ISO new england

2011 Wholesale Markets Project Plan

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Preface

Since 2004, ISO New England has published the *Wholesale Markets Project Plan* to provide a single document that outlines the market design projects planned or currently underway to ensure an efficient and reliable electricity system in New England. This booklet also provides an overview of the products traded in ISO-administered wholesale electricity markets and explains the benefits of the region's continuous process of evaluating, designing, and improving the markets.

The *2011 Wholesale Markets Project Plan* summarizes the scope and proposed timing of projects for the region's wholesale electricity markets through 2013. The ISO updates this plan throughout the year to communicate the status of market projects and to identify new projects the ISO may pursue. The updates are available on ISO New England's website, www.iso-ne.com.

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1.0 Overview of New England's Wholesale Electricity Markets

ISO NEW ENGLAND IS THE NOT-FOR-PROFIT CORPORATION responsible for overseeing and administering New England's interrelated suite of competitive wholesale electricity markets. These markets work together to ensure the constant availability of electricity for the region's 14 million residents. More than 400 companies compete in these markets, buying and selling more than $10 billion of electric power and related products on average annually. The products traded in New England's electricity markets comprise **three major categories:**

1 ENERGY MARKETS for buying and selling wholesale electric power

- **Day-Ahead Energy Market**—allows market participants to secure prices for electric energy the day before delivery and to hedge against price fluctuations that occur in real-time.
- **Real-Time Energy Market**—balances the dispatch of generation and demand resources to meet the instantaneous demand for electricity throughout New England.
- **Financial Transmission Rights (FTRs)**—enables market participants to hedge against the cost of transmission network congestion.

2 CAPACITY MARKET for ensuring long-term system reliability

- **Forward Capacity Market (FCM)**—ensures the system has sufficient resource capacity to meet the future demand for electricity by sending appropriate price signals to attract new investment and maintain existing resources.

3 ANCILLARY SERVICES for ensuring short-term system reliability

- **Regulation Market**—compensates resources that the ISO instructs to increase or decrease output moment-by-moment to balance the system frequency.
- **Forward Reserve Market**—compensates resources for keeping operable capacity available to provide electric energy within 10 or 30 minutes, which assures the New England system is able to withstand adverse events such as unexpected outages.
- **Real-time Reserve Pricing**—compensates resources for operating in a ready-to-respond state to supply electric energy or reduce demand in real time if needed to preserve system reliability.
- **Voltage Support**—compensates resources for maintaining voltage-control capability, which allows system operators to maintain transmission voltages within acceptable limits.
- **Black-Start Capability**—compensates specific power plants at key locations for their capability to restart the transmission system following a blackout.

2.0 Developing Competitive Wholesale Markets

IN THE LATE 1990S, New England restructured its electric power industry to create a transparent marketplace that would introduce competition and bring about efficiencies in the way electricity had been bought, sold, generated, transmitted, and even used for more than seventy years. The goals were to provide electricity at the lowest possible cost and to establish a wholesale market framework to guide investment in new resources that would ensure a reliable electricity system across the region.

GOOD MARKET DESIGN YIELDS ROBUST MARKETS | 2.1

For these goals to be realized, markets need to be well designed so that they produce transparent, accurate prices for wholesale electric power and related products. Markets also need to be designed so that they attract many buyers and sellers. Markets are more competitive when they are guided by clear, understandable rules that enable low-cost participation by any potential participant.

In wholesale electricity markets, transparent and competitive prices signal when power is available in ample supply—and when and where it is expensive to meet New England's power demand. This provides the economic incentive for buyers and sellers to develop more cost-effective ways of producing and delivering electricity, to invest in new resources and technologies, and to manage electricity use.

ROBUST MARKETS YIELD POSITIVE OUTCOMES | 2.2

ISO New England has worked collaboratively with market participants, state regulators, and other government officials and groups to construct a comprehensive market design that yields transparent, competitive price signals and ensures a level playing field for a large and diverse mix of participants. In a relatively short time, New England's suite of competitive energy, capacity, and ancillary services markets has facilitated the development of a power grid that is reliable, efficient, and environmentally sound. The marketplace has grown steadily, with the number of participants increasing from 200 buyers and sellers in 2000 to over 450 by 2010.

Since their inception in 1999, ISO New England's markets have accomplished the following:

- **Attracted investment** in nearly 14,000 megawatts (MW) of new power generation facilities. This ensures that the grid operates reliably and that adequate supply is available to meet demand. Because private firms and not public utilities make this investment, consumers are shielded from the investment risks they had been exposed to under the prior system. In today's competitive markets, power plants are paid for performance and therefore have incentives to operate efficiently, contributing to the grid's overall reliability and controlling power costs.

- **Prompted rapid expansion** of demand-side resources such as energy-efficiency projects, load management, and distributed generation. These resources help stabilize wholesale prices and contribute to system reliability during periods of peak demand, lessen the need to build expensive new infrastructure, and help achieve environmental goals. In 2011, approximately 2,300 MW of demand resources are available to reduce electricity consumption to maintain system reliability in New England. This is a significant increase from the 100 MW of demand resources that existed in 2003.

- **Enabling the development** of resources that run on renewable and low-carbon-emitting fuels, thereby helping market participants respond to state and federal environmental policy goals. Currently, developers are proposing approximately 3,300 MW of renewable resources throughout New England, with wind accounting for about 85% of these resources.

The Power System's Building Blocks

- A full complement of competitive markets that provide transparent price signals for investment in resources.

- A transparent planning process that identifies infrastructure options and other alternatives to ensure the long-term reliability of the New England power grid.

To learn more about New England's power grid, regional challenges and opportunities, and initiatives underway to address the power grid's needs over the coming decade, see the Regional System Plan available at ISO New England's website, www.iso-ne.com.

- **Stimulating technological innovations** that are modernizing the power grid. These "smart grid" projects will create a more efficient, responsive, and reliable system that can incorporate greater amounts of price-sensitive demand, new technologies such as electric vehicles, and an expanding array of alternative energy sources.

- **Complementing the regional planning process** in guiding New England's largest expansion of transmission infrastructure since the 1970s. More than $4 billion in transmission investment has been made across the six New England states from 2002 through 2010, and another $5 billion is planned over the next 10 years. Enabling electricity to move more efficiently within and between regions provides greater access to low-cost suppliers, improves market competition, reduces transmission congestion costs and line losses (both components of market prices), and reduces the need for costly reliability provisions with specific power plants.

Overall, the markets are working as designed, producing competitive prices that accurately reflect suppliers' costs of delivering power to the grid to meets consumers' real-time demand. Because approximately 40% of the region's power plants use natural gas to generate electricity, day-to-day volatility in wholesale electricity prices mirrors fluctuations in the price of this fuel. The close link between fuel costs and wholesale electricity prices illustrates that wholesale markets are efficient and competitive because changes in the cost of key production inputs are rapidly reflected in wholesale electricity prices.

Success through Collaboration

New England's wholesale electricity markets have proved successful over the past decade in large part because the process used to develop the markets is highly collaborative and transparent. ISO New England works with numerous stakeholders representing a wide variety of constituencies, technologies, and interests to put together comprehensive market solutions that will yield the best possible results for the region. These stakeholders include the New England Power Pool (NEPOOL), the voluntary association of the participants in New England's wholesale electricity marketplace; state regulators, including those who form the New England Conference of Public Utilities Commissioners (NECPUC); the six governors, primarily through the New England Governors' Conference (NEGC) and New England States Committee on Electricity (NESCOE); and state and federal legislators, attorneys general, and consumer and environmental advocates.

ROBUST MARKETS ARE CONTINUOUSLY REFINED AND ENHANCED | 2.3

The power grid and the challenges the industry faces are dynamic and complex. Accordingly, the markets must evolve to stay in step with technological and resource advancements and government policies that affect the power system. In addition, the markets are continuously assessed and the market rules, procedures, and software refined to enhance transparency and efficiency. These enhancements continue to expand the options and incentives for market participation.

ISO New England engages regional stakeholders in formal processes that strive to achieve consensus before initiating changes to the market design. In addition to the formal process, the ISO participates in stakeholder working groups, hosts numerous meetings, and offers many lines of communication to build a common understanding of the key energy issues facing the region's future. Obtaining stakeholder input early in the market design process results in timely delivery of market initiatives and facilitates approval by the Federal Energy Regulatory Commission, the regulatory agency that oversees New England's wholesale electricity markets.

3.0 Market Design Project Plan

ISO NEW ENGLAND HAS SCHEDULED a number of market projects through 2013. The projects, listed below, are in various stages of development. The indicated dates are based on the availability of ISO resources as well as the ISO's expectations of the time required for stakeholder collaboration and regulatory review. Project dates are subject to change. For example, recommendations from the internal or external market monitors can change project priorities and sequencing. [1]

MARKET DESIGN PROJECTS: 2011 TO 2013

PROJECT	ESTIMATED START OF STAKEHOLDER PROCESS (a)	ESTIMATED EARLIEST EFFECTIVE DATE	DESIGN STATUS (b)
FCM Design Reforms	TBD	2011/2012	Pending FERC ruling
Integration of Price-Responsive Demand	TBD	2012/2013	Pending FERC ruling
FTR Auction Enhancements	Underway	Q1 2012	In development
Interregional Coordination with NYISO	**Phase 1:** Underway **Phase 2:** 2013	**Phase 1:** Q1 2013 **Phase 2:** 2014	**Phase 1:** In development **Phase 2:** Not started
FCM Cost Allocation	Q1 2011	TBD	In development
FCM Resource Comparability	Q2 2011	2011/2012	In assessment
Alternative Technology Regulation Market Pilot and Market Changes	Q2 2011	2012	In development
Virtual Transaction NCPC Cost Allocation	Q2 2011	2012	In assessment
Alternative Technology Energy and Reserve Market Pilot	Q3 2011	2012	In assessment
Negative Incremental Energy Offers	Q3 2011	2012	In assessment
Review of FCM Peak Energy Rent	Q4 2011	2012	In assessment
Pricing Demand-Resource Activation	Q4 2011	2012/2013	In assessment
Enhancements to Energy Markets	2012	2013/2014	In assessment
Evaluation of NCPC Components	2012	2013	In assessment
Real-Time Reoffers	2012	2013/2014	In assessment

SMALLER-SCOPE MARKET DESIGN PROJECTS: 2011 TO 2013

PROJECT	ESTIMATED START OF STAKEHOLDER PROCESS (a)	ESTIMATED EARLIEST EFFECTIVE DATE	DESIGN STATUS (b)
Review of Generation Auditing	Underway	Q2 2011	In development
Modification of DARD and ARD Size and Aggregation Implementation	Underway	Q3 2011	In development
Start-Up and No-Load Cost Reoffer Changes	Underway	Q2 2011	In development
Evaluation of Virtual Transaction Submission Limits	Underway	Q2 2011	In development
Assessment of Demand-Resource Auditing	Q1 2011	2011/2012	In assessment
FCM Rejected Delist Bid Follow-Up Actions	Q1 2011	Q3 2011	In development
Evaluation of System Reserve-Constraint Penalty Factor Prices	Q2 2011	Q4 2011	In assessment
Review of Defined Terms	Q2 2011	Q4 2011	In assessment
Enhancements to FCM Bilateral Transactions	Q2 2011	2012	In assessment
Review of Multizone NCPC Cost Allocation	Q2 2011	2012	In assessment
Assessment of Rules and Requirements for Integrating Intermittent Resources	Q3 2011	TBD	In assessment
Review of Defined Terms for Offers and Parameters in Energy Markets	Q3 2011	Q4 2011	In assessment
Evaluation of FCM Supplemental Availability Bilateral Transactions	Q3 2011	Q4 2011	In assessment
Evaluation of the Frequency of Calculating the FRM Threshold Price	Q3 2011	Q4 2011	In assessment
Recommendations Regarding Load Reconstitution	Q3 2011	TBD	In development
Changes to the Real-Time Reserve Requirement	Q3 2011	2012	In assessment
Modifications of Rules for Congestion Pricing at External Nodes	Q4 2011	2012	In assessment

(a) This date indicates when the ISO expects to bring a formal proposal to stakeholder committee(s). Some projects may involve discussion with committees before a formal ISO proposal.

(b) The design status of "in assessment" means that the ISO is evaluating potential solutions; "in development" means that the ISO is preparing or has prepared a proposal for stakeholder committee(s); "pending FERC ruling" means that the ISO is awaiting a FERC ruling or order before proceeding.

4.0 Market Design Project Summaries

FCM DESIGN REFORMS | 4.1

In 2009, the Forward Capacity Market Working Group (FCMWG) was established through which ISO New England and its stakeholders developed a set of market enhancements in response to FCM design recommendations made by the ISO's internal market monitor. The recommendations addressed the treatment of out-of-market capacity and reforms to the Alternative Capacity Price Rule, capacity zone definitions, and installed capacity requirements.

In February 2010, the rules for these FCM design changes were approved by stakeholders and filed with FERC. In April 2010, FERC accepted the ISO's filing but identified several FCM elements for review and hearing. The elements set for hearing included triggering conditions and pricing under the Alternative Capacity Price Rule, the approach to capacity zone modeling, and the application of "cost of new entry" estimates in the FCM's administration. During the summer of 2010, ISO New England and other parties submitted several rounds of briefs to FERC that address these issues. As of January 2011, the commission has not issued an order on the FCM hearing.

INTEGRATION OF PRICE-RESPONSIVE DEMAND | 4.2

A key component of competitive and efficient markets is the ability of customers to modify consumption in response to changes in price. The goal of this project is to integrate demand-response resources into the wholesale energy markets in an economically efficient way. Doing so will enable market participants to offer products and services to retail customers that encourage them to modify electricity consumption in response to the market price.

On March 18, 2010, FERC issued a Notice of Proposed Rulemaking (NOPR) that proposes to require organized wholesale energy markets to pay demand-response providers the market price for electric energy for reducing consumption below expected levels.[2] The ISO filed two set of comments in response to the NOPR and the subsequent supplemental NOPR.[3] As of January 2011, the commission has not issued an order in the NOPR proceeding.

FTR AUCTION ENHANCEMENTS | 4.3

The ISO is evaluating a participant's proposal to increase the number of Financial Transmission Right (FTR) auctions and reconfiguration

auctions, potentially improving FTR price discovery and providing greater opportunities for market participants to rebalance their FTR portfolios.

To ensure that conducting more auctions is administratively feasible, the ISO also may simplify the process for allocating Auction Revenue Rights and converting Qualified Upgrade Awards (QUAs) to incremental Auction Revenue Rights (IARRs). This process is used to award additional FTR Auction Revenue Rights when new transmission capacity is added in New England. FERC approved market rules governing the QUA/IARR conversion process in 2008 as part of the long-term FTR (LFTR) market design.

INTERREGIONAL COORDINATION WITH NYISO | 4.4

ISO New England and the New York ISO are committed to creating a broader regional market and improving the efficiency of electricity trade between regions. In 2010, the two ISOs commenced a joint project to evaluate the economic and operating performance of energy flows across their interconnected transmission network. The project's two central objectives are to make the use of transmission ties between regions more economic and to leverage the regions' capabilities to minimize congestion.

This long-term project has two phases. Phase I, from 2010 to 2013, seeks to improve the economic coordination between the two regions' electricity markets. Phase II, from 2010 to 2014, will focus on coordinated congestion management and network modeling.

FCM COST ALLOCATION | 4.5

The ISO is evaluating modifications to the methodology for allocating capacity costs associated with meeting the Installed Capacity Requirement (ICR). The current methodology is based on a single peak hour of the summer. However, analyses show that the ICR is sensitive to consumption behavior during multiple hours during the summer. Therefore, the ISO is examining alternatives that better align the causation of capacity costs with consumption behavior by allocating capacity costs to hours that have the greatest impact on the ICR.

FCM RESOURCE COMPARABILITY | 4.6

The FCM includes several different types of resources, including traditional generation facilities, demand-response assets, energy-efficiency projects, and capacity imports from other regions. Current FCM rules apply different performance, monitoring, bidding, and other requirements to these different types of capacity resources. The ISO is evaluating whether these differences in the treatment of capacity resources are appropriate, necessary, and consistent with the FCM's design objectives.

ALTERNATIVE TECHNOLOGY REGULATION MARKET PILOT AND MARKET CHANGES | 4.7

For many years, conventional generation sources, such as fossil-fuel and pumped-storage hydroelectric power plants, have provided frequency regulation service. In November 2008, the ISO launched the Alternative Technology Regulation Pilot (ATRP) to determine how emerging technologies—such as grid-scale batteries, flywheels, and demand-side assets—can supply frequency regulation service. The ATRP includes an ongoing review of existing market rules that may need revision to provide new technologies the opportunity to compete equally in New England's Regulation Market. To serve this competitive objective, the ISO is using information from the ATRP program to develop permanent changes to the Regulation Market rules.

VIRTUAL TRANSACTION NCPC COST ALLOCATION | 4.8

The ISO is assessing whether to continue to allocate real-time Net Commitment-Period Compensation (NCPC) costs to virtual transactions that clear in the Day-Ahead Energy Market.[4] This project includes evaluating whether the current real-time NCPC cost-allocation methodology accurately reflects how NCPC costs are incurred and the extent to which virtual transactions affect real-time NCPC costs.

ALTERNATIVE TECHNOLOGY ENERGY AND RESERVE MARKET PILOT | 4.9

The ISO is proposing to develop a pilot program to assess whether new technologies (including demand response) that follow energy market dispatch instructions can provide real-time operating reserves. This program also will help the ISO evaluate and improve communication and monitoring systems needed for dispatching small, dispersed resources in the real-time energy and reserves markets.

Development activities are expected to begin independent of the outcome of the FERC's Demand-Response Compensation NOPR.[5]

NEGATIVE INCREMENTAL ENERGY OFFERS | 4.10

In offers to the energy markets, resources currently are not able to reflect a preference to avoid shutting down if the market clearing price is zero. This can result in inefficient start-up and shutdown expenses for generators, particularly during minimum-generation conditions. The ISO is examining negative offers in the energy markets as a solution to this problem.

REVIEW OF FCM PEAK ENERGY RENT | 4.11

In 2010, NEPOOL and the ISO committed to undertake a stakeholder process to review the peak energy rent (PER) component of the FCM.

This review is expected to examine the market design, performance, economic purpose, and alternatives to the current PER mechanism.

PRICING DEMAND-RESOURCE ACTIVATION | 4.12

A significant number of demand resources are serving as capacity in the FCM. If the ISO faces a capacity deficiency during the operating day, the ISO can call on these resources to reduce power demand in New England. [6] However, most of these resources are not dispatched within the ISO's energy market clearing process. The ISO is evaluating alternative mechanisms to establish market-clearing prices that reflect the opportunity cost of activating these demand resources.

This project is dependent on the Integration of Price-Responsive Demand project and the associated FERC NOPR (see Section 4.2).

ENHANCEMENTS TO THE ENERGY MARKETS | 4.13

The internal and external market monitors have identified a number of issues and potential enhancements for pricing in the Day-Ahead and Real-Time Energy Markets. The objective of this project is to ensure that LMPs accurately reflect the incremental cost of supplying electric energy in these markets. The ISO is evaluating the following:

- Revisions to market rules that govern when a resource is eligible to set the locational marginal price (LMP)
- The economic logic and algorithm for incorporating the start-up costs of fast-start generation resources into the LMP
- Energy price formation when a generating resource is dispatched out of merit for reliability reasons
- Whether current failure-to-follow rules, including NCPC eligibility provisions, provide appropriate incentives for resources to follow the ISO's dispatch instructions

EVALUATION OF NCPC COMPONENTS | 4.14

While many changes to the market design have been implemented since 2003, the market rules, procedures, and software used to calculate Net Commitment-Period Compensation have not been comprehensively revised during this period. Instead, incremental changes to NCPC have been made to support various market developments. An ISO review of the NCPC rules suggests the rules are unnecessarily complex. The ISO is planning to evaluate both the compensation and cost-allocation components of NCPC to simplify its application and clarify its economic purpose.

REAL-TIME REOFFERS | 4.15

The ISO is evaluating whether to allow a dispatchable resource to modify the commitment cost components (i.e., start-up and no-load costs) of its offer before a resource's commitment and to update the incremental energy-offer component during the operating day.

OTHER PROJECTS | 4.16

The ISO also has identified a number of projects that are smaller in scope and effort. These are scheduled in conjunction with the larger-scope and higher-priority initiatives identified above.

Review of Generation Auditing | 4.16.1

In 2010, stakeholders raised several proposals to modify the rules for auditing generation. The ISO is reviewing these proposals, which include changing the audit duration and frequency, to ensure that modifications do not affect operational reliability requirements.

Modification of DARD and ARD Size and Aggregation Implementation | 4.16.2

On April 21, 2010, the ISO and NEPOOL jointly filed a request with FERC to reduce the minimum-size requirement of an asset-related demand (ARD) or dispatchable asset-related demand (DARD) resource from 5 MW to 1 MW and to allow the aggregation of retail customers receiving electrical service from the same point. The market rule change is in response to the commission's January 21, 2010, order requiring "an examination of the current rules that required a minimum 5 MW peak-load size requirement and deny DARDs the ability to aggregate." [7]

The ISO is working with the meter readers at the New England transmission owners to identify necessary changes to the roles and responsibilities of the parties that support ARD and DARD registration and metering functions under the revised market rule.

Start-Up and No-Load Cost Reoffer Changes | 4.16.3

The ISO is proposing changes to provide resources with the ability to modify the start-up and no-load components of an energy supply offer during the reoffer period before each operating day. This recommendation originated in the larger Real-Time Reoffer project and was moved forward as a separate item because of the ability to implement this change before other components of the Real-Time Reoffer project.

Evaluation of Virtual Transaction Submission Limits | 4.16.4

As part of software enhancements to the ISO's eMarket software suite, the ISO is evaluating whether it is acceptable to limit the number of increment and decrement virtual transactions that can be submitted (per bidder) at a specific location in the Day-Ahead Energy Market.

Assessment of Demand-Resource Auditing | 4.16.5

A number of issues have been identified with the demand-resource auditing process. These include how the ISO uses audit results and how the results affect a market participant's ability to link demand-resource assets to capacity market obligations. The ISO has also received requests to enhance the current audit process. The ISO is assessing these elements to determine what changes may be appropriate and timeframes for implementation.

FCM Rejected Delist Bid Follow-Up Actions | 4.16.6

Section 13 of *Market Rule 1* requires the ISO to take specific actions when it rejects a resource's delist bid (an election to drop out) in a Forward Capacity Auction.[8] The ISO is reviewing these provisions and its own internal procedures to determine whether any changes are required.

Evaluation of System Reserve-Constraint Penalty Factor Prices | 4.16.7

The ISO is evaluating the current systemwide reserve-constraint penalty factor (RCPF) price. The RCPF price serves as a "cap" on the reserve price when the system reserve target is not satisfied in real-time operations. The purpose of this project is to ensure that the RCPF price correctly reflects the cost of redispatch actions executed by system operators to alleviate system reserve shortfalls in real-time operations.

Review of Defined Terms | 4.16.8

Section I.2.2 has become the central repository for all defined terms within the ISO's tariff.[9] However, some terms have inaccurate or duplicative definitions or are used inconsistently within the tariff. In addition, some terms in the body of the tariff should be defined in Section I.2.2. This project is correcting the tariff to update definitions and properly capture the defined terms used in Sections I through IV and the associated schedules, attachments, and appendices. This effort will improve the use of Section I.2.2 as a resource and central repository for definitions and may facilitate the removal of *ISO New England Manual 35*.[10]

The ISO will evaluate defined terms in each section of the tariff, compare them to Section I.2.2, assess discrepancies, recommend changes, and discuss needed changes with participants at the appropriate NEPOOL committee meetings.

Enhancements to FCM Bilateral Transactions | 4.16.9

The ISO has received several requests from participants regarding bilateral reassignment transactions for capacity supply obligations and capacity load obligations. These include requests for additional flexibility regarding what information may be included in bilateral reassignment transactions, when these transactions can be submitted and confirmed, and when the ISO can review them.

Review of Multizone NCPC Cost Allocation | 4.16.10

The current method for allocating NCPC costs for voltage support requirements (VAR) and local second-contingency-protection resources (LSCPRs) across multiple reliability regions is a two-step process. First NCPC costs are allocated equally among the affected reliability regions. Second, these costs are allocated pro rata to regional network load for VAR and real-time load obligations for LSCPRs in each of the reliability regions. The ISO is evaluating whether this approach should be modified to allocate costs directly to load across multiple reliability regions, rather than first splitting the costs between reliability regions.

The cost allocation rules for VAR are contained in Schedule 2 of the *Open Access Transmission Tariff* (OATT), while the cost allocation rules for LSCPRs are detailed in Appendix F of *Market Rule 1*.[11] If the ISO decides to move forward with changes, the Markets Committee and Transmission Committee will need to review the proposed modifications.

Assessment of Rules for Requirements for Integrating Intermittent Resources | 4.16.11

The ISO is assessing potential modifications to the energy market rules and requirements that may be necessary to accommodate greater quantities of intermittent resources, such as wind power generation. Elements under evaluation include commitment requirements; energy price formation; and the effect of these resources on the capacity, reserve, and regulation markets.

Review of Defined Terms for Offers and Parameters in the Energy Markets | 4.16.12

The ISO has identified a number of definitions related to offers in the energy markets that should either be clarified or added to Section I.2.2.[12] The ISO will evaluate the current list of defined terms for offers and associated parameters in the energy markets, identify missing terms, recommend changes, and discuss needed changes with stakeholders at the relevant NEPOOL committees.

Evaluation of FCM Supplemental Availability Bilateral Transactions | 4.16.13

Supplemental availability bilateral transactions allow generation resources that underperformed during an FCM shortage event to supplement their availability with another generation resource whose performance exceeded its FCM obligation. Presently, supplemental availability bilaterals can be executed only between generation resources within the same reserve zone. The ISO is evaluating this reserve-zone limitation.

Evaluation of the Frequency of Calculating the FRM Threshold Price | 4.16.14

The ISO is evaluating an internal market monitor recommendation to allow the Forward Reserve Market (FRM) threshold price to be calculated using a daily fuel-price index. The FRM requires market participants to offer real-time reserve service at or above the FRM threshold price. The FRM threshold price currently is calculated monthly, based on a monthly fuel-price index. The internal market monitor observes that volatile fuel prices within a month can cause a supplier's daily fuel cost to differ from the static monthly threshold price, leading to inefficient resource offers.

Recommendations Regarding Load Reconstitution | 4.16.15

The region's stakeholders have indicated a desire to finalize, by September 2011, a methodology for reconstituting load. Load reconstitution is a process that involves increasing the projected load of a particular end-use consumer, or group of end-use consumers, by the amount for which they are compensated for demand response in the wholesale electricity markets. The ISO expects to file its recommendation with FERC on whether to institute a load-reconstitution methodology by February 2012, to apply to the sixth Forward Capacity Auction in April 2012.

Changes to the Real-Time Reserve Requirement | 4.16.16

ISO New England is proposing to modify the reserve monitor and reserve calculations for the Unit Dispatch System (UDS) so that the real-time UDS appropriately reflects operator decisions to commit supplemental or replacement reserves when solving for reserve requirements and faced with an unusually large contingency exposure.

Modification of Rules for Congestion Pricing at External Nodes | 4.16.17

The ISO does not set a congestion component in the LMP at an external interface. Instead, the ISO charges users of the external interface a different (NCPC) charge. As a consequence, the true cost of buying or selling power across an external interface is not transparent to market participants and cannot be hedged easily.

To address this issue, the ISO is assessing modifications to enable congestion pricing at external interfaces. This will improve electric energy price transparency and more closely align the calculation of LMPs at external interfaces with the ISO's standard congestion pricing design. Ancillary benefits include improving the ability of price signals to coordinate energy flows between regions and laying a necessary foundation for coordinated congestion management with New England's neighbors (see Section 4.4).

Governing Documents Provide Clear Rules and Procedures

A variety of agreements, tariffs, and contracts govern the services ISO New England provides and the relationships it has with entities that generate, buy, sell, and transport electricity in New England. These documents are available at ISO New England's website.

The *Transmission, Markets and Services Tariff* sets forth the rates, terms, and conditions for transmission, markets, and other services provided by ISO New England. Section 205 of the *Federal Power Act* requires FERC approval of all changes to the tariff.

- ***Open Access Transmission Tariff*** provides the rights and responsibilities of electric energy suppliers that are interconnected to the region's transmission system.

- ***Market Rule 1*** governs the operation of New England's wholesale electric power markets. It includes detailed information on pricing, scheduling, offering, bidding, settlement, and other procedures governing the purchase and sale of electricity.

- The ***Self-Funding Tariff*** controls how the ISO collects funds to pay for administrative functions; the ***Capital Funding Tariff*** controls how the ISO collects funds to pay for capital assets not covered by private financing.

Manuals explain the rules and procedures for the region's wholesale electric power markets and bulk power system, including *Market Rule 1,* the *Open Access Transmission Tariff,* and the ISO *Self-Funding Tariff.*

Operating procedures inform generators, importers, and demand resources of operating and reliability requirements for the region's bulk electric power system.

Planning procedures set requirements for participants regarding reliability standards, pooled transmission facility cost review, and notice of intent to change facilities.

Participants' Agreement provides the overall governance structure related to the ISO's administration of New England's wholesale electricity markets and bulk electric power system and establishes the processes for stakeholder input.

Restated NEPOOL Agreement outlines NEPOOL's governance structure.

Notes

1 ISO New England has internal and external market monitors that assess the performance of New England's wholesale electricity markets, including overall market design and market participant behavior. The market monitors seek to ensure that the markets function efficiently and that market participants abide by the market rules and procedures.

2 FERC, *Demand Response Compensation in Organized Wholesale Energy Markets*, Notice of Proposed Rulemaking, Docket No. RM10-17-000 (March 19, 2010), **http://www.iso-ne.com/committees/comm_wkgrps/mrkts_comm/mrkts/mtrls/2010/mar232010/a2_ferc_nopr_03_18_10.pdf**.

3 ISO New England Inc., *Demand Response Compensation in Organized Wholesale Energy Markets*, FERC filing, Docket No. RM10-17-000 (May 13, 2010), **http://www.iso-ne.com/regulatory/ferc/filings/2010/may/rm10-17_5-13-10_iso_dr_nopr_comments.pdf**. ISO New England Inc., *Demand Response Compensation in Organized Wholesale Energy Markets*, FERC filing, Docket No. RM10-17-000 (October 13, 2010), **http://www.iso-ne.com/regulatory/ferc/filings/2010/oct/rm10-17-000_10-13-10_supplemental_dr_nopr_comment.pdf**.

4 NCPC is a payment to a resource that responded to the ISO's dispatch instructions but did not fully recover its start-up and operating costs in either the Day-Ahead or Real-Time Energy Markets.

5 FERC, *Demand-Response Compensation in Organized Wholesale Energy Markets*, Notice of Proposed Rulemaking, Docket No. RM10-17-000 (March 19, 2010), **http://www.iso-ne.com/committees/comm_wkgrps/mrkts_comm/mrkts/mtrls/2010/mar232010/a2_ferc_nopr_03_18_10.pdf**.

6 The ISO would follow Operating Procedure No. 4, *Action during a Capacity Deficiency* (June 1, 2010), **http://www.iso-ne.com/rules_proceds/operating/isone/op4/index.html**.

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