ISO New England Manual for

Market Operations

Manual M-11

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ISO New England Inc.

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Market Operations

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Introduction

Section 1: Overview of Energy Market Operations

1.1 Scope & Purpose of Scheduling and Dispatching

Operation of the New England Control Area involves many activities that are performed by different operating and technical personnel. These activities occur in parallel on a continuous basis, 24 hours a day and can be grouped into three overlapping time frames:

total cost to commit the Resource and operate it at its Economic Minimum Limit, Minimum Consumption Limit, or Minimum Reduction for the greater of the Resource's Minimum Run Time, Minimum Reduction Time or the duration of the capacity requirement.

(a) In making this determination, the ISO identifies available Resources that can be released for dispatch during or before the hours of need based on their state (Hot Intermediate, or Cold), Notification Times and Start-Up Times or Demand Response Resource Notification Times and Demand Response Resource Start-Up Times;

(b) The identified Resources are ranked in ascending order based on the sum of the applicable Start-Up Fee, No-Load Fee, Interruption Cost, and the cost to operate at their Economic Minimum Limits, Minimum Consumption Limits, or Minimum Reduction for the longer of their Minimum Run Times, Minimum Reduction Time, or the duration of the capacity requirement;

(c) The set of Resources that meets the capacity requirement at the least cost are committed.

If a Market Participant has procured gas for a gas-fired Generator Asset that is ordered to come on-line after the close of the Day-Ahead Energy Market, the start-up will not be cancelled unless there is a reliability concern that needs to be addressed. When a gas-fired Generator Asset is given an hourly commitment schedule in the Reserve Adequacy Analysis, the ISO will honor the hourly commitment schedule at the Generator Asset's Economic Minimum Limit for the commitment, unless there is a reliability concern that needs to be addressed. (at)33 ( )]TJ 0.323O5 Tw -56 ( )]TJ 0.f56 (i)Eait TeIlmm hoen (c)-56(ur)-67 (

1.3 Market Participant Responsibilities

Only Market Participants with settlement accounts for the Energy Market are eligible to submit Supply Offers, Increment Offers, Demand Reduction Offers, Demand Bids, External Transactions (other than Through Service External Transactions), Decrement Bids and purchase Energy or related services in the Day-Ahead Energy Market and in the Real-Time Energy Market. All Market Participants and Non-Market Participant Transmission Customers may submit "Through Service" -

(4) Submitting Supply Offers for DNE Dispatchable Resources as described in Market Rule 1 Sections III.1.11.3, III.13.6.1.3.1 and III.13.6.2.3.1;

(5) Submitting Demand Reduction Offers for Demand Response Resources for supply of energy in the form of demand reductions to the Day-Ahead Energy Market and Real-Time Energy Market as described in Market Rule 1;

(6) Submitting External Transactions associated with an Import Capacity Resource with a Capacity Supply Obligation in the Day-Ahead and Real-Time Energy Markets as described in Market Rule 1 Section III.13.6.1.2; and

(7) Submitting Increment Offers for use in the Day-Ahead Energy Market.

1.3.3 Market Participants wheeling Energy through the New England Control Area

Market Participants purchasing Energy from outside the Energy Market and wheeling the Energy through the New England Control Area must submit External Transactions.

1.4 Non-Market Participant Transmission Customer Responsibilities

Non-Market Participant Transmission Customers purchasing Energy from outside the New England Control Area and wheeling the Energy through the New England Control Area for use outside the New England Control Area must submit External Transactions to the Real-Time Energy Market.

Section 2: Energy Market

2.1 Reserved

2.2 Energy Market Business Rules

2.2.1 Bidding & Operations Time Line

10:00 a.m. — Day-Ahead Energy Market submission period closes for Supply Offers, Demand Reduction Offers, Increment Offers, Demand Bids and External Transactions.

Upon Completion of the Day-Ahead Energy Market — The Day-Ahead Energy Market hourly schedules, Day-Ahead Prices are posted and the Re-Offer Period begins. During this

2.2.2 Market Participants Buying from Energy Market

The following business rules apply to Market Participants purchasing from the Energy Market:

2.2.2.1 DEMAND BIDS

(1)

(1) External Transactions not properly submitted are rejected. The Market Participant is notified of the reason for rejection and the Market Participant may then take action to submit a new External Transaction.

(2) External Transaction data applicable to the Day-Ahead Energy Market does not carry forward for use in the Real-Timlard

(4) During and after the Re-Offer Period, a Market Participant may revise the Supply Offer of a Generator Asset or request to Self-Schedule the Generator Asset as described in Market Rule 1 Section III.1.10.9.

(5) Supply Offers for Self-Scheduled Generator Asset will be used by the ISO for scheduling available Generator Assets in the Day-Ahead Energy Market for the energy -

(1) A Market Participant with an Import Capacity Resource must meet the requirements of Market Rule 1 Section III.13.6.1.2.

(2)

(1) Non-Market Participant Transmission Customers may only submit Through External Transactions into the Real-Time Energy Market.

(2) A Transmission Customer should not include the impact of transmission losses as part of its Through External Transaction submitted for use in the Real-Time Energy Market as transmission losses are accounted for on a financial basis through the Loss Component of the LMP.

(3) Through External Transactions must be submitted to the Real-Time Energy Market as fixed, they may not be priced.

2.2.5 Declaration of Limited Energy Resource Status

For Limited Energy Resources, the Lead Market Participant may declare an hourly profile of economic dispatch maximums that can be below the hourly Economic Maximum Limits specified in the Offer Data. These hourly limits can be set to a Day-Ahead hourly schedule or be redeclared subject to Market Rule 1 and ISO business procedures restrictions. The Lead Market Participant can request that the Real-Time dispatch limit hourly scheduling to the lower dispatch maximum for the purpose of presenting a Tsd (- (l)11 (.)]TJ 0 T

Section 3: Scheduling

3.1 Treatment of Certain Resources

3.1.1 Local Second Contingency Protection Resources

When establishing operating schedules, the ISO chooses (or "flags") which Resources must be operated for local second contingency protection. The ISO will also indicate, in an auditable log, why each Resource was chosen. See the ***ISO New England Manual for Market Rule 1 Accounting, M-28*** and Market Rule 1 Appendix III.F for a description of the settlement treatment associated with Local Second Contingency Protection Resources.

3.1.2 Special Constraint Resources

In order to maintain area reliability, Transmission Owners or Distribution Companies may request the ISO to change the commitment of a Resource or the incremental loading on a previously committed Resource to provide relief for constraints not reflected in the ISO's

Option	Description	Comment
Import Resource	Market Participants with an Import Capacity Resource with a	

Option	Description	Comment
	operating day.	
New Brunswick Security Energy Transactions	When New Brunswick Security Energy Transactions are requested by ISO-NE, allows user to submit priced transactions within the operating day.	No additional information required
Grandfathered	When this is selected by Market Participants with active items in Attachment H of the Open Access Transmission Tariff and submitted in accordance with Section II.44(a), special priority is assigned in Real-Time scheduling.	Must provide MEPCO Grandfathered OASIS reservation

Table 3.1: Available Options Associated with External Transactions

3.2.5 Status of External Transactions Submitted to NEXTT

Upon submittal of an External Transaction in NEXTT to the Real-Time Energy Market, the ISO performs automated validation of e-Tag ID data, OASIS data, and any referenced market options for each separate interval. Only Real-Time External Transactions with a status of *APPROVED* will be considered in the scheduling process.

If a Real-Time External Transaction passes the automated validation process, each interval is assigned a status of *APPROVED*. However, if a Real-Time External Transaction with the Unconstrained Export option selected passes the automated validation process, each interval is assigned a status of *ISO REVIEW*. The ISO will perform additional validation of transactions with *ISO REVIEW* status and set the status of each interval to *APPROVED* or *DENIED*.

If a Real-Time External Transaction does not pass the automated validation process, the relevant intervals are assigned a status of *PENDING ACTION*. It is the responsibility of the customer submitting the External Transaction to correct any issues identified. Any interval of a Real-Time External Transaction that is not *APPROVED* by the deadline specified in Section III.1.10.9(c) is assigned a status of *DENIED*.

3.2.6 Status of External Transactions Submitted to JESS

Information regarding the process of submitting and monitoring External Transactions to the NYISO JESS application can be found on the NYISO website in their JESS user guide.

Revision: 4 - Approval Date: June 26, 2003

Section No.	Revision Summary
2.5.9……..….	Adds a description of a mathematical condition encountered by the software in the calculation of Real-Time Nodal Prices in rare instances known as "dual degeneracy" to the description of the calculation of Real-Time Nodal Price.

The addition of Section 2.5.16.3 is contingent upon FERC acceptance of corresponding revisions to Market Rule 1 filed by the ISO on May 15, 2003.

2.5.16.3……...	Adds a new subsection that adds Reserve Shortage Condition provisions to the Manual, including: when a Reserve Shortage Condition will be declared, notification to the market by the ISO, pricing implications, and the calculation of Reserve Shortage Opportunity Costs to be recovered pursuant to ISO New England Manual for Market Rule 1 Accounting, M-28.

Revision: 5 - Approval Date: October 3, 2003

Section No.	Revision Summary
8.1……...	Language is added to conform Manual 11 to the recent change in notice requirements announced pursuant to Market Rule 1 for changes to Self-Schedules for certain internal generating Resources to 30 minutes.

Revision: 6 - Approval Date: February 20, 2004

Section No.	Revision Summary
3.2.1(3)……...	Adds language clarifying that the information must be supplied prior to the close of the Regulation Market.
3.2.1(4)……...	Revises the section to state that unit regulating status for units available for Energy in the Day-Ahead Energy Market may be changed from available to unavailable after the Regulation Market closes.
3.2.1(7)……...	Revises the treatment of units that were unavailable in the Day-Ahead Energy Market and become available later so that they may Self-Schedule for Regulation only if they are available and submit the Self-Schedule prior to the close of the Regulation Market.
3.2.1(10)…….	Limits requests by Limited Energy Generators to Self-Schedule for Regulation (and the associated Redeclaration of Regulation Limits and Regulation Capacity to b(gy)]TJ s13.8 239.4 ( )-50abl.sasy Ras l195 (s 195 (sm)5 (s 195 (st (m))56 .8 239.4)h5t(a)8 239

2.5.16.3(3)(vi)
……Replaces the terms "Market Monitoring Unit" and "Independent Market Advisor" with "Internal Market Monitoring Unit" and "Independent Market Monitoring Unit".

Revision: 12 - Approval Date: May 27, 2005
Section No. Revision Summary
The following revision is contingent upon FERC acceptance of corresponding revisions to Market Rule 1 to be filed by the ISO. The ISO will request a waiver of the 60-day notice requirement so that the Market Rule 1 revisions may become effective on June 7, 2005.

6.4.10……..Adds new subsection titled "ISO Purchases of New Brunswick Security Energy".

Revision: 13 - Approval Date: September 9, 2005
Section No. Revision Summary
1.1, 2.5.2 &
3.1……...Replace references to OP-20 with references to Appendix H to Market Rule 1.
2.5.8(2),
2.5.9.3(b),
2.5.16.3(4),
5.1, 6.3.2, 6.3.3
& 6.36…… Replace references to Section 5 of ISO New England Manual M-28 with references to Appendix F to Market Rule 1.

Revision: 14 - Approval Date: March 11, 2005
Section No. Revision Summary
1.2.2……Adds a reference to Regulation.
1.2.3……Adds a new subsection title.
1.2.3(5)……...Revises the subsection to provide for hourly posting of preliminary Real-Time Regulation Clearing Prices.
1.2.3(14)&(15)
……Adds language providing for the posting of preliminary and Real-Time LMPs and RCPs.
2.3……...Revises the subsection to allow Resources selected in the Day-Ahead Market to participate in the Re-Offer Period.
2.5.1……Revises the subsection to allow Resources selected in the Day-Ahead Market to participate in the Re-Offer Period.
2.5.3(8)……...Revises the subsection to allow Resources selected in the Day-Ahead Market to participate in the Re-Offer Period.
2.5.5(7)……...Adds the final RCP to the data to be posted.
2.5.6……Deletes "Mechanical" from the subsection title.
2.5.9.2(c)……Revises the section to make Real-Time Dispatchable External Transactions eligible to set the Dispatch Rate.

6.5.4.1(2)……Deletes “(s), and internal Node, if required”.

Revision: 29 - Approval Date: June 6, 2008

Section No.	Revision Summary
Entire Manual revised to reflect Market Rule 1 and Transmission, Markets and Services Tariff provisions filed with the FERC (i.e., provisions making External Transactions comparable to internal generation pursuant to FCM Settlement Agreement).	

Revision: 30 - Approval Date: June 23, 2008

Section No.	Revision Summary
2.3……...Revises the third paragraph to clarify a s636.6 T676.2 0.6 0.6 oCM50.2 89f4 549 0. 68.4 60a-22	

Revision: 32 - Approval Date: June 6, 2008 and June 22, 2009

Section No.	Revision Summary
This set of revisions was approved on June 6, 2008	
6.5.4.2(7-10)...	Revises the subsections to address the submittal timing of External Transaction information for the Real-Time Energy Market.
6.5.5…….....	Revises the ISO review process for specific priced Real-Time External Transactions that have been submitted in support of an ICAP Import Contract which have a *Pending Action* status.
6.5.7…….....	Revises the "Real-Time Energy Market Next Hour Chehe5 676.8 0.6 13.8 re f EMC /P <</MC

6.5.3……	Revises the section to eliminate reference to warnings (ramp constraint status is routinely posted, there is no explicit warning) and to clarify the section.
6.5.6……	Revises the section to refer to Market Rule 1 and OATT provisions that provide detailed scheduling information for various types of External Transactions and to refer to the adjustments and penalties that may apply to Import Capacity Resources.

Revision: 35 - Approval Date: October 15, 2010

Section No.	Revision Summary
Table 2.2……	Replaces "Keswick – Orrington (396 Line)" with "Keene Road – Keswick (3001)".

Revision: 36 - Approval Date: January 7, 2011

Section No.	Revision Summary
1.1……..	Adds the phrase ", or are not otherwise required to submit a Supply Offer under the ISO Tariff," to the second sentence within the fourth paragraph.
1.3.2(5)(a)…..	Adds the phrase ", or are not otherwise required to submit a Supply Offer under the ISO Tariff," to the first sentence.
1.3.2(5)(b)…..	Creates a new subsection (b) from the second sentence previously contained in Section 1.3.2(5)(a).
2.2……...	Adds the phrase ", or are not otherwise required to submit a Supply Offer under the ISO Tariff," to the fourth sentence within the fourth paragraph.
2.5.3(3)……...	Adds the phrase ", or are not otherwise required to submit a Supply Offer under the ISO Tariff," to the second sentence.
2.5.3(14)(a)…	Adds the phrase ", or are not otherwise required to submit a Supply Offer under the ISO Tariff," to the first sentence.

Revision: 37 - Approval Date: December 10, 2010

Section No.	Revision Summary
6.3.2……...	Deletes the third and fourth sentences in the second paragraph which conforms this Manual to the Appendix A to Market Rule 1 sunset of provision Section III.A.6 Reliability Agreements.

Revision: 38 - Approval Date: April 1, 2011

Section No.	Revision Summary
2.5.2……...	Adds citation to access details on requesting the demand response enrollment information

2.5.6(3)……...	Deletes the sentence "Hourly Maximum Consumption Limit must be greater than or equal to five MW."

Revision: 40 - Approval Date: May 6, 2011

Section No.	Revision Summary
2.5.1, 2.5.3(7)&(11), 6.3 & 6.3.4….	Removes language that prohibited updates to the Start-Up and No-Load parameters of the Supply Offer during the Re-Offer Period.
2.5.2(2)……...	Clarifies that only one hourly fixed Demand Bid quantity can be submitted for the next Operating Day.
2.5.2(9)……...	Clarifies that up to ten price sensitive Demand Bid blocks can be submitted.
2.5.2(16)…….	Clarifies that up to fifty Decrement Bid blocks per hour can be submitted.
2.5.2(18)…….	Adds the sentence "Market Participants may submit up to ten Demand Bid blocks per day for each Dispatchable Asset Related Demand Bids the Day-Ahead Energy Market."
2.5.3(10)…….	Clarifies that a Supply Offer for a Generator may consist of up to ten incremental Energy offer blocks.
2.5.3(17)…….	Clarifies that up to fifty Increment Offer blocks per hour can be submitted.

Revision: 41 - Approval Date: June 1, 2012

Section No.	Revision Summary
1.3……...	Revises the section to add Demand Reduction Offers.
1.3.4.2…….	Adds Day-Ahead Demand Reduction Offer of Real-Time Demand Response Asset. Changes OP-4 dispatch trigger to declaration from forecast OP-4. Deletes third paragraph and adds a new paragraph to describe capacity and energy dispatch of Real-Time Demand Response Resources, Real-Time Emergency Generation Resources (OP-4 dispatch) and energy dispatch under Appendix III.E of Real-Time Demand Response Assets.
2.3……..	Revises dispatch language to eliminate advance notice and deletes the word "increase".
5.1(5)……..	Adds language on OP-4 dispatch of Real-Time Demand Response Resources.

Revision: 42 - Approval Date: October 3, 2012

Section No.	Revision Summary
6.5.7……...	Deletes the phrase "that were submitted by 1200 on the day before the Operating Day" within the Real-Time Energy Market Day Before Checkout subsection.

Revision: 43 - Approval Date: January 4, 2013

Section No.	Revision Summary
3.2.4(3)……...	Deletes this subsection in its entirety.
5.2.3(2)……...	Deletes the phrase "for Regulation" within this subsection.

6.2.2……..	Deletes the third sentence "Market Participants use the MUI to submit Internal Bilateral Transactions for Regulation that must be submitt

2.2.3.3(5)……Revises the sentence to read "Priced External Transaction purchases for the Day-Ahead Energy Market must be less than or equal to the Energy Offer Cap and

2.2.5(2)……...	Revises the fourth bullet to read "A generating Resource must have excess capacity not being utilized to meet the energy needs of the system (i.e. be operating below its Economic Maximum Limit);"
2.2.5(2)……...	Adds a new fifth bullet to read "A DARD Pump must be online and the ISO must be able to reduce or curtail its load to maintain reliability;"
2.2.6(4)……...	Adds a new subsection.

Revision: 54 - Approval Date: April 7, 2017

Section No.	Revision Summary
1.1……..	Deletes the third paragraph.
1.3.2(3)……...	Replaces "generating CSO Resources, other than Intermittent Power Resources or Settlement Only Resources," with "Dispatchable Resources" and deletes "Section III.1.10.9".
1.3.2(4)……...	Replaces "III.1.11.5" with "III.1.11.3".
1.3.2(5), 2.2.1 (5:00 p.m.), 2.2.2.3(6), (7) and (9), 3.2.2 (1) ……..	Adds "Market Rule 1" prior to the Section number.
1.3.2(6)……...	Deletes this subsection.
2.2.1 (Throughout the Operating Day) ……..	Deletes the third paragraph.
2.2.2.3(8), 2.2.3.3(6), (8), (9) and (10), 3.2.2(2) ……..	Adds "Market Rule 1 Section" prior to the Section number.
2.2.3.1(5)……	Replaces "Sections III.1.10.9 and III.1.11.5" with "Section III.1.10.9".
2.2.3.1(9)……	Adds a new subsection (9).
2.2.3.1(13)…..	Revises the subsection to state "Except as otherwise provided in Market Rule 1 Section III.1.11.5, a Supply Offer for a generating Resource that is not cleared for the Day-Ahead Energy Market automatically carries over for use in the Real-Time Energy Market unless modified pursuant to Market Rule 1 Section III.1.10.9." and deletes subsection (a).
2.2.3.1(15)(c).	Revises the subsection to state "Economic Maximum Limit is defined in Section I.2.2 of the Tariff."
2.2.3.3(9)……	Replaces "-$1000.00" with "-$1,000.00".
2.2.5(2) (sixth bullet)...	Revises the bullet to state "The applicable MW of the Resource are available for Real-Time dispatch; and".
3.2.2 (chart)…	Adds "Section" prior to the Section number for the three Latest submittal entries.
3.2.4……..	Adds "of the Tariff" in the first sentence within the first paragraph.
Table 3.1……	Replaces Option "Non-Capacity Supply Obligation Export" with "Export without a Capacity Supply Obligation".
Table 3.1……	Replaces "Non-Capacity Supply Obligation Export" with "Export without a Capacity Supply Obligation" in the Note located within the Description sections for the LSCC Export and Unconstrained Export Options.
Table 3.1……	Adds "There are currently no active items in Attachment G-3" within the Description section for the Excepted Transaction Option and replaces "There are currently no active items in Attachment G-3" with "Does not require a comment" in the Comment section for the Excepted Transaction Option.

2.2.1……..	Cleans up phrasing and clarifies that DARDs may but are not required to bid into the DAEM.

	information on when a Real-Time External Transaction passes the automated validation process, updates the information on "PENDING ACTION" and references Market Rule 1 Section III.1.10.0(c). Removes final two paragraphs.