monitor will determine whether the conduct in question causes a price impact in the New England Markets or NCPC payments in excess of either of the thresholds in *Exhibit 1*, ~~*Exhibit 2*~~, or Section III.A.5.3.3, as appropriate.

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~~III.A.4.4. **Sanctioning.** If the conduct would have an effect in excess of either of the thresholds in *Exhibit 1*, *Exhibit 2*, or Section III.A.5.3.3, as appropriate, and has not been satisfactorily explained in accordance with Section III.A.3, the Internal Market Monitor, in consultation with the External Market Monitor, will evaluate whether it believes sanctions apply pursuant to *Appendix B* to this Market Rule 1. The Internal Market Monitor will evaluate whether to issue a Formal Warning as discussed in Sections III.B.4.1.1 and III.B.5.2. If after such evaluation, the Internal Market Monitor believes that such conduct could warrant monetary sanctions under *Appendix B*, the Internal Market Monitor will refer such potentially Sanctionable Behavior, along with any explanation provided by the Market Participant, to the Commission for a determination regarding whether monetary sanctions will be imposed.~~

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### **III.A.5. Economic Withholding and Uneconomic Production**

**III.A.5.1. Purpose.** This Section addresses mitigation relating to economic withholding, uneconomic production and reliability commitment. If conduct is detected that exceeds one or more of the thresholds specified in Sections III.A.5.3 or III.A.5.4 and the Internal Market Monitor determines that there is a market impact to the extent required under Section III.A.5.5, the conduct shall be remedied by the prospective application of a Default Offer as described in Section III.A.5.7. If conduct is detected that fails the Commitment Offer Test in Section III.A.5.8.3 relating to reliability commitment mitigation, the conduct shall be remedied by the application of mitigation as described in Section III.A.5.8.4.

#### **III.A.5.2. Applicability.**

**III.A.5.2.1. In General.** Only Resources with Capacity Supply Obligations required to offer in the Day Ahead market will be evaluated for economic withholding in the Day-Ahead Energy Market. All Supply Offers will be evaluated in the Real-Time Energy Market. In the event a Mitigation Measure is imposed on a Supply Offer for a Resource pursuant to Section 5.8 of this *Appendix A*, the Resource's NCPC payments shall not be mitigated under Section 5.7 for the same Operating Day.

### III.A.5.2.1.1. Resources with Partial Capacity Supply

~~Obligations Partially De-Listed Capacity.~~ Resources with a Capacity Supply Obligation for less than their full capacity shall be evaluated for mitigation as follows: ~~The partially de-listed portion of an ICAP Resource will be exempt from Mitigation Measures in the Day Ahead Energy Market, as follows:~~

~~For each hour, the Internal Market Monitor shall compute the prorated de-listed MW quantity for each Resource, calculated as:~~

$$\text{Min} \left\{ (\text{MW Quantity Delisted}) \times \frac{\text{Economic Max}}{\text{Seasonal Claimed Capability}}, \text{MW Quantity Delisted} \right\}$$

~~The partially de-listed portion of an ICAP Resource exempt from evaluation for economic withholding in the Day Ahead Energy Market will be the prorated de-listed MW quantity closest to the Resource's offered hourly Economic Maximum (i.e., the block beginning at the MW level determined by subtracting the prorated de-listed MW quantity from the Economic Maximum), subject to each of the following conditions:~~

(a) all Supply Offer parameters shall be reviewed for economic withholding; notwithstanding the foregoing, the energy price Supply Offer parameter shall be reviewed for economic withholding up to and including the higher of the block containing the Resource's Economic Minimum Limit and the highest block containing megawatts with a Capacity Supply Obligation ~~The Resource shall be treated as a fully listed ICAP Resource when it is reviewed for economic withholding up to and including the block containing the Resource's Economic Minimum;~~

~~(b) — the Resource shall be treated as a fully listed ICAP Resource when it is reviewed for economic withholding if the Resource’s Day Ahead schedule includes any Self-Scheduled MWs;~~

~~(b)(e) the entire offer block of a Resource shall be treated as having a Capacity Supply Obligation a fully listed ICAP Resource in any case where the block contains megawatts that are subject to a Capacity Supply Obligation listed MW; and~~

~~(c) — if a Resource with a partial Capacity Supply Obligation consists of multiple assets, by default the megawatts that shall be evaluated for mitigation shall be determined by using each asset’s Seasonal Claimed Capability value in proportion to the total of the Seasonal Claimed Capabilities for all of the assets that make up the Resource. The Lead Market Participant of a Resource with a partial Capacity Supply Obligation consisting of multiple assets may also propose to the Internal Market Monitor the megawatts that shall be evaluated for mitigation based on an alternative allocation on a monthly basis. The proposal must be made at least five business days prior to the start of the month. Such a proposal shall be rejected by the Internal Market Monitor if the designation would be inconsistent with competitive behavior; and~~

(d) Day-Ahead Energy Market Mitigation Measures will apply to all hours in the Day-Ahead Energy Market.

~~(a) From the SMD Effective Date until the Internal Market Monitor's hardware and software necessary for calculations in paragraphs (b) through (d) below is functional and the Internal Market Monitor has sufficient data to make appropriate calculations, the Internal Market Monitor will use the interim procedure that it has made available to Market Participants by posting on the ISO's website at least thirty (30) days in advance of the SMD Effective Date. The Internal Market Monitor will continue to use the interim procedure until it has given Market Participants advance notice of its ability to use the procedures below, but no earlier than 48 hours after such notice of full functionality has been posted on the ISO's website.~~

~~(b)(a) Upon full functionality, the Internal Market Monitor will calculate Reference Levels using apply the first of the following three procedures for which adequate information is available, with the understanding that, for dollar-based Supply Offer parameters, Reference Levels will be calculated using the third of the three procedures if the Reference Levels calculated using the third procedure are greater than the Reference Levels calculated using either of the first two procedures. except as described in subsection (iv) below:~~

(i) The lower of the mean or the median of a generating Resource's Supply Offers that have been accepted and are part of the seller's Day-Ahead Generation Obligation or Real-Time Generation Obligation (excluding negative values) or bid components (hereinafter, a "Submitted Offer") in competitive periods over the previous 90 days, adjusted for changes in fuel prices utilizing fuel indices generally applicable for the location and type of Resource;

(ii) If that procedure is not applicable due to lack of data, then the mean of the LMP at the Resource's location during the lowest-priced 25 % of the hours that the Resource was dispatched over the previous 90 days for similar hours or load levels, adjusted for changes in fuel prices; or

(iii) A level negotiated with the Market Participant submitting the bid or bids at issue, and intended to reflect the Resource's marginal costs, provided such a level has been negotiated prior to the occurrence of the conduct being examined by the Internal Market Monitor, and provided that the Market Participant has provided data on the Resource's operating costs in accordance with specifications provided by the Internal Market Monitor. The Internal Market Monitor'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 Internal Market Monitor shall reasonably determine to be appropriate based on such data supplied by the Market Participant or otherwise available to the Internal Market Monitor:

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

~~(iv)(b) Notwithstanding Section III.A.5.6.1(a), f~~For any Resource that has been flagged as VAR, SCR, or as a Local Second Contingency Protection Resource for any hour in the Day-Ahead Energy Market or the Real-Time Energy Market in the previous 90 days, if the

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ratio of (the sum of the operating hours for flagged

### **III.A.5.9. Determination of Offer Competitiveness During Shortage Event Regulation**

The Internal Market Monitor shall evaluate the competitiveness of the Supply Offer of each resource with a Capacity Supply Obligation that is off-line during a Shortage Event, as described below. The evaluation for competitiveness shall be performed on Supply Offers in the Day-Ahead Energy Market and Supply Offers made during the re-offer period. A determination of non-competitiveness for a Day-Ahead Energy Market Supply Offer or a Supply Offer made during the re-offer period which affects an hour shall constitute a finding of non-competitiveness for that hour.

(a) The thresholds used for evaluation shall be the general thresholds in Section III.A.5.3.1 unless the constrained area mitigation thresholds apply in the Day-Ahead Energy Market or Real-Time Energy Market and the resource under evaluation could have fully or partially relieved the constraint during the applicable Shortage Event. If the constrained area mitigation thresholds apply, then the energy price Supply Offer parameter and the Start-Up Fee and No-Load Fee parameters shall be evaluated for competitiveness using the thresholds in Section III.A.5.3.3.

(b) If the value of any of the following Supply Offer parameters for a resource exceeds the relevant thresholds for an hour, all MW for the resource for the hour shall be non-competitive:

- (i) The Start-Up Fee and No-Load Fee;
- (ii) Each time-based Supply Offer parameter;
- (iii) The energy price Supply Offer parameter up to and including the Economic Minimum Limit.

(c) If none of the parameters evaluated for competitiveness pursuant to Section III.A.5.9(b) above are non-competitive for an hour, then the energy price parameter for each incremental Supply Offer block above the resource's Economic Minimum Limit shall be evaluated for competitiveness using the thresholds identified in Section III.A.5.9(a) above, in order of lowest energy price to highest energy price. If any Supply Offer block is non-competitive, then that block and all blocks above it shall be non-competitive, and all blocks below it shall be competitive.

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~~The Internal Market Monitor will monitor the Regulation Market for conduct that it determines constitutes an abuse of market power. If the Internal Market Monitor identifies any such conduct, it may make a filing under Section 205 of the Federal Power Act with the Commission requesting authorization to apply appropriate Mitigation Measures or to revise the Market Rule to address such conduct (or both). The Internal Market Monitor may make such a filing at any time it deems necessary, and may request expedited treatment from the Commission. Any such filing shall identify the particular conduct the Internal Market Monitor believes warrants mitigation or revisions to the Market Rule (or both), shall propose a specific mitigation measure for the conduct or revision to the Market Rule (or both), and shall set forth the Internal Market Monitor's justification for imposing that mitigation measure or revision to the Market Rule (or both).~~

**III.A.5.10. Regulation.**

The Internal Market Monitor will monitor the Regulation Market for conduct that it determines constitutes an abuse of market power. If the Internal Market Monitor identifies any such conduct, it may make a filing under Section 205 of the Federal Power Act with the Commission requesting authorization to apply appropriate Mitigation Measures or to revise the Market Rule to address such conduct (or both). The Internal Market Monitor may make such a filing at any time it deems necessary, and may request expedited treatment from the Commission. Any such filing shall identify the particular conduct the Internal Market Monitor believes warrants mitigation or revisions to the Market Rule (or both), shall propose a specific mitigation measure for the conduct or revision to the Market Rule (or both), and shall set forth the Internal Market Monitor’s justification for imposing that mitigation measure or revision to the Market Rule (or both).

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## **III.A.2. Functions of the Market Monitor**

### **III.A.2.1. Core Functions of the Internal Market Monitor and External Market**

**Monitor.** The Internal Market Monitor and External Market Monitor will perform the following core functions:

(a) Evaluate existing and proposed market rules, tariff provisions and market design elements, and recommend proposed rule and tariff changes to the ISO, the Commission, Market Participants, public utility commissioners of the six New England states, and to other interested entities, with the understanding that the Internal Market Monitor and External Market Monitor are not to effectuate any proposed market designs (except as specifically provided in Section III.A.2.4.4, Section III.A.5.10 and Section III.A.7 of this *Appendix A*). In the event the Internal Market Monitor or External Market Monitor believes broader dissemination could lead to exploitation, it shall limit distribution of its identifications and recommendations to the ISO and to the Commission, with an explanation of why broader dissemination should be avoided at that time. Nothing in this Section III.A.2.1(a) shall prohibit or restrict the Internal Market Monitor and External Market Monitor from implementing Commission accepted rule and tariff provisions regarding market monitoring or mitigation functions that, according to the terms of the applicable rule or tariff language, are to be performed by the Internal Market Monitor or External Market Monitor.

(b) Review and report on the performance of the New England Markets to the ISO, the Commission, Market Participants, the public utility commissioners of the six New England states, and to other interested entities.

(c) Identify and notify the Commission's Office of Enforcement of instances in which a Market Participant's behavior, or that of the ISO, may require investigation, including suspected tariff violations, suspected violations of Commission-approved rules and regulations, suspected market manipulation, and inappropriate dispatch that creates substantial concerns regarding unnecessary market inefficiencies.

**III.A.2.2. Functions of the External Market Monitor.** To accomplish the functions specified in Section III.A.2.1 of this *Appendix A*, the External Market Monitor shall perform the following functions:

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(ii) *Uneconomic production from a Resource*, that is, increasing the output of a Resource to levels that would otherwise be uneconomic, absent an order of the ISO, in order to cause, and obtain benefits from, a transmission constraint.

(iii) *Anti-Competitive Increment Offers and Decrement Bids*, which are bidding practices relating to Increment Offers and Decrement Bids that cause Day-Ahead LMPs not to achieve the degree of convergence with Real-Time LMPs that would be expected in a workably competitive market, more fully addressed in Section III.A.8 of this *Appendix A*.

(iv) *Anti-Competitive Demand Bids*, which are addressed in Section III.A.7 of this *Appendix A*.

(v) Other categories of conduct, that have material effects on prices or NCPC payments in the New England Markets. The Internal Market Monitor, in consultation with the External Market Monitor, shall: (i) seek to amend *Appendix A* as may be appropriate to include any such conduct that would substantially distort or impair the competitiveness of any of the New England Markets; and (ii) seek such other authorization to mitigate the effects of such conduct from the Commission as may be appropriate.

(k) Perform such additional monitoring as the Internal Market Monitor deems necessary, including without limitation, monitoring for:

(i) Anti-competitive gaming of Resources;

(ii) Conduct and market outcomes that are inconsistent with competitive markets;

(iii) Flaws in market design or software or in the implementation of rules by the ISO that create inefficient incentives or market outcomes;

(iv) Actions in one market that affect price in another market;

(v) Other aspects of market implementation that prevent competitive market results, the extent to which market rules, including this *Appendix A*, interfere with efficient market operation, both short-run and long-run; and

(vi) Rules or conduct that creates barriers to entry into a market.

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**III.A.3.1.2. Consideration of Information in All Cases.** In every case, the Internal Market Monitor will consider all available explanations of behavior that are based on a Market Participant's cost of providing any market product, including

- (a) Any relevant opportunity costs,
- (b) The need to shape bids and offers for a Limited Energy Resource to maximize the economic value from that Resource over time given the unique characteristics of the Resource, and
- (c) any special price limitations applicable to dual-fuel Resources.

**III.A.3.1.3. Advance Consultation by Market Participant.** If a Market Participant anticipates submitting offers in a market administered by the Internal Market Monitor that will exceed the thresholds specified in Sections III.A.4, III.A.5, III.A.6, III.A.7, or III.A.8 for identifying conduct inconsistent with competition, the Market Participant may contact the Internal Market Monitor to provide an explanation of any legitimate basis for any such changes in the Market Participant's offers. If a Market Participant's explanation of the reasons for its bidding indicates to the satisfaction of the Internal Market Monitor that the questioned conduct is consistent with competitive conduct, no further action will be taken.

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### **III.A.4. Physical Withholding**

**III.A.4.1. Identification of Conduct Inconsistent with Competition.** This Section defines thresholds used to identify possible instances of physical withholding. This Section does not limit the Internal Market Monitor's ability to refer potential instances of physical withholding to the Commission.

**III.A.4.2.** Generally, physical withholding involves not offering to sell or schedule the output of or services provided by a Resource capable of serving the New England Markets when it is economic to do so. Physical withholding may include, but is not limited to:

- (a) falsely declaring that a Resource has been forced out of service or otherwise become unavailable,
- (b) refusing to make a Supply Offer, or schedules for a Resource when it would be in the economic interest absent market power, of the withholding entity to do so,
- (c) operating a Resource in Real-Time to produce an output level that is less than the ISO Dispatch Rate, or

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(d) operating a transmission facility in a manner that is not economic, is not justified on the basis of legitimate safety or reliability concerns, and contributes to a binding transmission constraint.

### **III.A.4.3. Thresholds for Identifying Physical Withholding.**

**III.A.4.3.1. Initial Thresholds.** Except as specified in subsection III.A.4.3.4 below, the following initial thresholds will be employed by the Internal Market Monitor to identify physical withholding of a Resource:

- (a) Withholding that exceeds the lower of 10% or 100 MW of a Resource's capacity;
- (b) Withholding that exceeds in the aggregate the lower of 5% or 200 MW of a Market Participant's total capacity for Market Participants with more than one Resource; or
- (c) Operating a Resource in Real-Time at an output level that is less than 90% of the ISO's Dispatch Rate for the Resource.

**III.A.4.3.2. Adjustment to Generating Capacity.** The amounts of generating capacity considered withheld for purposes of applying the foregoing thresholds shall include unjustified deratings, that is, falsely declaring a Resource derated, and the portions of a Resource's available output that are not offered. 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 ISO maintenance schedule, subject to verification by the Internal Market Monitor as may be appropriate that an outage was forced.

**III.A.4.3.3. Withholding of Transmission.** A transmission facility shall be deemed physically withheld if it is not operated in accordance with ISO instructions and such

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failure to conform to ISO instructions causes 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 an ISO maintenance schedule, subject to verification by the Internal Market Monitor as may be appropriate that an outage was forced.

**III.A.4.3.4. Resources in Congestion Areas.** Minimum quantity thresholds shall not be applicable to the identification of physical withholding by a Resource in an area the ISO has determined is congested.

**III.A.4.4. Hourly Market Impact and NCPC Thresholds.** Before evaluating possible instances of physical withholding for imposition of sanctions, the Internal Market Monitor shall investigate the reasons for the change in accordance with Section III.A.3. If the physical withholding in question is not explained to the satisfaction of the Internal Market Monitor, the Internal Market Monitor will determine whether the conduct in question causes a price impact in the New England Markets or NCPC payments in excess of either of the thresholds in *Exhibit 1*, or Section III.A.5.3.3, as appropriate.

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### **III.A.5. Economic Withholding and Uneconomic Production**

**III.A.5.1. Purpose.** This Section addresses mitigation relating to economic withholding, uneconomic production and reliability commitment. If conduct is detected that exceeds one or more of the thresholds specified in Sections III.A.5.3 or III.A.5.4 and the Internal Market Monitor determines that there is a market impact to the extent required under Section III.A.5.5, the conduct shall be remedied by the prospective application of a Default Offer as described in Section III.A.5.7. If conduct is detected that fails the Commitment Offer Test in Section III.A.5.8.3 relating to reliability commitment mitigation, the conduct shall be remedied by the application of mitigation as described in Section III.A.5.8.4.

#### **III.A.5.2. Applicability.**

**III.A.5.2.1. In General.** Only Resources with Capacity Supply Obligations will be evaluated for economic withholding in the Day-Ahead Energy Market. All Supply Offers will be evaluated in the Real-Time Energy Market. In the event a Mitigation Measure is imposed on a Supply Offer for a Resource pursuant to Section 5.8 of this *Appendix A*, the Resource's NCPC payments shall not be mitigated under Section 5.7 for the same Operating Day.

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### **III.A.5.2.1.1. Resources with Partial Capacity Supply Obligations.**

Resources with a Capacity Supply Obligation for less than their full capacity shall be evaluated for mitigation as follows:

(a) all Supply Offer parameters shall be reviewed for economic withholding; notwithstanding the foregoing, the energy price Supply Offer parameter shall be reviewed for economic withholding up to and including the higher of the block containing the Resource's Economic Minimum Limit and the highest block containing megawatts with a Capacity Supply Obligation;

(b) the entire offer block of a Resource shall be treated as having a Capacity Supply Obligation in any case where the block contains megawatts that are subject to a Capacity Supply Obligation;

(c) if a Resource with a partial Capacity Supply Obligation consists of multiple assets, by default the megawatts that shall be evaluated for mitigation shall be determined by using each asset's Seasonal Claimed Capability value in proportion to the total of the Seasonal Claimed Capabilities for all of the assets that make up the Resource. The Lead Market Participant of a Resource with a partial Capacity Supply Obligation consisting of multiple assets may also propose to the Internal Market Monitor the megawatts that shall be evaluated for mitigation based on an alternative allocation on a monthly basis. The proposal must be made at least five business days prior to the start of the month. Such a proposal shall be rejected by the Internal Market Monitor if the designation would be inconsistent with competitive behavior; and

(d) Day-Ahead Energy Market Mitigation Measures will apply to all hours in the Day-Ahead Energy Market.

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(a) The Internal Market Monitor will calculate Reference Levels using the first of the following three procedures for which adequate information is available, with the understanding that, for dollar-based Supply Offer parameters, Reference Levels will be calculated using the third of the three procedures if the Reference Levels calculated using the third procedure are greater than the Reference Levels calculated using either of the first two procedures.

(i) The lower of the mean or the median of a generating Resource's Supply Offers that have been accepted and are part of the seller's Day-Ahead Generation Obligation or Real-Time Generation Obligation (excluding negative values) or bid components (hereinafter, a "Submitted Offer") in competitive periods over the previous 90 days, adjusted for changes in fuel prices utilizing fuel indices generally applicable for the location and type of Resource;

(ii) If that procedure is not applicable due to lack of data, then the mean of the LMP at the Resource's location during the lowest-priced 25 % of the hours that the Resource was dispatched over the previous 90 days for similar hours or load levels, adjusted for changes in fuel prices; or

(iii) A level negotiated with the Market Participant submitting the bid or bids at issue, and intended to reflect the Resource's marginal costs, provided such a level has been negotiated prior to the occurrence of the conduct being examined by the Internal Market Monitor, and provided that the Market Participant has provided data on the Resource's operating costs in accordance with specifications provided by the Internal Market Monitor. The Internal Market Monitor'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 Internal Market Monitor shall reasonably determine to be appropriate based on such data supplied by the Market Participant or otherwise available to the Internal Market Monitor:

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

(b) Notwithstanding Section III.A.5.6.1(a), for any Resource that has been flagged as VAR, SCR, or as a Local Second Contingency Protection Resource for any hour in the Day-Ahead Energy Market or the Real-Time Energy Market in the previous 90 days, if the ratio of (the sum of the operating hours for flagged

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### **III.A.5.9. Determination of Offer Competitiveness During Shortage Event**

The Internal Market Monitor shall evaluate the competitiveness of the Supply Offer of each resource with a Capacity Supply Obligation that is off-line during a Shortage Event, as described below. The evaluation for competitiveness shall be performed on Supply Offers in the Day-Ahead Energy Market and Supply Offers made during the re-offer period. A determination of non-competitiveness for a Day-Ahead Energy Market Supply Offer or a Supply Offer made during the re-offer period which affects an hour shall constitute a finding of non-competitiveness for that hour.

(a) The thresholds used for evaluation shall be the general thresholds in Section III.A.5.3.1 unless the constrained area mitigation thresholds apply in the Day-Ahead Energy Market or Real-Time Energy Market and the resource under evaluation could have fully or partially relieved the constraint during the applicable Shortage Event. If the constrained area mitigation thresholds apply, then the energy price Supply Offer parameter and the Start-Up Fee and No-Load Fee parameters shall be evaluated for competitiveness using the thresholds in Section III.A.5.3.3.

(b) If the value of any of the following Supply Offer parameters for a resource exceeds the relevant thresholds for an hour, all MW for the resource for the hour shall be non-competitive:

- (i) The Start-Up Fee and No-Load Fee;
- (ii) Each time-based Supply Offer parameter;
- (iii) The energy price Supply Offer parameter up to and including the Economic Minimum Limit.

(c) If none of the parameters evaluated for competitiveness pursuant to Section III.A.5.9(b) above are non-competitive for an hour, then the energy price parameter for each incremental Supply Offer block above the resource's Economic Minimum Limit shall be evaluated for competitiveness using the thresholds identified in Section III.A.5.9(a) above, in order of lowest energy price to highest energy price. If any Supply Offer block is non-competitive, then that block and all blocks above it shall be non-competitive, and all blocks below it shall be competitive.

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### **III.A.5.10. Regulation.**

The Internal Market Monitor will monitor the Regulation Market for conduct that it determines constitutes an abuse of market power. If the Internal Market Monitor identifies any such conduct, it may make a filing under Section 205 of the Federal Power Act with the Commission requesting authorization to apply appropriate Mitigation Measures or to revise the Market Rule to address such conduct (or both). The Internal Market Monitor may make such a filing at any time it deems necessary, and may request expedited treatment from the Commission. Any such filing shall identify the particular conduct the Internal Market Monitor believes warrants mitigation or revisions to the Market Rule (or both), shall propose a specific mitigation measure for the conduct or revision to the Market Rule (or both), and shall set forth the Internal Market Monitor's justification for imposing that mitigation measure or revision to the Market Rule (or both).

## **Attachment 3**

**UNITED STATES OF AMERICA**  
**BEFORE THE**  
**FEDERAL ENERGY REGULATORY COMMISSION**

) )  
**ISO New England Inc.** ) **Docket No. ER10-\_\_\_-000**  
) )

**TESTIMONY OF MARIO S. DEPILLIS, JR., PH. D.**

**Q. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.**

A. *Dr. DePillis.* My name is Mario S. DePillis Jr. I am a Supervisor of Market Assessment in the Market Monitoring Department at the ISO.

**Q: PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.**

A. *Dr. DePillis.* I have a Bachelor of Arts in Philosophy from Carleton College and a Ph.D. in Economics from the University of Texas at Austin. I have more than 13 years experience in the electric energy industry. Prior to 1999 I was employed at the Public Utility Commission of Texas where I was an expert witness on competitive issues and rate cases. Since 1999, I have worked at the ISO in various capacities as Economist, Principal Analyst, and now as Supervisor of Market Assessment.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. The purpose of this testimony is to explain revisions to the rules governing market monitoring, reporting and market power mitigation, which are in Appendix A of Market Rule 1 of the ISO New England Transmission, Markets and Services Tariff (the "ISO Tariff"). The revisions are designed to conform the current provisions in Appendix A

with market-related requirements that go into effect on June 1, 2010 with the commencement of the first Capacity Commitment Period of the Forward Capacity Market (for 2010/2011). The testimony describes the proposed revisions to Appendix A (the “FCM Conforming Changes”) and explains why the revisions are appropriate.

**Q. PLEASE SUMMARIZE THE PROPOSED CHANGES TO APPENDIX A.**

A. Appendix A to Market Rule 1 contains the market monitoring and mitigation rules. Changes to the following sections of Appendix A are necessary to ensure that the monitoring and mitigation regime is consistent with section III.13 of the ISO Tariff:

III.A.4 (Physical Withholding)

III.A.5.2.1.1 (Resources with Partial Capacity Supply Obligations)

III.A.5.6.1 (Methods for Determining Reference Levels)

III.A.5.9 (Determination of Offer Competitiveness During Shortage Event).

In my testimony, I describe each of the proposed changes and why they are necessary and appropriate.

#### **Section III.A.4 (Physical Withholding)**

**Q. WHAT IS THE PURPOSE OF SECTION III.A.4 “PHYSICAL WITHHOLDING”?**

A. Section III.A.4 describes thresholds and tests that the Internal Market Monitor uses to evaluate whether a Market Participant has offered the energy of its Resource into the New England Markets in such a manner that it constitutes physical withholding of the Resource’s energy. Under the current rule in Section III.A.4 when a Market Participant fails the physical withholding tests, sanctions are applied and the Participant is referred to

FERC per the provisions of Appendix B.

**Q. HOW IS THE ISO PROPOSING TO CHANGE SECTION III.A.4?**

A. The rule is being clarified to reflect that the Internal Market Monitor reviews Supply Offers of Resources both with and without Capacity Supply Obligations for physical withholding.

The proposed language also clarifies that physical withholding behavior identified through Section III.A.4 is subject to FERC referral. The existing Section III.A.14 of Appendix A provides the protocols on referrals to the Commission for suspected violations of market behavior rules. References to sanctions by the ISO are being removed.

**III.A.5.2.1.1 (Resources with Partial Capacity Supply Obligations)**

**Q. WHAT IS THE PURPOSE OF SECTION III.A.5.2.1.1 “RESOURCES WITH PARTIAL CAPACITY SUPPLY OBLIGATIONS”?**

A. Section III.A.5.2.1.1 details which price and quantity blocks of a Supply Offer are exempt from Day-Ahead Energy Market mitigation when a Resource has a Capacity Supply Obligation that is for less than its full capability, i.e., the Resource has a partial Capacity Supply Obligation.

**Q. HOW IS THE ISO PROPOSING TO CHANGE SECTION III.A.5.2.1.1?**

A. The ISO is proposing three changes to this section. First, language is being changed to reflect new capacity-related terminology found in Section III.13 (Forward Capacity

Market) of the ISO Tariff.

Second, the proposed language identifies which megawatts of each Resource are non-CSO megawatts and thus not subject to mitigation in the Day-Ahead Energy Market. By way of background, when a resource is derated for a generator outage, the settlement rules in Section III.13 credit the maximum available megawatts from a derated resource against its CSO, rather than use a proration methodology to determine the CSO megawatts. The same methodology will be used in Section III.A.5.2.1.1 to determine which megawatts of a Resource are subject to mitigation.

Third, in some limited circumstances, and as illustrated in my testimony below, multiple assets are treated as a single Resource for purposes of the Forward Capacity Market (i.e., taking on a single CSO), but are treated separately for the purpose of energy market participation (i.e., offer submission and scheduling). In these circumstances, a method is needed to map the CSO onto the megawatts offered from the underlying assets in order to determine the price and quantity offer blocks to evaluate for mitigation in the Day-Ahead Energy Market. The FCM Conforming Changes include a default allocation method that prorates the Capacity Supply Obligation across the resource's underlying assets. The changes also allow a Market Participant to propose to the Internal Market Monitor in advance of a month how it would prefer to allocate its CSO to the assets comprising the Resource. The Internal Market Monitor will review such allocations for non-competitive behavior prior to approval.

**Q. YOU STATE THAT THE SECOND CHANGE IS CONSISTENT WITH FCM SETTLEMENT RULES. PLEASE PROVIDE AN EXAMPLE OF THE SETTLEMENT CALCULATION OF AVAILABLE CAPACITY MEGAWATTS CREDITED TO AGAINST A CAPACITY SUPPLY OBLIGATION WHEN A UNIT IS DERATED.**

A. When a Resource is derated (i.e., maximum output is reduced due to an outage), the settlement of the FCM credits the Resource for up to the available megawatts. For example, assume a 100 megawatts Resource with a Capacity Supply Obligation of 80 megawatts. Assume that this Resource has suffered a partial outage and its maximum output is derated to 60 megawatts. In this situation, the FCM settlement rules credit the Resource as having met 60 megawatts of its Capacity Supply Obligation. The proposed new language reflects this rule.

**Q. IN YOUR EXAMPLE, WHICH MEGAWATTS WILL BE SUBJECT TO EVALUATION FOR ECONOMIC WITHHOLDING IN THE DAY-AHEAD MARKET AND IN THE REAL-TIME MARKET?**

A. In the example just given, the price and quantity offers from the Resource's Economic Minimum Limit up to 80 megawatts would be evaluated and subject to mitigation in the Day-Ahead Energy Market. All 100 megawatts would be evaluated and would be subject to mitigation in the Real-Time Energy Market.

**Q. THE THIRD CHANGE IN SECTION III.A.5.2.1.1 ADDRESSES CAPACITY RESOURCES WITH MULTIPLE ASSETS. HOW DOES THE POSSIBILITY OF MULTIPLE ASSETS FOR A CAPACITY RESOURCE AFFECT MITIGATION AND CAN YOU PROVIDE AN EXAMPLE OF THIS SCENARIO?**

A. When a Resource with a capacity supply obligation is composed of multiple assets, a method is needed to map the Capacity Supply Obligation onto the megawatts offered from the underlying assets in order to determine the price-quantity offer blocks to evaluate for mitigation in the Day-Ahead Energy Market.

As an example, suppose a Resource composed of two identical 100 megawatts assets (A and B) has a Capacity Supply Obligation of 160 MW, and in the Day-Ahead Energy Market the Market Participants offers 51 MW of each asset competitively, and the remaining 98 MW non-competitively (thereby violating the conduct test for economic withholding in Appendix A). In this case 58 MWs of the 98 MWs offered non-competitively are subject to Day-Ahead mitigation, but under the current rule the Internal Market Monitor cannot determine which 58 MW to mitigate.

Note that the problem only arises when a Resource has a partial Capacity Supply Obligation. If the Resource in our example had a full Capacity Supply Obligation then all non-competitively offered megawatts would be subject to Day-Ahead mitigation.

**Q. HOW DOES THE PROPOSED NEW RULE LANGUAGE ESTABLISH THE MEGAWATTS SUBJECT TO MITIGATION?**

A. As noted above, the new language proposes a default allocation method that prorates the

Capacity Supply Obligation across the Resource's underlying assets. In the above example of a 200 MW Resource composed of two 100 MW assets with a 160 MW Capacity Supply Obligation, each asset would be allocated an asset-specific Capacity Supply Obligation equal to  $160/200$  or 80% of each asset's capability.

As noted above, the proposed rule also allows the Market Participant to propose to the Internal Market Monitor in advance of a month how it would prefer to allocate its CSO to the assets comprising the resource. The Internal Market Monitor will review all such designations for non-competitive behavior prior to approval.

#### **III.A.5.6.1 (Methods for Determining Reference Levels)**

**Q. WHAT IS THE PURPOSE OF SECTION III.A.5.6.1 "METHODS FOR DETERMINING REFERENCE LEVELS?"**

A. Section III.A.5.6.1 of Appendix A addresses the calculation of Reference Levels for Resources, i.e., the value to which a Resource's offer will be mitigated if the Resource's offer fails the conduct and impact tests. Three methods are used to calculate Reference Levels, depending on the information available. The first, and preferred, method is based on offers made for the resource over the last 90 days that were accepted in the market. If insufficient data is available for the first method, then the second method is used. The second method uses market clearing prices at the resource's location during the lowest-priced 25% of the hours that the resource was dispatched over the previous 90 days. If there is insufficient data for either of the first two methods, then the third approach is used. The third approach uses cost and technical data to estimate the resource's marginal

costs.

At times, the Reference Level calculated according to either of the first two methods falls below the marginal cost estimate calculated under the third method. In this case, mitigation below marginal cost is prevented by explicit language in existing Section III.A.5.7.3 of Market Rule 1. The language states, “In designing and implementing Default Offers, the Internal Market Monitor shall seek to avoid causing a Resource to offer below its marginal cost.” If use of the Reference Level would result in a resource’s offer being mitigated to a level below its estimated marginal cost, the ISO will mitigate only to marginal cost. The result under the existing rule is as if the Reference Level were set to the estimated marginal cost. However, the actual Reference Level is not changed and remains below the estimated marginal cost.

**Q. HOW IS SECTION III.A.5.6.1 BEING CHANGED?**

A. Section III.A.5.6.1 is modified to provide that the Reference Level is pre-set to equal the value that would be used in mitigation. Accordingly, there will be no difference between the Default Offer and the Reference Level.

**Q. WHY ARE THESE CHANGES REQUIRED BY THE INTRODUCTION OF THE FORWARD CAPACITY MARKET?**

A. Under the Forward Capacity Market rules, the Internal Market Monitor is required to evaluate the competitiveness of a Resource’s offer if the Resource was not available during a Shortage Event due to its lack of quick-start capability or on-line status. If the Internal Market Monitor determines that the Resource was offered competitively, it may be deemed available and avoid a penalty (described in more detail below in the

discussion of section III.A.5.9).

The Forward Capacity Market rules prescribe that the Internal Market Monitor use Reference Levels to evaluate competitiveness, with the expectation that the Reference Level values are a reflection of the Resource's marginal costs. Unless the rules for determining Reference Levels are revised so that Reference Levels are an explicit reflection of estimated marginal costs, this expectation is not met. The proposed change resolves this inconsistency by setting the Reference Level equal to the estimated marginal cost, when estimated marginal cost is greater than the otherwise calculated Reference Level calculated using one of the first two methods in Section III.A.5.6.1.

**III.A.5.9 (Determination of Offer Competitiveness During Shortage Event).**

**Q. WHAT IS THE PURPOSE OF SECTION III.A.5.9 “DETERMINATION OF OFFER COMPETITIVENESS DURING SHORTAGE EVENT”?**

A. Section III.A.5.9 is a new section that describes how the Internal Market Monitor evaluates the competitiveness of an offer during a Forward Capacity Market Shortage Event. By way of background, Resources that have a CSO are required to be either producing energy or providing reserve during such an event. If the Resource is off-line and cannot start quickly enough to provide energy within 30 minutes, then it is determined to be unavailable and is assessed a penalty. An exception to the penalty is permitted when the resource has offered competitively but has not cleared the Day-Ahead Energy Market and also has not been committed by the ISO for reliability during its resource adequacy assessment.

The need for the new Section III.A.5.9 stems from a requirement stated in the Forward

Capacity Market rules. Section III.13.7.1.1.3(c) states (emphasis added):

For a Resource that is off-line with a metered output equal to zero and available for dispatch and following ISO dispatch instructions and has a cold notification plus cold start-up time of less than or equal to 12 hours (16 hours, during the first five Capacity Commitment Periods for Resources with notification plus start-up times greater than 12 hours as of June 16, 2006) and the output, up to the Capacity Supply Obligation, *was competitively offered into the Energy Market (i.e., capacity from the listed portion of the Resource was offered at or below the appropriate Reference Level plus applicable conduct thresholds)* but was not committed by the ISO and was consequently unavailable within 30 minutes, the available MW in an hour shall be the Resource's Economic Maximum Limit, as submitted or redeclared by the Lead Market Participant.

The italicized phrase requires the ISO to determine competitiveness using Reference Levels, but does not provide further details. The proposed Section III.A.5.9 of Appendix A provides those details, through a two-stage competitiveness evaluation.

**Q. PLEASE DESCRIBE THE FIRST STAGE OF THE COMPETITIVENESS EVALUATION IN SECTION III.A.5.9, AND THE PARAMETERS THAT ARE EXAMINED IN THE FIRST STAGE.**

The first stage of the evaluation examines whether the Resource offered competitively enough to be committed at minimum load. This would, in most cases, have allowed it to be available in real-time and avoid a shortage penalty. If the Resource does not pass this first, basic, test, the entire Resource is determined to be non-competitive.

The first stage evaluates the offer parameters that are primarily involved in the commitment decision and that could have prevented the Resource from being brought on-

line at its minimum load level. These parameters include the energy price of the offer blocks up to the Economic Minimum Level, No Load Fee, Start-up Fee, and Minimum Run Time. The value of each of these Supply Offer parameters is evaluated against mitigation thresholds set forth in Section III.A.5.3.1 and III.A.5.3.3. If an offer parameter exceeds the applicable threshold, the Resource is determined to be offered non-competitively.

**Q. WHAT IS THE PURPOSE OF THE SECOND STAGE?**

A. The second stage of the evaluation examines the competitiveness of the Resource's incremental energy offer blocks above the Economic Minimum Limit. The price-quantity pairs are evaluated under the mitigation thresholds in Sections III.A.5.3.1 and III.A.5.3.3. If the offer exceeds the threshold, the incremental energy offer (and all blocks above that offer block) is deemed non-competitive. All competitive blocks are considered available for the purpose of applying the Shortage Event penalty exception. For example, for an offline Resource with a 100 MW Capacity Supply Obligation, if the lowest-priced 80 MW are competitive, but the top 20 MW are not, the Resources is assessed a Shortage Event penalty only on the non-competitive 20 MW.

**Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

A. Yes.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 3/31/2010

  
Mario S. DePillis, Ph.D.

## **Attachment 4**

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