



2011 Wholesale Markets Project Plan

October 2011

About the Update

ISO New England publishes a quarterly *Wholesale Markets Project Plan* (WMPP), which identifies key initiatives for the upcoming three years. In addition to identifying new initiatives, each release of the WMPP provides scope and scheduling updates for previously identified initiatives.

This project plan is organized into two sections—Market Assessments and Market Design Projects:

- **Market Assessments** identify areas the ISO is evaluating to better understand the problem to be addressed and to determine whether market design changes are warranted and how the changes would be organized into Market Design Projects.
- **Market Design Projects** identify projects with well-defined scope that the ISO determined warrants a governing document change and the ISO plans to propose to stakeholders for consideration and discussion.

Larger projects often start as a Market Assessment and, if the ISO determines changes are required, can become one (or many) Market Design Projects. Many Market Design Projects will not start as a Market Assessment because they are small and/or have a well-defined scope.

Market Assessments generally do not have a schedule for when changes would be proposed to stakeholders, or when any associated changes will be effective. Market Design Projects will include estimated stakeholder dates and effective dates.

For questions on these projects, please contact [Christopher Parent](#), Manager, Market Development, at 413-540-4599.

WMPP and Strategic Planning

The strategic planning discussions¹ identified challenges to the continued reliable and efficient operation of the New England power system. Many of the challenges and the associated recommendations will be addressed through Market Assessments and Market Design Projects identified within this WMPP. In order to highlight those initiatives related to the strategic planning discussions, the summary tables below include “SP” after the Market Assessment or Market Design Project title (i.e., Market Design Project Name ^{SP}).

¹ Additional information on the strategic planning discussions can be found at:
http://www.iso-ne.com/committees/comm_wkgrps/strategic_planning_discussion/materials/

Market Assessments

New Market Assessments

This section is reserved for summarizing new Market Assessments that have been identified since the previous WMPP was issued.

Summary of New Market Assessments

Market Assessment	Related Market Design Projects
Locational Reliability Requirements ^{SP}	

New Market Assessments Descriptions

Locational Reliability Requirements

The ISO is assessing different options to procure capacity required to meet specific locational requirements that are not modeled through the existing Forward Capacity Market (FCM) or Forward Reserve Market (FRM).

Existing Market Assessments

This section summarizes the current scope, schedule, and status of Market Assessments identified in previous WMPPs. The table key is

- *Italicized text* indicates a change from the last version of the WMPP.
- Starred (“^{SP}”) assessment names indicate that the assessment description has been substantially modified from the previous WMPP.

Summary of Existing Market Assessments²

Market Assessment	Related Market Design Projects
<i>Energy Pricing Enhancements</i> ^{SP}	
Evaluation of NCPC Components	
<i>*FCM Bilateral Transactions and Reconfiguration Auctions</i>	
FCM Resource Comparability ^{SP}	• Price-Responsive Demand: Energy Market Integration • Price-Responsive Demand: Capacity Market Changes
FCM Resources That Do Not Clear in a Forward Capacity Auction	
Generation Auditing and Parameter Re-Declaration Rules Review ^{SP}	• Reserve Capability Determination
Integration of Intermittent Resources ^{SP}	• Wind Forecasting and Dispatch • Negative Incremental Energy Offers
Interregional Coordination with NYISO	• Coordinated Transaction Scheduling
Pricing Demand-Resource Activation	• Price-Responsive Demand: Energy Market Integration
Privately-Financed Transmission Projects	

² Market Assessments are ordered alphabetically

Existing Market Assessment Descriptions³

Energy Pricing Enhancements

The internal and external market monitors have identified a number of issues and potential enhancements to 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 and maintaining operating reserves 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 Net Commitment-Period Compensation (NCPC) eligibility provisions, provide appropriate incentives for resources to follow the ISO's dispatch instructions.

Evaluation of NCPC Components

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 (NCPC) have not been comprehensively revised during this period. Instead, incremental changes to NCPC have been made to support various market changes. An ISO review of the NCPC rules suggests that 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.

FCM Bilateral Transactions and Reconfiguration Auctions

The ISO has received several requests from participants regarding enhancements to bilateral reassignment transactions for capacity supply obligations and capacity load obligations and reconfiguration auctions. 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 will review them and allowing for real-time emergency generation to be able to participate in reconfiguration auctions.

FCM Resource Comparability

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 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.

Resource comparability is being addressed through a number of projects, including the Price-Responsive Demand: Energy Market Integration and Price-Responsive Demand: Capacity Market Changes.

³ Market Assessments are ordered alphabetically

FCM Resources That Do Not Clear in a Forward Capacity Auction

As part of the evaluation of a participant proposal, the ISO has identified a scenario where resources that never clear in a Forward Capacity Auction (FCA) as a “new” resource remain qualified and are able to acquire a capacity supply obligation for a limited time period. This creates a short-term resource that only exists from its commercial operation date through the end of the capacity commitment period of the FCA for which it qualified but did not clear; the resource is not qualified for future FCAs. The ISO is evaluating this scenario to understand potential impacts and determine whether design modifications are necessary.

Generation Auditing and Parameter Re-Declaration Rules Review

Basing the dispatch of resources on accurate physical parameters ensures a reliable transmission system and improves market efficiency. The ISO is assessing the rules governing the auditing, submission, and re-declaring of various physical parameters (e.g., Claim 10 and Claim 30 response capability, seasonal claimed capability, ramp rate) to ensure that these parameters are accurate and updated. The ISO will use the outcome of this assessment to determine whether the ISO will propose modifications to these rules.

Changes associated with this review will be presented to stakeholder technical committees as multiple Market Design Projects.

Integration of Intermittent Resources

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.

Interregional Coordination with NYISO

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, Coordinated Transaction Scheduling (CTS), seeks to improve the economic coordination between the two regions’ electricity markets. Phase II will focus on coordinated congestion management and network modeling.

Pricing Demand-Resource Activation

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.⁴ However, most of these resources are not dispatched within the ISO’s energy-market clearing process. The ISO is evaluating mechanisms to establish market-clearing prices that reflect the opportunity cost of activating these demand resources.

⁴ The ISO would follow Operating Procedure No. 4, Action During a Capacity Deficiency, http://www.iso-ne.com/rules_proceeds/operating/isone/op4/index.html.

Privately-Financed Transmission Projects

The ISO is evaluating operational and market impacts specific to new, privately-financed transmission projects. Unlike most transmission projects, these projects are not proposed as regional transmission solutions in response to a “needs assessment” pursuant to Attachment K of the *Open Access Transmission Tariff* (OATT) and, consequently, their treatment may not be adequately specified in the tariff.⁵ This assessment will review the integration of these transmission projects and provide recommendations as required in several areas, including interconnection queue procedures to improve study certainty, interconnection rights, new external interfaces created by these projects, and associated market rule changes.

Closed Market Assessments

This section is reserved for summarizing Market Assessments identified in previous WMPPs that have been closed. Market Assessments that have related Market Design Projects will remain in this section until the associated Market Design Projects have been closed. Market Assessments in which no related Market Design Projects are identified will be reflected in this section as closed and will be removed in the subsequent release of the WMPP.

Summary of Closed Market Assessments

Market Assessment	Assessment Status^(a)	Related Market Design Projects
None		

- (a) The assessment status of “closed” means that the ISO completed its evaluation and recommended changes through one or many Market Design Project; “no action taken” means that the ISO completed its evaluation and determined no market design changes were required.

Closed Market Assessment Descriptions

None

⁵ *ISO New England Open Access Transmission Tariff*, Section II, Attachment K, “Regional System Planning Process”, http://www.iso-ne.com/regulatory/tariff/sect_2/oatt/section_ii-oatt.pdf.

Market Design Projects

New Market Design Projects

This section summarizes new design projects that have been identified since the previous WMPP.

Summary of New Market Design Projects⁶

Market Design Project	Estimated Start of Stakeholder Process ^(a)	Estimated Earliest Effective Date	Design Status ^(b)
FCA Informational Publishing Changes	Q4 2011	June 1, 2012	In development
FCM Demand Resource Performance Incentives	Q4 2011	Q2 2012	In development
Reserve Capability Determination ^{SP}	Q4 2011	Q2 2013	In development
Forward Capacity Auction Changes	Q1 2012	Q1 2013	In assessment
Forward Reserve Market TMNSR Procurement ^{SP}	Q2 2012	Q4 2012	In assessment
Real-time Reserves and Pumped Storage	Q2 2012	Q4 2012	In development

(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 presenting 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 presented a proposal to stakeholder committee(s).

New Market Design Project Descriptions⁷

Forward Capacity Auction Changes

The ISO is evaluating modifications to the Forward Capacity Auction (FCA) provisions, in part as a consequence of the recent FCM compliance changes. This project includes separating the starting price of the auction from the use of the starting price in other FCM provisions, changing the objective function of the auction to maximize social welfare, and evaluating the inadequate supply and insufficient competition provisions including, but not limited to, the administrative price paid to existing resources.

Forward Capacity Auction Informational Publishing Changes

The ISO’s Forward Capacity Auction (FCA) informational filing publishes detailed information about each new resource that qualifies for the FCA, including its name, type, location and quantity. The ISO also publishes similar information about permanent and static de-list bids.

The Internal Market Monitor has reviewed the information published before the FCA and recommends that the ISO reduce the detailed information about new, qualified capacity and de-list bids made public before each FCA.

⁶ Projects are ordered by Estimated Start of Stakeholder Process and Estimated Earliest Effective Date

⁷ Projects are ordered alphabetically.

FCM Demand Resource Performance Incentives

The current approach for allocating Demand Resource performance incentives does not limit the allocation of Demand Resource penalties based upon the modeled capacity zones. With the Maine capacity zone modeled in the third capacity commitment period, the ISO is evaluating modification to the Demand Resource performance incentive allocation to include capacity zone constraints.

Forward Reserve Market TMNSR Procurement

The ISO is evaluating eligibility rules for resources to provide 10-Minute Non-Spinning Reserve (TMNSR) in the Forward Reserve Market (FRM) and the appropriate level of TMNSR to procure in the FRM to determine if any changes are required.

Real-time Reserves and Pumped Storage

With the implementation of the Ancillary Service Market Phase II project in 2006, pumped storage facilities that self-scheduled were no longer treated as providing operating reserve. This has occasionally resulted in off-peak reserve shortages with attendant energy and reserve price spikes lasting until fast-start resources could come online and/or the pump operators requested to cancel their self-schedule.

This ISO is proposing changes to allow the ISO to account for real-time reserves provided by self-scheduled pumps and allow the pumps to be compensated at the real-time reserve price for provision of real-time reserve.

Reserve Capability Determination

The ISO is evaluating how reserve capability is determined for offline and online resources to ensure that the ISO is accurately reflecting the amount of reserves that a resource can provide. The ISO is specifically reviewing the offline 10-minute reserve capability (i.e., Claim10) and the online 10- and 30- minute reserve capability (i.e., response rates times 10 or 30) to ensure that the current audit and measurement procedures properly reflect a resource's expected performance. Any required changes will be coordinated with the Reliability and Markets Committees.

Existing Market Design Projects

This section summarizes the current scope, schedule, and status of open projects identified in previous WMPPs. The table key is as follows:

- *Italicized text* indicates a change from the last version of the WMPP.
- Starred (“*”) dates indicate a delay in the schedule from the prior version of the WMPP.
- Starred (“*”) project names indicate that the project description has been substantially modified from the previous WMPP.

Summary of Market Design Projects Underway⁸

Market Design Project	Estimated Earliest Effective Date	Design Status ^(b)
Review of Defined Terms	July, 1 2011	<i>Changes to ISO Manuals required</i>
Modification of DARD and ARD Size and Aggregation Implementation	Q4 2011	<i>Changes to ISO Manuals required</i>
FTR Auction Enhancements	Phase 1: January 1, 2012 <i>*Phase 2: January 1, 2013</i>	<i>Changes to ISO Manuals required</i>
NCPC Multizone Cost Allocation	<i>January 2012</i>	Pending FERC action (on filing)
FCM Rejected De-list Bid Follow-Up Actions	Q1 2012	In development
Re-Open Regulation Market Pilot	Q1 2012	In development
Load Reconstitution	<i>April 2012</i>	In development
Demand-Resource Capacity Auditing	<i>May 2012</i>	<i>In development</i>
Price-Responsive Demand: Energy Market Integration ^{SP}	Transition: June 2012 Full Integration: June 2015	Pending FERC action (on filing)
Price-Responsive Demand: Capacity Market Changes ^{SP}	<i>*June 2012</i>	In development
FCM Capacity Transfer Rights	<i>June 2012</i>	In development
FCM Design Reforms	<i>June 2012</i>	In development
FCM Supplemental Availability Bilateral Transactions	<i>June 2012</i>	In development
System TMOR Reserve-Constraint Penalty Factor Prices ^{SP}	<i>*Q2 2012</i>	In development
Coordinated Transaction Scheduling	<i>Q2 2013</i>	In development

⁸ Projects are ordered by Estimated Earliest Effective Date.

Summary of Scheduled Market Design Projects⁹

Market Design Project	Estimated Start of Stakeholder Process ^(a)	Estimated Earliest Effective Date	Design Status ^(b)
FCM Net Regional Clearing Price Clarifications	Q4 2011	<i>June 2012</i>	In development
Wind Forecasting and Dispatch ^{SP}	Q4 2011	Q2 2012	<i>In development</i>
Negative Incremental Energy Offers ^{SP}	Q4 2011	2012	In assessment
<i>*Regulation Market Changes</i>	<i>Q4 2011</i>	<i>2012</i>	<i>In assessment</i>
FRM Threshold Price Calculation Frequency	<i>*Q1 2012</i>	<i>*Q3 2012</i>	<i>In development</i>
Review of FCM Peak Energy Rent	<i>*Q1 2012</i>	2012	In assessment
<i>*NCPC Cost Allocation</i>	<i>*Q3 2012</i>	<i>*2013</i>	In assessment
Changes to the Real-Time Reserve Requirement	<i>*Q4 2012</i>	<i>*2013</i>	In assessment
FCM Cost Allocation	<i>Q4 2012</i>	TBD	<i>In assessment</i>
<i>*Hourly Day-Ahead Energy Offers and Intraday Reoffers^{SP}</i>	<i>*Q1 2013</i>	<i>*2015</i>	In assessment
Alternative Technology Energy and Reserve Market Pilot	TBD	TBD	Deferred
Modifications of Rules for Congestion Pricing at External Nodes	TBD	TBD	Deferred
Review of Defined Terms for Offers and Parameters in Energy Markets	TBD	TBD	Deferred

(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); “deferred” means that the ISO is no longer actively working on the item; “pending FERC ruling (on filing)” means that the ISO is awaiting a FERC ruling on a proposed set of tariff changes; “pending FERC ruling (on NOPR)” means that the ISO is waiting for a FERC order on a Notice of Proposed Rulemaking (NOPR); “changes to ISO manuals required” means that the ISO has completed the tariff changes and conforming ISO manual changes are still required or are in progress.

Existing Market Design Project Descriptions

Alternative Technology Energy and Reserve Market Pilot

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.

⁹ Projects are ordered by Estimated Start of Stakeholder Process and Estimated Earliest Effective Date

Changes to the Real-Time Reserve Requirement

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.

Coordinated Transaction Scheduling

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 2011, the stakeholders for the regions supported an enhanced scheduling process, the Coordinated Transaction Scheduling design, which modifies the real-time external transaction submittal and scheduling process at the NY/NE AC interfaces.

The ISO will be proposing market rule changes to support the CTS design during the balance of 2011; conforming tariff and other governing document changes will follow in 2012.

Demand-Resource Capacity Auditing

A number of issues concerning the demand-resource auditing process have been identified. 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 also has 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 Capacity Transfer Rights

The ISO is developing software to implement the FCM Capacity Transfer Rights (CTRs) functionality needed to support multiple capacity zones for the 2012/2013 capacity commitment period. Some minor changes to the market rules are required to ensure that CTRs are properly settled.

FCM Cost Allocation

The ISO is evaluating modifications to the methodology for allocating FCM 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 in multiple hours during the summer. 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.

This project also will include a discussion of load reconstitution, which 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.

FCM Design Reforms

On April 13, 2011, the Federal Energy Regulatory Commission (FERC) issued an order related to the FCM Redesign and Paper Hearing.¹⁰ As a result of this order, the ISO is evaluating how to implement various components of the design and when they would become effective. The key design elements are the minimum offer price rule and the establishment of benchmark prices, capacity zone modeling and the elimination of the auction floor price, the FCM pivotal supplier test, and the use of cost of new entry.

¹⁰ FERC, *Order on Paper Hearing and Order on Rehearing*, Docket No. ER10-787-000, EL10-50-000, EL10-57-000, ER10-787-004, EL10-50-002, EL10-57-002 (April 13, 2011), http://www.iso-ne.com/regulatory/ferc/orders/2011/apr/fcm_%20redesign_order_april_13_2011.pdf.

FCM Net Regional Clearing Price Clarifications

The net regional clearing price (NRCP) is a blended rate for the cost of procuring capacity and is the rate charged to capacity load obligation. Beginning in the 2012/2013 commitment period, there are multiple capacity zones. A review of the NRCP calculation identified the need for minor clarifications to address the impacts of capacity supply obligation bilateral and reconfiguration auction activity that occurs between capacity zones.

FCM Rejected Delist Bid Follow-Up Actions

The ISO is proposing to add language to Attachment K of the *Open Access Transmission Tariff* (OATT) describing the treatment of de-list bids and non-price retirement requests rejected for reliability reasons.

FCM Supplemental Availability Bilateral Transactions

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

Financial Transmission Right Auction Enhancements

The ISO modified the Financial Transmission Right (FTR) market design to allow for more frequent 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 simplified the process for allocating Auction Revenue Rights and is 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.

FRM Threshold Price Calculation Frequency

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.

Hourly Day-Ahead Offers and Intraday Reoffers

The ISO is evaluating energy market design changes that may permit dispatchable resources to submit hourly energy offers into the Day-Ahead Energy Market and modify the commitment cost components (start-up and no-load costs) and the incremental energy-offer component of supply offers during the operating day. This project will also include an evaluation of the self-scheduling rules in the context of the intraday reoffer changes.

Load Reconstitution

The region's stakeholders indicated a desire to finalize, by September 2011, a methodology for reconstituting load for purposes of FCM cost allocation. Load reconstitution 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.

Modification of DARD and ARD Size and Aggregation Implementation

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 megawatts (MW) to 1 MW and to allow the aggregation of retail customers receiving electrical service from the same point.¹¹ The market rule change is in response to FERC'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 and ARDs the ability to aggregate."¹²

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.

Modification of Rules for Congestion Pricing at External Nodes

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 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.

NCPC Cost Allocation

The ISO is assessing whether to continue to allocate real-time NCPC costs to virtual transactions and other types of real-time deviations from schedules established in the Day-Ahead Energy Market. This project includes evaluating the extent to which virtual transactions affect real-time NCPC costs and whether the current real-time NCPC cost-allocation methodology accurately reflects how NCPC costs are incurred.

¹¹ ISO New England, *90 Day Compliance Filing on Order 719*, Docket No. ER09-1051-003 (April 21, 2010), http://www.iso-ne.com/regulatory/ferc/filings/2010/apr/er09-1051-003_4-21-10_90-day_order719_compliance-dards.pdf

¹² FERC, *Order on Compliance Filing*, Docket No. ER09-1051-000 (January 21, 2010), http://www.iso-ne.com/regulatory/ferc/orders/2010/jan/er09-1053-001-1-21-10_order_on_719_filing.pdf.

NCPC Multizone Cost Allocation

The current method for allocating NCPC costs for meeting the requirements for high-voltage support (VAR) and commitments of 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 OATT, while the cost allocation rules for LSCPRs are detailed in Section III.6 and Appendix F of *Market Rule 1*¹³

Negative Incremental Energy Offers

Currently energy-market resources are not able to reflect in their supply offers 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 allowing participants to submit negative offer prices in the energy markets as a solution to this problem.

Price-Responsive Demand: Energy Market Integration

On March 15, 2011, FERC issued Order 745, *Compensation of Demand Response in Organized Markets*¹⁴, which requires organized wholesale energy markets to pay demand-response providers the market price for electric energy for reducing consumption below expected levels, when doing so is cost effective and helps balance supply and demand.

The ISO is proposing two sets of changes to the market rules to meet the obligations of Order 745. First, the ISO proposed modifications to its existing demand-response programs that can be implemented in a relatively short time frame to meet the immediate requirements of Order 745. Second, the ISO will propose rules to allow for full integration of demand response into the energy markets based on the requirements outlined in Order 745.

Price-Responsive Demand: Capacity Market Changes

The Price-Responsive Demand: Energy Market Integration design requires changes to the FCM for real-time demand-response and Real-Time Emergency Generation resources. The ISO expects that the following areas will require modifications: qualification; rights and obligations; operation and dispatch; and payments, performance, and penalties.

¹³ *ISO New England Open Access Transmission Tariff*, Section II, Schedule 2, “Reactive Supply and Voltage Control Service”, http://www.iso-ne.com/regulatory/tariff/sect_2/oatt/oatt.pdf

ISO New England Market Rule 1, Standard Market Design, Section III.6 “Local Second Contingency Protection Resources”, http://www.iso-ne.com/regulatory/tariff/sect_3/mr1_sec_1-12.pdf.

ISO New England Market Rule 1, Standard Market Design, Section III, Appendix F, “Net Commitment Period Compensation Accounting”, http://www.iso-ne.com/regulatory/tariff/sect_3/mr1_append-f.pdf.

¹⁴ FERC, *Demand Response Compensation in Organized Wholesale Energy Markets*, Order 745, Docket No. RM10-17-000 (March 15, 2011), <http://www.ferc.gov/EventCalendar/Files/20110315105757-RM10-17-000.pdf>

Regulation Market Changes

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 require revision to provide new technologies the opportunity to compete in New England's Regulation Market. To serve this competitive objective, the ISO is using information from the ATRP program to develop changes to the Regulation Market rules.

In addition, to the changes the ISO identified through the ATRP, this project will include changes related to FERC issued Order 755, *Frequency Regulation Compensation in Organized Wholesale Power Markets*.¹⁵

Re-Open Regulation Market Pilot

The Alternative Technology Regulation Pilot Program (ATRP) was closed to new entrants as of November 2009. The ISO has continued to receive inquiries and requests to participate in the ATRP.

Reopening the ATRP to new participants requires no incremental development effort by the ISO, and is not expected to be affected by FERC's Notice of Proposed Rulemaking on *Frequency Regulation Compensation in the Organized Wholesale Power Markets*.¹⁶

Review of Defined Terms

Section I.2.2 of the ISO's tariff is the central repository for all defined terms.¹⁷ However, some terms had inaccurate or duplicative definitions or were used inconsistently within the tariff. In addition, some terms that appeared in the body of the tariff should have been defined within Section I.2.2. This project updated the tariff to clarify definitions and properly capture all defined terms used in Sections I through IV and associated schedules, attachments, and appendices. This effort improved Section I.2.2 as a resource and central repository for definitions, and may facilitate the eventual removal of *ISO New England Manual 35*.¹⁸

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

The ISO has identified a number of definitions related to offers in the energy markets that should be clarified or added to Section I.2.2. 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 appropriate NEPOOL technical committees.

Review of FCM Peak Energy Rent

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.

¹⁵ FERC, *Frequency Regulation Compensation in Organized Wholesale Energy Markets*, Order 755, Docket No. RM11-7-000 , AD10-11-000 (October 20, 2011), <http://www.ferc.gov/whats-new/comm-meet/2011/102011/E-28.pdf>

¹⁶ FERC, *Frequency Regulation Compensation in the Organized Wholesale Power Markets*, Docket No. RM11-7-000, AD10-11-000 (February 17, 2011), <http://www.ferc.gov/whats-new/comm-meet/2011/021711/E-4.pdf>.

¹⁷ *ISO New England Inc. Transmission, Markets, and Services Tariff*, Part I, Section 2.2, http://www.iso-ne.com/regulatory/tariff/sect_1/sect_i.pdf.

¹⁸ *ISO New England Manual for Definitions and Abbreviations*, Manual M-35, http://www.iso-ne.com/rules_proceeds/isone_mnls/index.html.

System TMOR Reserve-Constraint Penalty Factor Prices

The ISO is evaluating the current system-wide 30-Minute Operating Reserve (TMOR) reserve-constraint penalty factor (RCPF) price. The RCPF price serves as a “cap” on the reserve price when the system’s real-time operating 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 real-time redispatch actions executed by system operators to alleviate system operating reserve shortfalls.

Wind Forecasting and Dispatch

The New England Wind Integration Study found that a critical factor for the successful integration of wind resources into the region’s electricity grid is accurate, detailed wind power forecasts. These forecasts provide system operators with situational awareness during significant weather events. This project will identify the following:

- Wind power forecasting products that pair well with existing operational practices
- Appropriate changes in operating procedures, data requirements, and dispatch rules to make efficient use of wind resources while ensuring reliable system operation

Closed Market Design Projects

This section summarizes projects that the ISO has closed, either through modification of the design and associated tariff and ISO manuals, or after determining no further action is required. Project descriptions provide a high-level overview of the final scope of changes. Projects that propose changes will remain in this section until the effective date has passed and the changes have been implemented. Projects which do not propose changes will be reflected in this section as closed and will be removed in a subsequent release of the WMPP.

Summary of Closed Market Design Projects¹⁹

Market Design Project	Estimated Earliest Effective Date	Design Status ^(a)
Generation Capacity Auditing	June 1, 2011	Completed
Virtual Transaction Submission Limits	Q3 2011	Completed
Start-Up and No-Load Reoffer Changes	Q3 2011	Completed
FCM Qualification of Unavailable Resources	N/A	No action taken

(a) The design status of “completed” means that the development process is finished; “no action taken” means that the ISO has assessed the item and determined that no additional work is required.

Closed Market Design Project Descriptions

FCM Qualification of Unavailable Resources

The ISO, with stakeholder input, evaluated the qualification standards for the Forward Capacity Auction and the third annual reconfiguration auction with specific attention to resources that have or will become permanently and completely inoperative and determined that no modifications to the design are necessary at this time.

Generation Capacity Auditing

The ISO reduced the required capacity auditing duration for certain types of generation resources. Other recommendations and discussion points that were raised during this review will be considered in future work, specifically in the Generation Auditing and Parameter Redecoration Rules Review market assessment project.

Start-Up and No-Load Reoffer Changes

The ISO is providing resources that do not clear in the Day-Ahead Energy Market the ability to modify the start-up and no-load components of their energy supply offer during the reoffer period before each operating day. This recommendation originated in the Hourly Day-Ahead Offer and Intraday Reoffer market design project, and moved forward as a separate item because of the ISO’s ability to implement this software change before other components of the this project.

¹⁹ Projects are ordered by Estimated Earliest Effective Date.

Virtual Transaction Submission Limits

As part of enhancements to the ISO's eMarket software suite, the ISO placed limits on the number of increment and decrement virtual transactions that can be submitted (per bidder) at each location in the Day-Ahead Energy Market to prevent software system overloads. The ISO also clarified this in the ISO manuals²⁰ to ensure that limits on supply offers and demand bids are consistent and clearly stated.

²⁰ *ISO New England Manual for Market Operations*, Manual M-11,
http://www.iso-ne.com/rules_proceeds/isonet_mnls/index.html.