



October 27, 2009

**VIA MESSENGER**

The Honorable Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, D.C. 20426

**Re: ISO New England Inc., 2010 Capital Budget and  
Capital Budget Quarterly Filing for Third Quarter of 2009;  
Docket No. ER10-\_\_\_\_-000**

Dear Secretary Bose and Deputy Secretary Davis:

ISO New England Inc. (the “ISO”) hereby submits, pursuant to Section 205 of the Federal Power Act (“FPA”), Part 35 of the Rules and Regulations of the Federal Energy Regulatory Commission (the “Commission”), and the provisions of Section IV.B.6.1 of the ISO New England Inc. Transmission, Markets and Services Tariff, FERC Electric Tariff No. 3 (the “Tariff”),<sup>1</sup> an original and six copies of its capital budget for calendar year 2010 (the “2010 Capital Budget”) and supporting materials. This filing also includes, pursuant to Section IV.B.6.2 of the Tariff, the ISO’s Capital Projects Report (the “Capital Projects Report”) and schedule of the unamortized costs of the ISO’s funded capital expenditures (the “Unamortized Costs Schedule”) for the quarter ending September 30, 2009 (collectively, the “Third Quarter 2009 Report”).

The ISO respectfully requests that the Commission accept the 2010 Capital Budget as filed, effective January 1, 2010. The ISO also respectfully requests that the Commission accept the Third Quarter 2009 Report as filed, effective October 1, 2009.

**I. 2010 CAPITAL BUDGET INTRODUCTION**

Before explaining the elements of the 2010 Capital Budget and the reasons supporting its acceptance, the ISO explains the context of the filing.

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<sup>1</sup> Capitalized terms used but not otherwise defined in this filing have the meanings given them in the Tariff.

### **A. The 2010 Capital Funding Arrangements**

By way of review and introduction, Section IV.B of the Tariff (called the Capital Funding Arrangements) permits the ISO to collect from Market Participants:

- (1) the costs of budgeted capital items, through a Capital Funding Charge (“CFC”), if the costs are not financed by the ISO;
- (2) through an Early Amortization Charge (“EAC”), the remaining unamortized costs of assets financed by the ISO in the event of termination, acceleration or required repayment of private financing or, in the case of non-amortizing private financing, payment at maturity if the ISO is unable to refinance such financing;
- (3) the working capital amount required by the ISO, if financing arranged by the ISO to meet working capital requirements is terminated early or repayment is accelerated (and no replacement financing has been obtained by the ISO), through an Early Amortization Working Capital Charge (“EAWCC”); and
- (4) the costs that would be required to be paid by the ISO in the event of termination, acceleration or required prepayment of private financing entered into by the ISO in support of weekly billing of a portion of the market settlement system (and no replacement financing has been obtained by the ISO), through an Early Payment Shortfall Funding Charge (“EPSFC”).

The “backstopping” reflected in the foregoing Capital Funding Arrangements is necessary to help the ISO obtain and/or maintain private financing. When approving the establishment of an independent system operator in New England, the Commission expressed its concern that financial arrangements directly relying on Market Participant support for capital projects could compromise the ISO’s independence.<sup>2</sup> Although the Commission allowed the ISO to initially rely on contractual provisions with the New England Power Pool (“NEPOOL”) to fund then-existing capital assets, the Commission made clear that, “[t]o the extent the ISO required additional, similar facilities in the future, these facilities should be funded by the ISO, not NEPOOL ....”<sup>3</sup>

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<sup>2</sup> *New England Power Pool*, 79 FERC ¶ 61,374 at p. 62,590 (1997).

<sup>3</sup> *Id.*

After the ISO commenced operations in 1997, it spent several years trying to obtain third-party private financing consistent with the Commission's directive to maintain independence from NEPOOL Participants. The ISO, however, faced a key problem: an inability to provide banks the assurances they needed that the ISO would have the funds to repay a loan in the event of its early termination or acceleration. As a non-profit, non-stock Delaware corporation that is tax-exempt under Section 501(c)(3) of the Internal Revenue Code, the ISO has no equity capital (or ability to raise capital) to fund capital expenditures or working capital. Substantially all of the ISO's revenues are derived from charges to Customers and/or Market Participants under Commission-approved arrangements.

Ultimately, a bank expressed willingness to lend to the ISO based on the "backstopping" provisions of the ISO's Capital Funding Tariff (the "CFT," ISO New England Electric Tariff No. 2) and the ability to recover debt service through depreciation and amortization charges included in the Transmission Dispatch and Power Administration Services Tariff (ISO New England Electric Tariff No. 1).<sup>4</sup> The substance of the CFT, with some modifications, became Section IV.B. of the Tariff upon commencing regional transmission organization ("RTO") operations and the substance of the Administration Services Tariff, with some modifications, became Section IV.A of the Tariff. Thus, the ISO funds its capital projects with third-party financing to maintain independence from Market Participants, while banks rely on Sections IV.B and IV.A of the Tariff to provide sufficient assurances to finance the ISO.

Given the structure and terms of the Capital Funding Arrangements (which remain unchanged for calendar year 2010 from those on file with and accepted by the Commission), if no termination or acceleration of that financing occurs, then no CFCs, EACs, EAWCCs or EPFSCs will be collected for these purposes. The ISO currently has financing for all elements of the 2010 Capital Budget given the structure of its existing Capital Funding Arrangements, and, at this time, the ISO does not foresee the need to obtain capital funds from Market Participants pursuant to these arrangements in calendar year 2010. As a result, the ISO does not anticipate assessing Market Participants charges under the Capital Funding Arrangements in calendar year 2010.

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<sup>4</sup> As explained herein, initial term loans have been replaced by \$39 million in private placement debt.

## **B. The Context of the 2010 Capital Budget**

Consistent with the ISO's transition on February 1, 2005 to operating as an RTO, as well as the Capital Funding Arrangements previously accepted by the Commission,<sup>5</sup> the process for the ISO's capital-related filings consists of:

- the ISO's stakeholder process, involving review of the 2010 Capital Budget by both the NEPOOL Budget and Finance Subcommittee and the NEPOOL Participants Committee<sup>6</sup> (*see* Section I.C. below);
- a Section 205 filing, at least 60 days in advance of each calendar year, of the 2010 Capital Budget (provided in Attachment 1, supported by testimony provided in Attachment 2, and described in Section II of the transmittal letter) reviewed by the stakeholders and approved by the ISO Board of Directors for the upcoming year;<sup>7</sup> and
- the filing by the ISO with the Commission under Section 205, on a quarterly basis, of the ISO's projected and actual capital expenditures and the then-current allocation of "backstopping" responsibilities to Market Participants pursuant to the Capital Funding Arrangements<sup>8</sup> (*see* Section III below).

The high degree of transparency and quarterly accountability for capital budgets and expenditures reflected in these arrangements is unparalleled among other ISOs and RTOs—and even among other public utilities. Furthermore, the Commission has approved the ISO's capital budget as filed every year,<sup>9</sup> and has approved every quarterly capital budget filing submitted by the ISO since it began submitting such reports pursuant to Section 205 of the Federal Power Act.

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<sup>5</sup> *See* Commission letter order issued in Docket No. ER05-135-000, 109 FERC ¶ 61,382 (2004); *ISO New England Inc.*, 110 FERC ¶ 61,111 n.37 (2005).

<sup>6</sup> The process for stakeholder review of ISO budgets is specified in Sections 12.1 and 12.2 of the "Participants Agreement among ISO New England Inc. as the RTO for New England and the New England Power Pool and the entities that are from time to time parties hereto constituting the Individual Participants" (the "Participants Agreement"), as well as Section IV.B.6.1 of the Tariff.

<sup>7</sup> *See* Section IV.B.6.1 of the Tariff.

<sup>8</sup> *See* Section IV.B.6.2 of the Tariff.

<sup>9</sup> Letter Order in Docket No. ER09-146-000 (Nov. 26, 2008) (accepting 2009 Capital Budget of \$24.5 million); Letter Order in Docket No. ER08-134-000 (Dec. 3, 2007) (accepting 2008 Capital Budget of \$22 million); Letter Order in Docket No. ER07-115-000 (Dec. 15, 2006), errata (Dec. 20, 2006) (accepting 2007 Capital Budget of \$20 million); Letter Order in Docket No. ER06-97-000 (Dec. 16, 2005) (accepting 2006 Capital Budget of \$22.85 million); *ISO New England Inc.*, 109 FERC ¶ 61,382 (2004) (Letter Order) (accepting 2005 Capital Budget of \$22.5 million)  
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### **C. The Stakeholder Process Used to Review the 2010 Capital Budget**

As noted above, the ISO utilizes a stakeholder review process in connection with its capital budgets. Specifically, the ISO presented the 2010 Capital Budget, together with supporting materials, at the August 27, 2009 NEPOOL Budget and Finance Subcommittee meeting and the October 9, 2009 NEPOOL Participants Committee meeting. At the October 9 meeting, the NEPOOL Participants Committee voted overwhelmingly in support of the ISO's 2010 Capital Budget.<sup>10</sup> Furthermore, none of the Market Participants raised a concern about the 2010 Capital Budget as presented.

The ISO also requested feedback on the 2010 Capital Budget from other stakeholders at various meetings, including meetings with representatives of the New England Conference of Public Utilities Commissioners and individual state agencies.

The Board of Directors approved the 2010 budgets at its meeting on October 16, 2009.

### **D. The ISO's Frequent, Periodic Capital Budget Status Reports**

Beyond presenting the annual capital budget to the stakeholders and filing it with the Commission, the ISO provides frequent, periodic updates regarding capital budget developments to stakeholders and to the Commission for its approval.

First, as required by the Commission in its letter order issued in Docket No. ER05-135-000<sup>11</sup> and accepted by the Commission in its letter order issued in Docket No. ER05-374-002,<sup>12</sup> Section IV.B.6.2 of the Tariff requires the ISO to file with the Commission under Section 205 on a quarterly basis: (i) a report specifying by project prior-year spending on multi-year projects, year to date spending, and a forecast of the spending to complete the project in each future calendar year; and (ii) a schedule of the unamortized costs of the ISO's funded capital

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million); Docket No. ER04-114-000 (Dec. 15, 2003) (accepting 2004 Capital Budget of \$17.6 million); Letter Order in Docket No. ER03-148-000 (Dec. 20, 2002) (accepting 2003 Capital Budget of \$19.2 million); *ISO New England Inc.*, 100 FERC ¶ 61,130 (2002) (accepting \$24.5 million reallocation from 2003 Capital Budget to 2002 Capital Budget because the ISO's SMD implementation progressed faster than expected); *ISO New England Inc.*, 97 FERC ¶ 61,304 (2001) (accepting 2002 Capital Budget of \$40.8 million); *see also* Letter Order in Docket No. ER01-1382-000 (Apr. 25, 2001) (accepting establishment of Capital Funding Tariff, which is now contained in Section IV.B of the Tariff since RTO operations began).

<sup>10</sup> The vote was conducted by show of hands.

<sup>11</sup> *ISO New England Inc.*, 109 FERC ¶ 61,382 (2004).

<sup>12</sup> The Commission accepted the compliance filing for the Tariff via letter order issued March 24, 2005 in Docket No. ER05-374-002.

expenditures at the end of the quarter and the allocation of those costs to the ISO's rates (*i.e.*, Schedules 1, 2, and 3 to Section IV.A of the Tariff). The Commission has accepted each such report as filed by the ISO.<sup>13</sup> Second, the ISO meets with the NEPOOL Budget and Finance Subcommittee no less than once per quarter and generally more frequently than that. At these meetings, the ISO reviews its capital forecast and answers any questions from stakeholders. The ISO also provides additional information concerning such projects as needed and requested by stakeholders.

Together, these steps keep stakeholders and the Commission well informed of changes in forecasts or actual expenditures.

## II. ELEMENTS OF THE 2010 CAPITAL BUDGET

The 2010 Capital Budget is \$28.0 million. Its primary elements are anticipated to be those projects outlined below and further detailed in the prepared testimony of Dr. Vamsi Chadalavada, Senior Vice President and Chief Operating Officer of the ISO (Attachment 2 hereto). The primary deliverable for a majority of the 2010 Capital Budget projects is application software and requisite hardware needed to maintain and improve bulk-power system reliability and/or wholesale electric markets.<sup>14</sup> Notably, the ISO will not need to issue any additional debt to support the 2010 Capital Budget.<sup>15</sup>

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<sup>13</sup> See Letter Order in Docket No. ER09-1587-000 (Sept. 15, 2009) (accepting 2009 second quarter report); Letter Order in Docket No. ER09-1153-000 (June 15, 2009) (accepting 2009 first quarter report); Letter Order in Docket No. ER09-716-000 (Mar. 25, 2009) (accepting 2008 fourth quarter report); Letter Order in Docket No. ER09-146-000 (Nov. 26, 2008) (accepting 2008 third quarter report and 2009 Capital Budget); Letter Order in Docket No. ER08-1403-000 (Sept. 9, 2008) (accepting 2008 second quarter report); Letter Order in Docket No. ER08-957-000 (June 30, 2008) (accepting 2008 first quarter report); Letter Order in Docket No. ER08-555-000 (Mar. 12, 2008) (accepting 2007 fourth quarter report); Letter Order in Docket No. ER08-134-000 (Dec. 3, 2007) (accepting 2007 third quarter report and 2008 Capital Budget); Letter Order in Docket No. ER07-1282-000 (Sept. 10, 2007) (accepting 2007 second quarter report); Letter Order in Docket No. ER07-906-000 (July 3, 2007) (accepting 2007 first quarter report); Letter Order in Docket No. ER07-537-000 (Mar. 20, 2007) (accepting 2006 fourth quarter report); Letter Order in Docket No. ER07-115-000 (Dec. 15, 2006), errata (Dec. 20, 2006) (accepting 2006 third quarter report and 2007 Capital Budget); Letter Order in Docket No. ER06-1365 (Sept. 15, 2006) (accepting 2006 second quarter report); Letter Order in Docket No. ER06-1002-000 (June 27, 2006) (accepting 2006 first quarter report); Letter Order in Docket No. ER06-644-000 (Mar. 21, 2006) (accepting 2005 fourth quarter report); Letter Order in Docket No. ER06-97-000 (Dec. 19, 2005) (accepting 2005 third quarter report and 2006 Capital Budget); Letter Order in Docket Nos. ER05-1343-000 and 001 (Oct. 28, 2005) (accepting 2005 second quarter report); *ISO New England Inc.*, 112 FERC ¶ 61,060 (2005) (accepting 2005 first quarter report); Letter Order in Docket Nos. ER02-2153-000 and ER05-608-000 (Apr. 6, 2005) (accepting 2004 fourth quarter report).

<sup>14</sup> Capital projects also include design work. If a project's design is approved and built, it becomes part of the asset on which the ISO collects depreciation when the asset is placed in service and in future years via the Operating

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Typically, most of the ISO's capital projects stem from market initiatives identified in conjunction with stakeholders as priorities. The market enhancements are intended to complement Day-Ahead and Real-Time Energy Markets and provide a more complete set of wholesale electricity markets. The ISO believes that these improvements will ultimately assure Market Participants that they will continue to receive reliable electricity at efficient prices, which will engender increased confidence in the markets. The Forward Capacity Market ("FCM") project, for example, is intended to provide new generation infrastructure where needed to maintain or increase reliability by geographical location.

Additionally, the ISO has included \$3.0 million in the 2010 capital budget for Smart Grid initiatives, which are anticipated to be multi-year projects with the possibility of partial reimbursement (up to 50%) from the Department of Energy ("DOE").

The remaining capital projects are driven by the need for increased reliability and information, Operational Excellence activities that aim to improve the efficiency of the organization through measures such as automation of manual business processes, or regulatory requirements imposed by the Commission. In each case, the ISO believes its capital projects will benefit the region's stakeholders by improving its ability to maintain bulk-power system reliability, administer fair and efficient markets, and provide information to stakeholders to increase transparency and facilitate decision making.

Again, the following are the projects that are anticipated to comprise the 2010 Capital Budget.

**A. Forward Capacity Market ("FCM") Phase III and Enhancements (\$7.8 million)**

The ISO developed the FCM project to address New England's resource adequacy needs by providing incentives for investing in new supply and demand resources and to improve resource performance. The ISO will recover its costs incurred to operate and maintain FCM through its operating expense budgets, rather than through capital budgets.

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Expense Budget. On the other hand, if the capital project is abandoned, the ISO writes off the design work and recovers it in full in the year of abandonment.

<sup>15</sup> The ISO's existing and future capital projects are financed by drawing upon \$39 million of private placement debt issued in 2004 with Commission authorization and scheduled to balloon in 2014. See delegated letter order issued in Docket No. ES04-39-000, 109 FERC ¶ 62,195 (2004). The ISO funds the interest on that debt through recovery of depreciation under its annual Operating Expense budgets collected through the rates specified in Section IV.A. of the Tariff.

The 2010 Capital Budget includes \$7.8 million forecasted for FCM, divided into two separate projects. FCM Phase III, for which \$3.8 million is included in the 2010 Capital Budget, was chartered and began in 2009. This phase of the project primarily deals with the development of the infrastructure to support FCM settlement, load obligation bilaterals, clearing engine enhancements, and real-time operations functionality, as well as continued improvements to the automated registration and qualification of resources.

The 2010 Capital Budget also allocates \$4.0 million for FCM enhancements. This project will address new functionality necessitated by changes to the market rules. An FCM working group was established to include state regulators, market participants, and ISO representatives to determine necessary enhancements to the FCM infrastructure, including enhancements to auction pricing, compensation for demand resources that clear in the FCM, zonal definitions and various other design features introduced by the group.

Phase III is in development and will complete the implementation of the FCM settlement agreement approved by the Commission,<sup>16</sup> which requires the design and development of features such as reconfiguration auctions, bilaterals, performance incentives and changes to real-time offers for delisted resources. These various features must be implemented prior to the start of the commitment period for the first auction, which is June 2010.

The FCM enhancements project will ensure that the ISO remains current with market rule changes and addresses improvements brought forward by the working group. The estimated completion date for this project is 2011, although necessary funding for 2011 has not yet been determined.

#### **B. Business Continuity Plan Enhancements Phases I and II (\$2.43 million)**

These projects will significantly upgrade and enhance the Business Continuity Plan (“BCP”) infrastructure, in order to maintain a high level of reliability and comply with emerging requirements of the North American Electric Reliability Corporation (“NERC”). The upgrade is intended to comply with all aspects of the emerging NERC EOP-008-1 and improve overall utilization of the Backup Control Center (“BCC”) by having real-time Energy Management System and Markets data on-line for increased systems redundancy, thereby reducing the time to restore applications to service from a back-up.

With this new capability to operate the BCC as a “hot standby site,” power system reliability will be increased by reducing the time required to re-start the Energy Management System from three hours to approximately thirty minutes. The enhancements will also allow

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<sup>16</sup> *Devon Power LLC*, 115 FERC ¶ 61,340 (2006), *reh’g denied*, 117 FERC ¶ 61,133 (2006).

employees to provide non-critical business functions from the BCC in the event of a prolonged loss of the main facilities in Holyoke.

The 2010 capital budget includes \$1.43 million to complete Phase I and \$1.00 million to start Phase II, which is scheduled to be complete in 2012.

**C. Demand Resource Integration (“DRI”) and Audit & Testing Projects (\$1.71 million)**

The Demand Resource Integration (“DRI”) project aims to integrate demand resources into the ISO’s System Planning, System and Market Operations, and Information Technology systems and processes by 2010. This is a multi-year project spanning 2008-2010 and the total project budget is estimated to be \$4.7 million. Spending for 2009 will amount to approximately \$3.2 million. In 2010, work on this project will be completed and will cost an estimated \$1.41 million. This project is necessitated by the treatment of demand response, energy efficiency and other demand resources as capacity resources in the FCM. The goal of this project is to integrate the demand resource products into System Planning, System and Market Operations, and IT processes.

The ISO intends to add a DRI audit and testing phase in 2010. This phase, beyond possible additions to the current DRI project scope, will help the ISO achieve its oversight responsibility for monitoring and tracking the performance of assets and resources and the products and services it provides. Defined business rules and requirements reflect the functionality needed to audit and test demand response resources for both the long-term and for the first phase of the FCM commitment period beginning on June 1, 2010. This project is scheduled to be completed in 2010 for the audit and testing effort with a budget of \$300,000.

**D. Standard Market Design (“SMD”) Upgrade Phase II (\$350,000)**

The ISO has embarked on a multi-year, multi-phase project to significantly upgrade and enhance the SMD software and systems. The first phase, which began in 2008, was to implement a new technology called Mixed Integer Programming Solution to improve the efficiency of the commitment in the Day-Ahead Market and Resource Adequacy Analysis process and significantly enhance the capability to respond to future modeling needs. Phase I also encompassed the addition of new platform technology for the Simultaneous Feasibility Test application used in the Day-Ahead and Financial Transmission Rights Markets. The application uses the same platform as its counterpart in the Energy Management System.

Phase II of this project includes improvements to the SMD platform architecture such that all market applications run on the same technology and thereby increase their performance. This phase also involves the upgrading of user interfaces to eliminate discontinued third party technologies, introduces functional enhancements, and improves operational flexibility through increased automation of processes. \$350,000 has been allocated to the anticipated work in 2010, and completion is expected in 2010.

**E. Tariff Management Software (\$275,500)**

In September 2008, the Commission issued Order No. 714 requiring all tariffs and tariff revisions and rate change applications to be filed electronically according to a set of standards developed in conjunction with the North American Energy Standards Board. Implementation of this requirement will begin April 1, 2010. Since other ISOs and RTOs were impacted by this order, an eTariff Working Group was formed in early 2009 to maximize efficiencies. In April 2009, a combined Request for Proposals was developed by the eTariff Working Group and sent to several vendors. Following a review of the proposals and presentations by vendors, the ISO and three other ISOs selected Systrends, Inc.'s eTariff software. This software will allow the ISO to implement a tariff management software solution that will manage tariff components more efficiently and establish a clear migration path for conducting electronic filings with the Commission in the future. The 2010 budget for this project is \$275,500 with an estimated completion within the year.

**F. Outage Coordination Economic Analysis (“OCEAT”) Project (\$120,000)**

In the last ten years, the process for outage coordination has matured along with the increase in the quantity of new projects and required maintenance. Consequently, tools used by the Outage Coordinators to study the economic impact of proposed outages need enhancement to automate and improve the analysis performed and to allow more studies to be done in the same time period. At the conclusion of the OCEAT Project, the Outage Coordinators will be provided with an economic analysis tool that will help them perform increasing numbers of economic outage studies required for short-term and long-term outage analysis and thereby provide useful information for decision-making purposes. This project is budgeted for \$120,000 in 2010 and is expected to be completed in that year.

**G. Baseline Telemetry Project (\$55,000)**

The goal of this project is to build the Baseline Telemetry System to calculate the baselines used to determine actual load interruption for Real Time Demand Response Programs. The baseline calculation is a key component in determining the participants' response and is currently outsourced to Elutions, Inc. Elutions' system is responsible for calculating the participants' baseline, collecting meter data, triggering and maintaining demand response event data, bridging data to Settlements systems and providing data and reports to internal users for analysis. Because of the increasing magnitude and criticality of the demand response programs, ISO-NE has decided to bring the outsourced demand response system in-house in order to ensure reliability and robust performance.

Scope changes to this project have increased the overall budget and pushed the completion date into 2010. These changes are described in the Third Quarter Report section of this letter (see below).

#### **H. Smart Grid Project (\$3.0 million)**

The DOE has initiated funding opportunities to accelerate the modernization of the nation's electric transmission and distribution systems and promote investments in smart grid technologies and to fund regionally unique demonstrations to verify smart grid technology viability, quantify smart grid costs and benefits, and validate new smart grid business models.

The ISO and the transmission owners have submitted two applications to DOE for Smart Grid Funding: (a) one application with a cost of \$18.09 million under Funding Opportunity Announcement 0000058 for Smart Grid Investment Grant, to focus on bulk power system operations related to the installation of Phasor Measurement Units; and (b) one application with a cost of \$20.04 million under Funding Opportunity Announcement 0000036 for Smart Grid Demonstrations, to focus on bulk power system operations related to Wide Area Visualization, Demand Resource Integration, and Regional Voltage profile. Under the RFP provisions, the DOE will fund up to 50% of the total cost. The ISO's 2010 budget for this project is \$3.0 million, with an estimated total project cost to the ISO of \$9.0 million through completion in 2012.

#### **I. Price-Responsive Demand Project (\$2.0 million)**

Price-responsive demand is a critical element of a robustly competitive and economically efficient electricity market. In order to encourage greater price-responsive demand in the region, the ISO is currently in discussions with stakeholders to enhance the current programs. This project is intended to implement the enhanced design.

It is envisioned that Market Participants with demand resources will have two options to participate directly in the wholesale energy market: a *demand-side option* and a *supply-side option*. Under the supply-side option, Market Participants could offer load reductions into the wholesale energy markets in a manner similar to supply offers of traditional generation resources, which would be integrated into the market clearing, price setting, and resource scheduling algorithm to minimize the cost of serving the demand for energy. Under the demand-side option, Market Participants could purchase a voluntary wholesale energy product at an all-in, hourly real-time price. The 2010 budget for this project is \$2.0 million, with an estimated completion date in 2012. Necessary funding for the project in 2011 and 2012 has yet to be determined.

#### **J. EMS/eMarket Enhancements Project (\$2.0 million)**

The eMarket User Interface (MUI) currently in production is built upon the Oracle Application Services framework. This technology is no longer supported by Oracle. The project will upgrade the eMkt MUI to replace this framework with an industry standard J2EE framework. The project will leverage much of the work that has been done for the Demand Resource Integration project. This project will also add enhancements to the Energy Management System. The 2010 budget for this project is \$2.0 million, with an estimated completion date in 2011. Necessary funding for the project in 2011 has yet to be determined.

**K. Facility Outage Scheduler (“FOSS”) Phase II (\$750,000)**

Facility Outage Scheduling System (FOSS) Phase 1 was migrated into production in December 2008. The major component of the original phase was to allow System Operations and Local Control Centers to enter and manage Transmission Outage Requests and all surrounding functionality using the Control Room Outage Window (CROW) application developed by Equinox Software Design Corporation. The scope of the ISO New England FOSS Phase II project includes the following elements relating to the CROW application: addition of generation outage requests; changes to transmission outage requests; reporting; financial settlement flagging and data bridging; network model maintenance changes; and retirement of the current SAM application. The 2010 costs are expected to be \$750,000. Necessary funding for the project in 2011, when it is scheduled to be complete, has yet to be determined.

**L. Issue Resolution and Software Enhancements Project (\$750,000)**

The ISO has an outstanding list of issues that need to be addressed. Over the past several years, the primary focus of the ISO has been on implementing large projects that enhance the efficiency of wholesale markets and improve the reliability of the grid. It is important that the backlog of outstanding issues be reduced in order to improve operational efficiency, improve accuracy and reduce risk. The outstanding list of issues is primarily focused in the areas of Settlements, Net Commitment Period Compensation clarifications, Financial Assurance, Customer Asset Data Management systems, and resource registration. This project is scheduled to be completed in 2010 with a budget of \$750,000.

**M. Credit and Billing Enhancements (\$500,000)**

Consistent with the national goal of reducing financial risk to Market Participants, the ISO has been working with stakeholders since October 2008 to create changes to the Financial Assurance and Billing Policies, collectively called the Credit & Billing Enhancements. The Credit & Billing changes include twice weekly billing, the elimination of unsecured credit for all Market Participants other than municipals and transmission and distribution companies serving native load customers, the allocation of cash shortfalls resulting from payment defaults by Market Participants with unsecured credit to other Market Participants with unsecured credit, and the creation of restrictions on banks issuing letters of credit. The project is scheduled to be completed in 2010 at a cost of \$500,000.

**N. Network Model Management (\$500,000)**

This project will include the implementation of Siemens Enterprise Model On Demand tool for the purpose of managing the various base cases that are used by the System Planning, FCM Administration, System Operations Support Services and Power System Modeling departments. The project is scheduled to be completed in 2010 at a cost of \$500,000.

**O. Market Monitoring Enhancements (\$1.2 million)**

The project is required to implement the Net Commitment Period Compensation mitigation reform filed on August 5, 2009 and conditionally accepted on October 2, 2009.<sup>17</sup> The project includes three elements: enhancements, automation, and benchmarking. The enhancements will enable mitigation of resources that violate the low load offer test for Net Commitment Period Compensation before the commitment and dispatch of the resource (ex-ante mitigation). The automation will improve the ISO's ability to implement the relevant Market Rule 1 Appendix A provisions on market power mitigation. Last, benchmarking with PROBE will provide a better, more sophisticated tool to measure market competitiveness and also enable the performance of "what if" studies to assess whether particular units had an adverse impact on the market.

The 2010 budget for this project is \$1.2 million, \$400,000 for each element, with an estimated completion within the year.

**P. Oracle 11G Upgrade Phase III Project (\$300,000)**

Many of the business applications used at the ISO (electronic dispatch, day-ahead and real time markets, settlements, finance, etc.) rely on an Oracle database. To obtain the level of support needed from Oracle to meet reliability/availability goals, the ISO must run on the current Oracle database version. The ISO currently uses Oracle 10G. Therefore, the ISO must update to Oracle 11G, the current Oracle database version. In addition to remaining current with Oracle support, 11G provides valuable new functionality. Specifically, Database Replay provides the ability to simulate workloads based on information captured from actual production workloads, allowing full testing of the performance impact of any database patch, OS change, application architecture changes or hardware upgrades before implementation. SQL Test Case Builder enables gathering of database and query information with a single command that can be sent to Oracle to help analyze production problems. Additionally, Automatic Partition Management helps reduce the outages and support resources required to manage the Oracle table partitions in production databases. Last, Query Results Caching improves application performance by caching and reusing the results of the database queries executed by multiple users or applications. The 2010 budget for this project is \$300,000 with an estimated completion within the year.

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<sup>17</sup> *ISO New England Inc. and New England Power Pool*, 129 FERC ¶ 61,008 (2009).

**Q. Non-Project Capital Expenditures (\$3.3 million), Other Emerging Work (\$459,500), and Capitalized Interest (\$500,000)**

The 2010 Capital Budget includes a total of \$3.3 million for the non-project capital expenditures. Non-project capital expenditures fund external and internal capitalized labor necessary to program System Improvement Requests (\$2.25 million), non-project related hardware purchases (\$1.0 million), and furniture & fixtures (\$50,000). System Improvement Requests to improve settlements accuracy are captured as part of this effort.

The “Other Emerging Work” category is primarily intended to deal with emerging work requests during 2010 that result from operational needs, compliance obligations or regulatory/stakeholder feedback. The 2010 Capital Budget includes \$459,500 for this line item.

Last, \$500,000 is allocated to capitalized interest. Accounting conventions require that interest be capitalized for capital projects that cross years. In addition, loan fees associated with borrowings to fund capital assets are also capitalized.

**R. Caveats**

The 2010 Capital Budget cannot predict with perfect accuracy the ISO’s actual capital expenditures for 2010. For example, protracted stakeholder review of a proposal or extensive litigation contesting a proposal can delay or accelerate implementation of market improvements, thereby affecting when the ISO might incur a capital expenditure and the amount of that expenditure, as well as the ISO’s cost recovery and ability to fund future projects due to constraints on available lines of credit. It is also likely that the ISO’s capital project priorities will change during the course of the year. Emerging needs that are difficult to anticipate in advance will likely require a shift in priorities. In such situations, it is likely that the distribution of the ISO’s capital budgets will change. The quarterly filings under Section IV.B.6.2 of the Tariff will keep the stakeholders and Commission apprised of necessary adjustments.

**III. THIRD QUARTER 2009 REPORT**

This filing also includes, for the quarter ending September 30, 2009, the ISO’s Third Quarter Report, which includes the Capital Projects Report and the Unamortized Costs Schedule. The ISO respectfully requests that the Commission accept the Third Quarter Report as filed. The Third Quarter Report meets the requirements as announced by the Commission in its letter order issued in Docket No. ER05-135-000<sup>18</sup> and resulting changes to the Tariff as accepted by the

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<sup>18</sup> *ISO New England Inc.*, 109 FERC ¶ 61,382 (2004) (the “December 30 Letter Order”).

Commission in its letter order issued in Docket No. ER05-374-002.<sup>19</sup> Specifically, Section IV.B.6.2 of the Tariff provides the following:

Consistent with the requirements imposed by the Commission in Docket No. ER02-2153, the ISO will file quarterly reports with the Commission specifying, by project, the ISO's prior year spending on multi-year projects, year to date spending and a forecast of the next calendar year spending. In addition, the ISO will file a schedule of the unamortized costs of the ISO's funded capital expenditures at the end of the quarter and the allocation of those costs to Schedules 1, 2 and 3. Such reports will be filed within forty-five (45) days at the end of each quarter and posted on the ISO's website. All quarterly capital budget and expenditure filings will be filed pursuant to, and subject to Commission review under, Section 205 of the Federal Power Act.

Attachment 3 contains the Capital Projects Report and the Unamortized Cost Schedule for the quarter ending September 30, 2009. The Unamortized Cost Schedule sets forth the allocation of the costs to Schedules 1, 2, and 3 of Tariff Section IV.A, should such collection prove necessary.

The following discussion highlights significant changes from the last quarterly report. Specifically, below the ISO describes any (i) newly-chartered<sup>20</sup> capital projects, (ii) projects completed during the quarter, and (iii) projects with significant budget changes compared with the last quarterly report. The ISO notes that, even with such changes, the ISO's forecast for total capital expenditures during 2009 remains within the previously accepted 2009 Capital Budget of \$24.5 million. Finally, the discussion below includes a review of unchartered projects and non-project capital expenses.

#### **A. New Projects with Approved Charters**

##### **1. Tariff Management Software (\$416,000)**

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<sup>19</sup> The Commission accepted the compliance filing for the Tariff via letter order issued March 24, 2005 in Docket No. ER05-374-002.

<sup>20</sup> All capital projects, prior to approval, must have a completed project charter. This charter documents the project's goals and objectives, schedule and milestones, and budget. Before approving a new capital project, the ISO's senior management team reviews each project charter.

The ISO began the Tariff Management Software project during the third quarter of 2009. This project has been created to meet the following goals: create XML filings that comply with the Commission's Order No. 714; import tariff provisions directly from Microsoft Word; provide an easy-to-use tool that will administer tariffs and process Commission transactions; facilitate workflow improvements to increase productivity; provide predefined and customized reports; and maintain a comprehensive archive of master tariff changes and tariff filings. The scope of the project includes: implementing eTariff Software by working with the ISO/RTO eTariff Working Group and Systrends (the vendor developing the software) in defining detailed requirements and software design; site installation and acceptance testing to include setting up a hardware and software environment for eTariff and performing business acceptance testing; data conversion by converting the existing tariff into eTariff format and importing it into the software; and training system administrators and business users including "Train-the-Trainer." The project is expected to conclude in July of 2010 with a total project cost of \$416,000 from planning through completion.

## **2. Oracle 11G Upgrade Phase II (\$97,500)**

As discussed in Section II.P. above, the ISO must upgrade to Oracle 11G to obtain the required level of support needed from Oracle. The upgrade will be conducted in a phased manner to minimize risks to the reliability and market functions. The second phase of this project addresses the Oracle 11G upgrade of Enhanced Energy Scheduling (EES). The scope will cover: the effort involved in performing the Oracle upgrade; performance testing and Oracle Discoverer performance testing to the Development, Integration, and Production environments; and product and integration testing of EES with key data bridges. (In Attachment 3, this project is combined with three other projects in the line titled "Projects Less Than \$100K in Value.")

## **B. Capital Projects Completed in Third Quarter**

As reflected in the Attachment 3, the following projects were completed for a total spending of \$699,300: Q2 Release – 2009; and OIS Conversion to .NET.

## **C. Projects with Significant Budget Changes**

### **1. BCP Infrastructure Enhancements Budget Decrease of \$224,000 (from \$3,323,500 to \$3,099,500)**

Analysis of the project achievements thus far and plans for remaining milestones in 2009 indicate that contingency funds will not be needed to accomplish 2009 milestones. Accordingly, the budget has been reduced in the amount of \$224,000 of 2009 contingency funds.

### **2. Forward Capacity Market Phase III Budget Decrease of \$200,000 (from \$10,840,000 to \$10,640,000)**

Analysis of the project plan for 2009 indicated that \$200,000 of the contingency funds will not be needed to accomplish 2009 milestones. Only one-third of the contingency is

expected to be used; however, to be prudent, the remainder of the contingency funds will be returned in two installments – the first being the \$200,000 being returned in the Third Quarter, with the remainder expected to be returned in the following quarter.

**3. Baseline Telemetry System Budget Increase of \$140,000 (from \$550,000 to \$690,000)**

To accommodate project scope changes, \$85,000 was added to complete unit testing in 2009 and \$55,000 for product, performance, and integration testing in 2010. The budget increase is primarily due to the need to assign dedicated resources to testing this important functionality. The earlier project assumption of combining testing with other projects to improve overall efficiency was not valid.

**4. Single Sign-On (SSO) System Replacement Budget Decrease of \$94,700 (from \$355,400 to \$260,700)**

The project will be delivered for less than originally forecasted following a review and analysis of implementation alternatives and the development of designs that were significantly simpler to implement than anticipated. The forecasted total project cost at completion is now \$260,700, compared to the approved project budget of \$355,400.

**D. Capital Projects in Planning/Conceptual Design**

Capital project priorities in the Planning and Conceptual design phase are fluid. The Capital Projects Report includes the ISO's current best estimate as to how it will spend capital funds in 2009. The estimates for projects in Planning/Conceptual Design are high level/low confidence. When the project scope, timeline, budget and benefits are determined, these figures will be updated and communicated to stakeholders and the Commission.

**E. Non-Project Capital Expenses**

Non-project capital expenditures fund furniture and fixtures, non-project related hardware and software purchases, and the internal capitalized labor necessary to code System Improvement Requests, also known as "SIRs." The SIRs are generally a result of requests from Market Participants and the ISO's operational groups to improve system functionalities. In the Third Quarter 2009 Report, the ISO increased the 2009 budget for non-project capital spending by \$120,000 (from \$3,321,000 to \$3,441,000) to fund additional focus on the Issue Resolution initiative related to clearing up the back log of SIR's.

**IV. ADDITIONAL SUPPORTING INFORMATION**

The ISO submits the following additional information pursuant to Sections 205 of the FPA and 35.13 of the Code of Federal Regulations:

35.13(b)(1) – In addition to this transmittal letter, the ISO provides the following materials:

- the 2010 Capital Budget (Attachment 1);
- the testimony of Dr. Vamsi Chadalavada, the ISO’s Senior Vice President and Chief Operating Officer (Attachment 2);
- the Third Quarter 2009 Report (Attachment 3); and
- a list of non-Market Participant Customers, as well as a list of the governors and utility regulatory agencies in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont to which a copy of this filing has been sent (Attachment 4).

35.13(b)(2) – The ISO requests that the Commission accept the 2010 Capital Budget as filed, effective January 1, 2010. The ISO also respectfully requests that the Commission accept the Third Quarter 2009 Report as filed, effective October 1, 2009. Since the information in the Third Quarter 2009 Report involves the period ending September 30, 2009, a waiver of the 60-day prior notice requirements is appropriate, as is the requested effective date. That effective date will also avoid any issue regarding a potential lag in the “backstopping” accomplished through the ISO’s capital budget quarterly reports.

35.13(b)(3) – An electronic copy of this filing is being provided to all NEPOOL Participants, and a copy of this filing is being provided to the Non-Market Participant Transmission Customers, the governors and electric utility regulatory agencies for the six New England states that comprise the New England Control Area, and the New England Conference of Public Utilities Commissioners. The names and addresses of these recipients are shown in Attachment 4. In accordance with Commission rules and practice, there is no need for entities identified on Attachment 4 to be included on the Commission’s official service list in the captioned docket unless such entities become interveners in this docket.

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

35.13(b)(5) – This transmittal letter and supporting materials provide a statement of the reasons the 2010 Capital Budget and the Third Quarter 2009 Report should be accepted by the Commission.

35.13(b)(6) – The ISO’s approval of these changes is evidenced by this filing. The ISO also notes that the NEPOOL Participants Committee voted to support the 2010 Capital Budget.

35.13(b)(7) – The ISO does not have any knowledge of any relevant expenses or costs of service that have been alleged or judged in any administrative or judicial proceeding to be illegal,

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

35.13(c)(1) – Sales, services, and revenues cannot reasonably be projected at this time.

35.13(c)(2) – There is no other rate schedule on file for which a comparison of charges would be appropriate.

35.13(c)(3) – No specifically assignable facilities have been or will be installed or modified in order for the Commission to accept this filing.

## V. COMMUNICATIONS

Correspondence and communications regarding this filing should be addressed to the undersigned for the ISO as follows:

Maria A. Gulluni* Assistant General Counsel – Corporate ISO New England Inc. One Sullivan Road Holyoke, MA 01040-2841 Tel: (413) 540-4473 E-mail: <a href="mailto:MGulluni@iso-ne.com">MGulluni@iso-ne.com</a>	Howard H. Shafferman Daniel R. Simon* Ballard Spahr LLP 601 13 <sup>th</sup> Street NW Suite 1000 South Washington, DC 20005-3807 Tel: (202) 661-2200 Fax: (202) 626-9049 E-mail: <a href="mailto:simond@ballardspahr.com">simond@ballardspahr.com</a>
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\*Persons designated for service

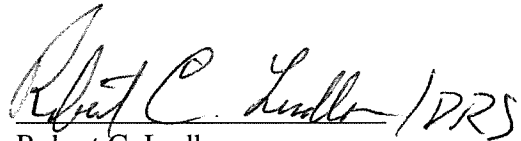
Honorable Kimberly D. Bose  
October 27, 2009  
Page 20 of 20

## VI. CONCLUSION

For the reasons stated herein, the ISO requests the Commission to accept the 2010 Capital Budget as filed, effective January 1, 2010, and the Third Quarter 2009 Report as filed, effective October 1, 2009.

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

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert C. Ludlow / DRS". The signature is written in a cursive, somewhat stylized font.

Robert C. Ludlow  
Vice President, Chief Financial Officer and  
Compliance Officer  
ISO New England Inc.

## **Attachment 1**

**ATTACHMENT 1**

**ISO New England Inc.  
Capital Budget for 2010  
(dollars in thousands)**

<u>Description</u>	<u>2010</u>
<i>Capital Projects - Approved Charters</i>	
• Forward Capacity Market (FCM) Phase III	3,800.0
• BCP Infrastructure Enhancements	1,430.0
• Demand Resource Integration	1,410.0
• SMD Software Upgrade Phase II	350.0
• Tariff Management Software	275.5
• Outage Coord Econ Analysis (OCEAT)	120.0
• Baseline Telemetry System	55.0
 <i>Capital Projects in Conceptual Design</i>	
• FCM Enhancements	4,000.0
• Smart Grid	3,000.0
• Price-Responsive Demand	2,000.0
• EMS/eMarket Enhancements	2,000.0
• BCP Infrastructure Enhancements Phase II	1,000.0
• Facility Outage Scheduler (FOSS) Phase II	750.0
• Issue Resolution	750.0
• Credit & Billing Enhancements	500.0
• Network Model Management	500.0
• Market Monitoring Enhancements	400.0
• Market Monitoring Enhancements Automation Tool	400.0
• Market Monitoring Enhancements Benchmarking	400.0
• Demand Resource Integration Audit and Testing	300.0
• Oracle 11G Upgrade Phase III	300.0
• Emerging Work Allowance	459.5
 <i>Non-Project Capital Spending</i>	 3,300.0
<i>Capitalized Interest &amp; Loan Fees</i>	500.0
 <b>TOTAL Capital Projects</b>	 <b>28,000.0</b>

## **Attachment 2**

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

**ISO NEW ENGLAND INC.**

)

**Docket No. ER10-\_\_\_\_-000**

**DIRECT TESTIMONY**  
**OF**  
**DR. VAMSI CHADALAVADA**

Filed on: October 27, 2009

1

**UNITED STATES OF AMERICA**

2

**BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION**

3

4 **ISO NEW ENGLAND INC.** ) **Docket No. ER10-\_\_\_\_\_-000**

5

6

**Direct Testimony of Dr. Vamsi Chadalavada**

7

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

8

A. My name is Dr. Vamsi Chadalavada. My business address is One Sullivan Road,  
9 Holyoke, Massachusetts 01040-2841.

10

**Q. WHAT IS YOUR OCCUPATION?**

11

A. I am the Senior Vice President and Chief Operating Officer of ISO New England  
12 Inc. (the "ISO"). I have served in that role since July 13, 2008. Prior to that date,  
13 I served as the Senior Vice President for Market and System Solutions. I served  
14 in that capacity beginning on December 1, 2003.

1           **Q.     PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**  
2           **PROFESSIONAL EXPERIENCE.**

3           A.     I received my BS in Electrical and Electronics Engineering from SVU  
4                 Engineering College, India in 1989; my MS degree in Electrical and Computer  
5                 Engineering from Iowa State University, Ames, Iowa in 1991; and my PhD degree  
6                 in Electrical and Computer Engineering from Iowa State University, Ames, Iowa  
7                 in 1994. My Ph.D dissertation on “Contingency Filters for Dynamic Security  
8                 Assessment” received a Research Excellence award from Iowa State University. I  
9                 have published articles and papers in Power Engineering journals.

10                Prior to joining the ISO, I worked for Siemens Power Transmission and  
11                Distribution for almost ten years. I held many positions there, most recently as  
12                vice president and general manager of Siemens’ Energy Management and  
13                Information Systems. In this capacity, I had the profit-and-loss responsibility for  
14                the \$70 million business division of Siemens Power Transmission and  
15                Distribution Inc. The business division employed approximately 300 people,  
16                primarily in Minneapolis, MN and San Jose, CA. The Sales, Marketing,  
17                Development, Operations and Human Resources functions for this division all  
18                reported to me. Prior to this position, I managed the North American business  
19                unit of the division.

1 **PURPOSE OF TESTIMONY**

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

3 A. I am providing this testimony in support of the filing of the ISO's capital budget  
4 for 2010 ("2010 Capital Budget").

5 My Direct Testimony describes:

6 (i) the ISO's organizational structure and the services it provides;

7 (ii) the Capital Budget development process;

8 (iii) elements of the 2010 Capital Budget; and

9 (iv) financing of the 2010 Capital Budget.

10 **ISO ORGANIZATIONAL STRUCTURE AND SERVICES**

11 **Q. WHAT IS THE ORGANIZATIONAL STRUCTURE OF THE ISO?**

12 A. The ISO is governed by an independent Board of Directors with a cross-section of  
13 skills and experience, including electric regulatory affairs, energy industry  
14 management, corporate finance, bulk-power systems, public policy, and  
15 renewable energy. The ISO is overseen by a President and Chief Executive  
16 Officer ("CEO") who has seven direct reports. As Senior Vice President and  
17 Chief Operating Officer ("COO"), I report directly to the CEO and am responsible  
18 for Market Operations, System Operations, System Planning, Market  
19 Development, Program Management, Business Architecture, and Information

1 Technology. The other direct reports of the CEO are: Vice President and General  
2 Counsel; Vice President of External Affairs and Corporate Communications; Vice  
3 President, Chief Financial & Compliance Officer; Vice President, Human  
4 Resources; Vice President, Market Monitoring (for administrative purposes); and  
5 Director, Internal Audit.

6 **Q. WHAT SERVICES ARE PROVIDED BY THE ISO, AND HOW ARE ITS**  
7 **ADMINISTRATIVE COSTS RECOVERED FROM ITS CUSTOMERS?**

8 A. The ISO provides three services to its Customers:

- 9 1. Scheduling, System Control and Dispatch Service (or “Scheduling Service”);
  - 10 2. Energy Administration Service (“EAS”); and
  - 11 3. Reliability Administration Services (“RAS”)
- 12 (collectively, the “Services”).

13 The ISO, a public utility, collects from its Customers (mainly, the New England  
14 Power Pool (“NEPOOL”) Participants) the administrative costs of providing the  
15 Services through Section IV.A. of its Tariff. The ISO is filing its updated rates for  
16 its administrative costs in a separate filing in order to recover its calendar year  
17 2010 operating costs. Section IV.A of the Tariff includes the three rate schedules  
18 the ISO uses to recover its administrative costs for providing the three services  
19 (i.e., recovering the costs of providing Scheduling Service, EAS and RAS,  
20 respectively).

1           **Q.     ARE THE COSTS OF CAPITAL ITEMS NEEDED TO SUPPORT THE**  
2                   **ISO’S MISSION INCLUDED IN ITS ADMINISTRATIVE COSTS AND/OR**  
3                   **RECOVERED THROUGH THE RATES IT CHARGES IN SECTION IV.A**  
4                   **OF THE TARIFF?**

5           A.     No. The three schedules used to cover the ISO’s administrative expenses do not  
6                   cover any items in the ISO’s capital budget. These schedules recover the  
7                   depreciation for items that are in service, but in no case will the costs of items be  
8                   recovered twice.

9           **Q.     HOW DOES THE ISO RECOVER THE COSTS OF BUDGETED**  
10                   **CAPITAL ITEMS?**

11          A.     The ISO has obtained private financing to fully cover all elements of its 2010  
12                   Capital Budget, given its existing Tariff structure. At this time, the ISO does not  
13                   foresee the need to obtain capital funds from its Market Participants in 2010 or to  
14                   undertake additional borrowing.

15                   However, if for some reason the ISO is unable to use private financing to cover its  
16                   full capital budget, Section IV.B of the Tariff (the “Capital Funding  
17                   Arrangements”) provides four different charges the ISO may use to recover such  
18                   costs from Market Participants. The Capital Funding Charge (“CFC”) allows the  
19                   ISO to collect from Market Participants funds for the direct purchase of capital  
20                   assets not previously funded by Market Participants if the ISO does not enter into

1 private financing to fund these purchases or the ISO funds the purchases through  
2 interim financings and does not enter into private financing to provide long-term  
3 funding of these purchases. In order to encourage banks to lend for the ISO's  
4 capital and working capital needs, Section IV.B of the Tariff includes an Early  
5 Amortization Capital Charge ("EAC") and an Early Amortization Working  
6 Capital Charge ("EAWCC"). These charges ensure that the ISO can recover its  
7 working capital and the unamortized costs of the assets privately financed in the  
8 event of termination, acceleration or other required repayment of the loans.  
9 Finally, the Early Payment Shortfall Funding Charge ("EPSFC") allows the ISO to  
10 collect from Market Participants such funds as are required for the repayment of  
11 the "Shortfall Funding Arrangement" financing entered into by the ISO in support  
12 of weekly billing under the Billing Policy.

13 **Q. DOES THE ISO PROPOSE ANY MATERIAL CHANGES TO ANY**  
14 **EXISTING PROVISIONS IN THE CAPITAL FUNDING**  
15 **ARRANGEMENTS, INCLUDING THE CHARGES INCLUDED**  
16 **THEREIN?**

17 A. No.

1 **THE CAPITAL BUDGET DEVELOPMENT PROCESS**

2 **Q. WHAT BUDGETS DOES THE ISO DEVELOP FOR EACH YEAR?**

3 A. The ISO develops an operating budget and a capital budget. The capital budget  
4 supports very important capital needs for New England.

5 **Q. HOW WERE THE ISO'S BUDGETS DEVELOPED FOR 2010?**

6 A. The ISO prepares budgets in advance of each upcoming year, including a capital  
7 budget. To develop these budgets for 2010, the CEO held meetings with the  
8 Chief Financial and Compliance Officer, members of the ISO Board, officers  
9 (including myself) and certain key managers to discuss the existing and changing  
10 responsibilities of the organization. Based on the results of these meetings and the  
11 priorities established annually with stakeholders, estimates of the resources  
12 necessary to carry out the responsibilities were submitted by each of the  
13 responsible directors and managers. Following these efforts, the ISO develops a  
14 project charter for each capital project. All budgets with completed project  
15 charters were reviewed to ensure that the estimates were reasonable and that no  
16 costs were double-counted. The ISO management team, including the CEO, CFO,  
17 and myself, meets once a month to discuss the project charters. An approval by  
18 the ISO management team is essential prior to authorization of budgets and start  
19 of project work.

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1 The ISO presented the 2010 Capital Budget of \$28.0 million and the 2010  
2 operating budget to the NEPOOL Budget and Finance Subcommittee on August  
3 27, 2009. The ISO presented the 2010 Capital Budget and operating budget to the  
4 NEPOOL Participants Committee (“NPC”) on October 9, 2009. At that meeting,  
5 the NPC overwhelmingly approved the motion to support the ISO’s 2010 budgets  
6 by a show of hands. The ISO also requested feedback on the 2010 Capital Budget  
7 from other stakeholders at various meetings, including meetings with  
8 representatives of the New England Conference of Public Utilities Commissioners  
9 and individual state agencies. The ISO’s Board of Directors subsequently  
10 approved the 2010 budgets at its October 16, 2009 meeting.

11 **ELEMENTS OF THE 2010 CAPITAL BUDGET**

12 **Q. IN GENERAL, HOW WILL THE ISO SPEND THE MONEY REQUIRED**  
13 **FOR THE CAPITAL PROJECTS DISCUSSED ABOVE?**

14 A. The primary deliverable for a majority of the projects listed in the 2010 Capital  
15 Budget is application software and requisite hardware needed to maintain and  
16 improve bulk-power system reliability and/or wholesale electric markets.

17 **Q. HAS THE 2010 CAPITAL BUDGET INCREASED SIGNIFICANTLY**  
18 **OVER THE 2009 BUDGET?**

19 A. Yes. The 2010 Capital Budget is **\$28.0 million**, which represents a \$3.5 million  
20 increase over the 2009 budget of \$24.5 million. This increase has been driven

1 primarily by the inclusion of \$3.0 million for Smart Grid initiatives for 2010, as  
2 discussed in more detail below. The 2010 capital budget also includes projects for  
3 new Power System and Wholesale Market System features and enhancements to  
4 existing systems.

5 **Q. PLEASE DESCRIBE THE ELEMENTS OF THE CAPITAL BUDGET.**

6 A. The 2010 Capital Budget contains the following projects: Forward Capacity  
7 Market Phase III (“FCM”) and enhancements; Business Continuity Plan (“BCP”)  
8 Infrastructure Enhancements Phases I and II; Demand Resource Integration  
9 (“DRI”); Standard Market Design (“SMD”) Upgrade Phase II; Tariff Management  
10 Software; Outage Coordination Economic Analysis Tool (“OCEAT”); Baseline  
11 Telemetry; Smart Grid; Price-Responsive Demand; EMS/eMarket Enhancements;  
12 Facility Outage Scheduler (“FOSS”) Phase II; Issue Resolution and Software  
13 Enhancements; Credit & Billing Enhancements; Network Model Management to  
14 Implement Model on Demand; Market Monitoring Enhancements; Demand  
15 Resource Integration Audit and Testing; Oracle 11G Upgrade Phase III; Non-  
16 Project Capital Expenditures; and Other Emerging Work. The 2010 Capital  
17 Budget also includes \$500,000 to pay for capitalized interest and loan fees.

1           **Q.     PLEASE DESCRIBE THE FCM PHASE III AND THE FCM**  
2           **ENHANCEMENTS PROJECTS.**

3           A.     The ISO developed the FCM project to address New England's resource adequacy  
4                   needs by providing incentives for investing in new supply and demand resources  
5                   and to improve resource performance. Developing FCM is capital intensive, as  
6                   the ISO estimates it will cost a total of approximately \$27.5 million from 2006-  
7                   2010 for Phases I-III, as well as an additional \$4.0 million for additional  
8                   enhancements outside of the scope of Phases I-III. The ISO will recover its costs  
9                   incurred to operate and maintain FCM through its Operating Expense Budgets,  
10                  rather than through capital budgets.

11                  The 2010 Capital Budget includes \$3.8 million forecasted for FCM Phase III. The  
12                  ISO began FCM Phase III in 2009 and it will continue through June 2010.

13                  The purpose of the FCM Phase III project is primarily to address the development  
14                  of the infrastructure to support FCM settlements, measure resource performance,  
15                  implement reconfiguration auctions and bilateral transactions, and associated  
16                  financial assurance provisions. This project includes the design, development and  
17                  building of several enhancements and features to various tools and methods,  
18                  including:

- 19                      • the primary auction Market Clearing Engine
- 20                      • the asset registration process

- 1                   • the Descending Clock Auction Software
- 2                   • the Forward Capacity Tracking System
- 3                   • the System Operations capacity analysis and reliability review

4                   In addition to the current work on FCM Phase III, in 2009, the ISO began the  
5                   planning stages of the FCM Enhancements Project, which will continue through  
6                   2010. The purpose of the FCM Enhancements Project is to implement new  
7                   functionality necessitated by changes to the market rules. Also, a FCM working  
8                   group was established to include state regulators, market participants, and ISO  
9                   representatives to discuss enhancements to the FCM. The scope of the FCM  
10                  working group includes enhancements to auction pricing, compensation for  
11                  demand resources that clear in the FCM, zonal definitions and various other  
12                  design features. While the scope of the FCM Enhancements project has not been  
13                  determined, the 2010 Capital Budget includes \$4.0 million for it. The estimated  
14                  completion date for this project is 2011, although necessary funding for 2011 has  
15                  not yet been determined.

16                  **Q. PLEASE DESCRIBE THE BCP INFRASTRUCTURE ENHANCEMENT**  
17                  **PROJECT AND ITS PHASES.**

18                  **A.** The Capital Budget for this project includes three phases and is \$2.43 million for  
19                  2010, which includes \$1.43 million to complete Phase I and \$1.0 million to start  
20                  Phase II. This project will be a multi-year project to significantly upgrade and

1 enhance the Business Continuity Plan infrastructure, in order to maintain a high  
2 level of reliability and comply with emerging requirements of the North American  
3 Electricity Reliability Corporation (“NERC”). The upgrade is intended to comply  
4 with all aspects of the emerging NERC EOP-008-1 and improve overall  
5 utilization of the Backup Control Center (“BCC”) by having real-time Energy  
6 Management System data on-line for increased systems redundancy, thereby  
7 reducing the time to restore applications to service from a back-up. By providing  
8 the capability to operate the BCC as a hot standby site, the ISO will reduce the  
9 Energy Management System down time from approximately three hours to  
10 approximately thirty minutes. These improvements will also provide employees  
11 with remote access to non-critical business functions in the event of a prolonged  
12 loss of the main facilities in Holyoke, and will allow the ISO to continue business  
13 from the BCC, thereby reducing the risks associated with the loss of the primary  
14 corporate data center in Holyoke.

15 The final capital cost of all phases of this initiative is expected to be  
16 approximately \$13.5 million and is scheduled to be complete by 2012.

17 **Q. PLEASE DESCRIBE THE DEMAND RESOURCE INTEGRATION**  
18 **PROJECT.**

19 A. The Capital Budget includes \$1.41 million for this project in 2010. This is a  
20 multi-year project spanning 2008-2010. The primary focus of the Demand

1 Resource Integration project is to integrate the FCM Demand Resources into  
2 System Planning, System and Market Operations, and Information Technology  
3 systems and processes by June 1, 2010.

4 Demand Resources have become a key component of system reliability and  
5 market efficiency in New England. In addition, all six New England States and  
6 the Commission have emphasized the strategic importance of integrating Demand  
7 Resources into the market because of the beneficial impact on both wholesale  
8 costs and market efficiency. With the advent of FCM, Demand Response/Energy  
9 Efficiency and other Demand Resources are treated as capacity resources. Based  
10 on the results of the Forward Capacity Auctions conducted so far, Demand  
11 Resources will represent as much as 10% of the total capacity resources in the  
12 New England electric system. Therefore, it is important that these Resources are  
13 effectively integrated into market and system operations.

14 **Q. PLEASE DESCRIBE THE SMD UPGRADE PHASE II.**

15 A. In order to maintain a high level of reliability and increase operational efficiency,  
16 the ISO has initiated a multi-year project to upgrade and enhance the Standard  
17 Market Design software and systems. The 2010 capital budget for Phase II of the  
18 project is \$350,000, and the project is scheduled to be completed in 2010. Phase  
19 II includes: improvements to the SMD platform architecture such that all market  
20 applications run on the same technology and thereby increase their performance;

1 upgrading of the user interfaces to move them off third-party technologies that are  
2 being discontinued; and increased automation of processes that improve  
3 operational efficiency and flexibility.

4 **Q. PLEASE DESCRIBE THE TARIFF MANAGEMENT SOFTWARE**  
5 **PROJECT.**

6 A. In September 2008, the Commission issued Order No. 714 requiring that all tariffs  
7 and tariff revisions and rate change applications be filed electronically according  
8 to a set of standards developed in conjunction with the North American Energy  
9 Standards Board. Implementation of this requirement will begin April 1, 2010.  
10 Since other ISOs and RTOs were impacted by this Order, they combined with the  
11 ISO to form an eTariff Working Group to maximize efficiencies. In April 2009, a  
12 combined Request for Proposals was developed by the eTariff Working Group  
13 and sent to several vendors. Following a review of the proposals and presentations  
14 by vendors, ISO and three other ISOs selected Systrends, Inc.'s eTariff software.  
15 This software will allow the ISO to manage tariff components more efficiently  
16 and establish a clear migration path for conducting electronic filings with the  
17 Commission in the future. The 2010 budget for this project is \$275,500 with an  
18 estimated completion within the year.

1           **Q.     PLEASE DESCRIBE THE OUTAGE COORDINATION ECONOMIC**  
2           **ANALYSIS (“OCEAT”) PROJECT.**

3           A.     In the last ten years, the process for outage coordination has matured along with  
4           the increase in the quantity of new projects and required maintenance.  
5           Consequently, tools used by the Outage Coordinators to study the economic  
6           impact of proposed outages need enhancement to automate and improve the  
7           analysis performed and to allow more studies to be done in the same time period.  
8           At the conclusion of the OCEAT Project, the Outage Coordinators will be  
9           provided with an economic analysis tool that will help them perform increasing  
10          numbers of economic outage studies required for short-term and long-term outage  
11          analysis and thereby provide useful information for decision-making purposes.  
12          This budget for this project is \$120,000 in 2010 and the project is scheduled to be  
13          completed in 2010.

14          **Q.     PLEASE DESCRIBE THE BASELINE TELEMETRY PROJECT.**

15          A.     The goal of this project is to build the Baseline Telemetry System to calculate the  
16          baselines used to determine actual load interruption for Real Time Demand  
17          Response Programs. The baseline calculation is a key component in determining  
18          the participants’ response and is currently outsourced to Elutions, Inc. Elutions’  
19          system is responsible for calculating the participants’ baseline, collecting meter  
20          data, triggering and maintaining Demand Response event data, bridging data to

1 Settlements systems and providing data and reports to internal users for analysis.

2 Because of the increasing magnitude and criticality of the Demand Response  
3 Programs, ISO-NE has decided to bring the outsourced demand response system  
4 in-house in order to ensure reliability and robust performance. This budget for  
5 this project is \$55,000 in 2010 and the project is scheduled to be completed in  
6 2010.

7 **Q. PLEASE DESCRIBE THE SMART GRID PROJECT.**

8 A. The DOE has initiated funding opportunities to accelerate the modernization of  
9 the nation's electric transmission and distribution systems and promote  
10 investments in smart grid technologies and to fund regionally unique  
11 demonstrations to verify smart grid technology viability, quantify smart grid costs  
12 and benefits, and validate new smart grid business models. The ISO and the  
13 Transmission Owners have submitted two applications to the Department of  
14 Energy for Smart Grid Funding: (a) one application with a cost of \$18.09 million  
15 under Funding Opportunity Announcement ("FOA") 0000058 for Smart Grid  
16 Investment Grant, to focus on bulk power system operations related to the  
17 installation of Phasor Measurement Units; and (b) one application with a cost of  
18 \$20.04 million under FOA 0000036 for Smart Grid Demonstrations, to focus on  
19 bulk power system operations related to Wide Area Visualization, Demand  
20 Resource Integration, and Regional Voltage profile. Under the FOA provisions,

1 the DOE will fund up to 50% of the total cost. The ISO's 2010 budget for this  
2 project is \$3.0 million with an estimated total project cost to the ISO of \$9.0  
3 million to complete in 2012.

4 **Q. PLEASE DESCRIBE THE PRICE-RESPONSIVE DEMAND PROJECT.**

5 A. Price-responsive demand is a critical element of a robustly competitive and  
6 economically efficient electricity market. In order to encourage greater price-  
7 responsive demand in the region, the ISO is currently in discussions with  
8 stakeholders to enhance the current programs. This project is intended to  
9 implement the enhanced design. It is envisioned that Market Participants with  
10 demand resources will have two options to participate directly in the wholesale  
11 energy market: a *demand-side option* and a *supply-side option*.

12 Under the supply-side option, Market Participants could offer load reductions  
13 into the wholesale energy markets in a manner similar to supply offers of  
14 traditional generation resources, which would be integrated into the market  
15 clearing, price setting, and resource scheduling algorithm to minimize the cost of  
16 serving the demand for energy. Under the demand-side option, Market  
17 Participants could purchase a voluntary wholesale energy product at an all-in,  
18 hourly real-time price. The 2010 budget for this project is \$2.0 million with an  
19 estimated completion date in 2012. Necessary funding for the project in 2011 and  
20 2012 has yet to be determined.

1           **Q.   PLEASE DESCRIBE THE EMS/eMARKET ENHANCEMENTS**  
2           **PROJECT.**

3           A.    The eMarket User Interface (MUI) currently in production is built upon the  
4           Oracle Application Services framework. This technology is no longer supported  
5           by Oracle. The project will upgrade the eMkt MUI to replace this framework with  
6           an industry standard J2EE framework. The project will leverage much of the  
7           work that has been done for the Demand Resource Integration project. This  
8           project will also add enhancements to the Energy Management System. The 2010  
9           budget for this project is \$2.0 million with an estimated completion date in 2011.  
10          Necessary funding for the project in 2011 has yet to be determined.

11          **Q.   PLEASE DESCRIBE THE FACILITY OUTAGE SCHEDULER (“FOSS”)**  
12          **PHASE II PROJECT.**

13          A.    FOSS Phase I was migrated into production in December 2008. The major  
14          component of the original phase was to allow System Operations and Local  
15          Control Centers to enter and manage Transmission Outage Requests, and all  
16          surrounding functionality, using the Control Room Outage Window (CROW)  
17          application developed by Equinox Software Design Corporation. The scope of  
18          the FOSS Phase II project includes the following elements relating to the CROW  
19          application:

- 20                 •   Addition of Generation Outage Requests
- 21                 •   Changes to Transmission Outage Requests

- 1                   • Reporting
- 2                   • Financial Settlement Flagging and Data Bridging
- 3                   • Network Model Maintenance Changes
- 4                   • Retirement of the current SAM application

5                   The 2010 budget for this project is \$750,000 with an estimated completion during  
6                   the first quarter of 2011. Necessary funding for the project in 2011 has yet to be  
7                   determined.

8                   **Q. PLEASE DESCRIBE THE ISSUE RESOLUTION AND SOFTWARE**  
9                   **ENHANCEMENTS PROJECT.**

10                  A.    The ISO has an outstanding list of issues that need to be addressed. Over the past  
11                  several years, the primary focus of the ISO has been on implementing large  
12                  projects that enhance the efficiency of Wholesale Markets and improve the  
13                  reliability of the grid. It is important that the backlog of outstanding issues be  
14                  reduced in order to improve operational efficiency, improve accuracy and reduce  
15                  risk. The outstanding list of issues is primarily focused in the areas of  
16                  Settlements, Net Commitment Period Compensation clarifications, Financial  
17                  Assurance, Customer Asset Data Management systems, and resource registration.  
18                  The 2010 budget for this project is \$750,000 with estimated completion within the  
19                  year.

1           **Q.   PLEASE DESCRIBE THE CREDIT AND BILLING ENHANCEMENTS**  
2           **PROJECT.**

3           A.   In light of the recent credit crisis affecting the nation and consistent with the goal  
4           of reducing financial risk to the ISO's participants, the ISO has been working with  
5           stakeholders since October 2008 to create changes to the Financial Assurance and  
6           Billing Policies, collectively called the Credit and Billing Enhancements. The  
7           credit and billing changes include increasing billing and payment of settlements to  
8           twice weekly from once a week, the elimination of unsecured credit for all Market  
9           Participants other than Municipals and Transmission and Distribution Companies  
10          serving native load customers, the allocation of cash shortfalls resulting from  
11          payment defaults by Market Participants with unsecured credit to other Market  
12          Participants with unsecured credit, and the creation of restrictions on banks  
13          issuing letters of credit. Work on the project has begun in 2009, with an estimated  
14          completion before year end 2010. The 2010 budget for this project is \$500,000,  
15          and approximately \$60,000 is planned to be spent in 2009.

16          **Q.   PLEASE DESCRIBE THE NETWORK MODEL MANAGEMENT**  
17          **PROJECT.**

18          A.   The Network Model Management project will include the implementation of  
19          Siemens Enterprise Model-On-Demand tool for the purposes of managing the  
20          various base cases that are used by System Planning, FCM Administration,

1 System Operations Support Services and Power System Modeling departments.

2 The 2010 budget for this project is \$500,000 with an estimated completion within  
3 the year.

4 **Q. PLEASE DESCRIBE THE MARKET MONITORING ENHANCEMENTS**  
5 **PROJECT.**

6 A. The project is required to implement the Net Commitment Period Compensation  
7 mitigation reform filed with the Commission on August 5, 2009 and will include  
8 three elements: enhancements, automation, and benchmarking. The  
9 enhancements will enable mitigation of resources that violate the low load offer  
10 test for Net Commitment Period Compensation before the commitment and  
11 dispatch of the resource (ex-ante mitigation). The automation will improve our  
12 ability to implement the relevant Appendix A provisions. Last, benchmarking  
13 with PROBE will provide a better, more sophisticated tool to measure market  
14 competitiveness and also enable the performance of “what if” studies to assess  
15 whether particular units had an adverse impact on the market.

16 The 2010 budget for this project is \$1.2 million, \$400,000 for each element, with  
17 an estimated completion within the year.

1           **Q.    PLEASE DESCRIBE THE DEMAND RESOURCE INTEGRATION**  
2           **AUDIT AND TESTING PROJECT.**

3           **A.**    The Demand Resource Integration Audit and Testing project will enable the ISO  
4           to achieve its oversight responsibility for monitoring and tracking the performance  
5           of assets and resources and the products and services it provides. Defined  
6           business rules and requirements reflect the functionality needed to audit and test  
7           demand response resources for both the long-term and as required for the first  
8           phase of the FCM commitment period beginning on June 1, 2010. Spending in  
9           2010 for the audit and testing effort is projected to be \$300,000.

10          **Q.    PLEASE DESCRIBE THE ORACLE 11G UPGRADE PHASE III**  
11          **PROJECT.**

12          **A.**    Many of the business applications used at the ISO (Electronic Dispatch, Day  
13          Ahead and Real Time Markets, Settlements, Finance, etc.) rely on an Oracle  
14          database. To obtain the level of support needed from Oracle to meet  
15          reliability/availability goals, ISO must run on the current Oracle database version.  
16          The ISO currently uses Oracle 10G and must update to Oracle 11G, the current  
17          Oracle database version. In addition to remaining current with Oracle support,  
18          11G provides valuable new functionality, as follows:

- 19                   • Database Replay provides the ability to simulate workloads based on  
20                   information captured from actual production workloads, allowing full

1 testing of the performance impact of any database patch, OS change,  
2 application architecture changes or hardware upgrades before  
3 implementation.

4 • SQL Test Case Builder enables gathering of database and query  
5 information with a single command that can be sent to Oracle to help  
6 analyze production problems.

7 • Automatic Partition Management helps reduce the outages and support  
8 resources required to manage the Oracle table partitions in production  
9 databases.

10 • Query Results Caching improves application performance by caching and  
11 reusing the results of the database queries executed by multiple users or  
12 applications.

13 The 2010 budget for this project is \$300,000 with an estimated completion within  
14 the year.

15 **Q. PLEASE DESCRIBE THE NON-PROJECT CAPITAL EXPENDITURES**  
16 **ITEM.**

17 A. The 2010 Capital Budget includes a total of \$3.3 million for the non-project  
18 capital expenditures. Non-project capital expenditures fund external and internal  
19 capitalized labor necessary to program System Improvement Requests (\$2.25M),  
20 non-project related hardware purchases (\$1.0M), and furniture and fixtures

1 (\$50,000). Software System Improvement Requests are captured as part of this  
2 effort.

3 **Q. PLEASE DESCRIBE THE “OTHER EMERGING WORK” PROJECTS.**

4 A. This category is primarily intended to deal with emerging work requests during  
5 2010 that result from operational needs, compliance obligations or  
6 regulatory/stakeholder feedback. The 2010 Capital Budget includes \$459,500 for  
7 this line item.

8 **Q. DESCRIBE THE ACCURACY OF THE EXPENDITURE ESTIMATES**  
9 **FOR THE PROJECTS INCLUDED IN THE 2010 CAPITAL BUDGET.**

10 A. The 2010 Capital Budget includes seven projects with approved charters:  
11 Forward Capacity Market Phase III; BCP Infrastructure Enhancements Phase I;  
12 Demand Resource Integration; SMD Upgrade Phase II; Tariff Management  
13 Software; the Outage Coordination Economic Analysis Tool; and the Baseline  
14 Telemetry System. The ISO has not finalized the design, scope, and charters for  
15 the remaining projects. As a result, the cost estimates for such items are likely to  
16 change. Furthermore, the capital budget is quite dynamic, and the ISO uses it to  
17 reflect any changing market needs, when possible. To the extent new and urgent  
18 priorities arise, the ISO will adjust accordingly and reflect these adjustments in its  
19 quarterly Section 205 filings.

1 **CAPITAL BUDGET FUNDING**

2 **Q. IS THE ACQUISITION OF CAPITAL BUDGET ITEMS INCLUDED IN**  
3 **THE 2010 REVENUE REQUIREMENT FOR THE ISO'S**  
4 **ADMINISTRATIVE COSTS?**

5 A. No. However, the 2010 Revenue Requirement contains depreciation on items in  
6 the 2010 Capital Budget that will be placed in service in 2010. Please note that  
7 capital projects include design work, and, if the design is approved and built, it is  
8 part of the asset on which depreciation is collected when the asset is placed in  
9 service (and in future years) via the Operating Expense Budget. On the other  
10 hand, if the capital project is abandoned, the ISO writes off the design work and  
11 recovers it in full in the year of abandonment. In addition, the capital projects  
12 include the capitalization of the first year of support costs and licenses associated  
13 with any newly capitalized software and hardware.

14 **Q. PLEASE DETAIL HOW THE CAPITAL EXPENDITURES OF THE**  
15 **CAPITAL BUDGET AND PROJECTS BUDGET ARE TYPICALLY**  
16 **FUNDED AND REPAID.**

17 A. The ISO's existing and future capital projects are financed by drawing upon the  
18 \$39.0 million of private placement debt issued in 2004, with Commission  
19 authorization, and scheduled to balloon in 2014. The ISO funds the capital  
20 projects through recovery of depreciation under its annual operating budgets

1 collected through the rates specified in Section IV.A of the Tariff – Recovery of  
2 ISO Administrative Expenses. The ISO will also use the depreciation recovery to  
3 fund the repayment of the private placement debt or issue new debt when the  
4 balloon payments come due. The Customers that are repaying the charges under  
5 the schedules in Section IV.A of the Tariff are receiving the benefits of the  
6 services rendered under those schedules.

7 **Q. IS THE ISO'S CURRENT PRIVATE PLACEMENT DEBT SUFFICIENT**  
8 **TO COVER THE 2010 CAPITAL BUDGET?**

9 A. Yes. At this time, the ISO does not foresee the need to recover any 2010 Capital  
10 Budget expenditures from Market Participants pursuant to the charges provided in  
11 the Capital Funding Arrangements of the Tariff. The ISO has sufficient financing  
12 to cover its 2010 Capital Budget by drawing on its \$39.0 million of private  
13 placement debt discussed above.

14 **CONCLUSION**

15 **Q. DO YOU WISH TO OFFER ANY FURTHER TESTIMONY OR**  
16 **EXHIBITS?**

17 A. I would like to incorporate the 2010 Capital Budget that is Attachment 1 to this  
18 filing.

1           **Q.    DOES THAT CONCLUDE YOUR PRE-FILED TESTIMONY?**

2           **A.    Yes.**

3

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

5

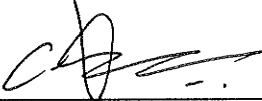
6    Executed on 10/26/09

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\_\_\_\_\_  
Dr. Vamsi Chadalavada

## **Attachment 3**

**ISO New England Inc.**  
**Capital Projects Schedule**  
**For the Quarter ended 09/30/2009**  
**(\$000's)**

<u>Description</u>	<u>Prior Year(s)</u> <u>Spending (1)</u>	<u>2009 YTD</u> <u>Spending</u>	<u>2009 Cost To</u> <u>Complete</u>	<u>2009 Total</u> <u>Costs</u>	<u>2010 Cost to</u> <u>Complete</u>	<u>Total Project</u> <u>Costs (2)</u>
<b>Capital Projects - Approved Charters</b>						
. Forward Capacity Market Phase III	-	4,562.2	2,277.8	6,840.0	3,800.0	10,640.0
. Forward Capacity Market Phase II	7,169.5	1,753.1	-	1,753.1	-	8,922.7
. Demand Resource Integration	85.5	2,889.3	318.7	3,208.0	1,410.0	4,703.6
. SMD Software Upgrade Phase II (4)	427.8	2,417.1	616.4	3,033.5	350.0	3,811.3
. SMD Software Upgrade Phase I (4)	2,885.8	246.7	-	246.7	-	3,132.5
. BCP Infrastructure Enhancements Phase I	391.1	1,010.7	267.7	1,278.4	1,430.0	3,099.5
. Outage Coord Econ Analysis (OCEAT)	320.6	365.1	142.9	508.0	120.0	948.7
. Q4 2008 Release	737.5	18.8	-	18.8	-	756.3
. Baseline Telemetry System	-	392.9	242.1	635.0	55.0	690.0
. Q2 Release - 2009	70.8	479.8	-	479.8	-	550.6
. Tariff Management Software	40.5	53.7	46.3	100.0	275.5	416.0
. Network Model Management (Quick Wins)	135.6	217.6	43.4	261.0	-	396.6
. E-Notification	344.4	11.0	-	11.0	-	355.4
. Single Sign-On (SSO) System Replacement	155.7	101.5	3.5	105.0	-	260.7
. Oasis 890	206.9	46.3	-	46.3	-	253.2
. Web Enhancements 2008-2009	40.2	116.1	-	116.1	-	156.4
. OIS Conversion to .NET	108.1	40.6	-	40.6	-	148.7
. Projects Less Than \$100K in Value (4 Projects)	67.0	93.0	114.4	207.4	-	274.4
<b>Sub Total Projects with Approved Charters</b>	<b>13,187.1</b>	<b>14,815.7</b>	<b>4,073.1</b>	<b>18,888.8</b>	<b>7,440.5</b>	<b>39,516.5</b>
<b>Capital Projects in Planning/Conceptual Design (3)</b>						
. FCM Enhancements	-	97.4	152.6	250.0	4,000.0	4,250.0
. Smart Grid	-	-	-	-	3,000.0	3,000.0
. Price Responsive Demand	-	-	-	-	2,000.0	2,000.0
. EMS/eMarket Enhancements	-	-	-	-	2,000.0	2,000.0
. BCP Infrastructure Enhancements Phase II	-	-	-	-	1,000.0	1,000.0
. Long Term FTRs (5)	907.5	-	-	-	-	907.5
. Facility Outage Scheduler (FOSS) Phase II	4.0	28.1	13.9	42.0	750.0	796.0
. Issue Resolution	-	-	-	-	750.0	750.0
. Credit and Billing Enhancements	-	33.2	26.8	60.0	500.0	560.0
. Network Model Management	-	-	-	-	500.0	500.0
. Market Monitoring Enhancements	-	145.9	4.1	150.0	400.0	550.0
. Market Monitoring Enhancements Automation Tool	-	-	-	-	400.0	400.0
. Market Monitoring Enhancements Benchmarking	-	-	-	-	400.0	400.0
. Demand Resource Integration Audit and Testing	-	-	-	-	300.0	300.0
. Oracle 11G Upgrade Phase III	-	-	-	-	300.0	300.0
. Other	-	7.2	45.8	53.0	-	53.0
. Emerging Work Allowance	-	21.6	771.6	793.2	459.5	1,252.7
<b>Sub Total Capital Projects Planning/ Conceptual Design</b>	<b>911.5</b>	<b>333.4</b>	<b>1,014.8</b>	<b>1,348.2</b>	<b>16,759.5</b>	<b>19,019.2</b>
<b>Non-Project Capital Spending</b>	<b>-</b>	<b>2,745.2</b>	<b>695.8</b>	<b>3,441.0</b>	<b>3,300.0</b>	<b>6,741.0</b>
<b>Capitalized Interest &amp; Loan Fees</b>	<b>-</b>	<b>668.8</b>	<b>153.2</b>	<b>822.0</b>	<b>500.0</b>	<b>1,322.0</b>
<b>Total Capital Projects</b>	<b>14,098.7</b>	<b>18,563.1</b>	<b>5,936.9</b>	<b>24,500.0</b>	<b>28,000.0</b>	<b>66,598.7</b>

(1) Prior Year(s) spending reflects only those projects with current and future spending.

(2) Total project costs represent external and internal labor capital costs.

(3) All estimates are subject to material change until rules are finalized, approved by FERC, scope is defined and project chartered.

(4) SMD Software Upgrade Project will be implemented in multiple phases spanning several years.

(5) The LTTR project has been indefinitely deferred pending further guidance from the FERC.

**ISO NEW ENGLAND INC.**  
**FERC COMPLIANCE FILING - 09/30/09**  
**ALLOCATION ON UNRECOVERED PLANT IN SERVICE/UNAMORTIZED COST OF PLANT**

Line No.	Description	Unrecovered Basis			(e)	Self-Funding Tariff			
		Total (b)	Adjustments (c)	Adj. Total (d)		Total (f)	Schedule 1 (g)	Schedule 2 (h)	Schedule 3 (i)
1	<b>2009 Items:</b>								
2	Facilities Project	\$ 125,007	\$ -	\$ 125,007		\$ 125,007	\$ 26,939	\$ 64,691	\$ 33,377
3	Furniture, Fixtures, and Equipment	6,649	-	6,649		6,649	1,433	3,441	1,775
4	Non-Project Capital Spending (Hardware and Software)	1,118,921	-	1,118,921		1,118,921	241,128	579,042	298,752
5	Market Systems and Enhancement Projects	13,042,857	-	13,042,857		13,042,857	2,848,674	3,162,072	7,032,112
6	Non-Market Systems and Enhancement Projects	4,594,076	-	4,594,076		4,594,076	987,553	2,387,098	1,219,425
7	Total 2009 Items - \$	\$ 18,887,511	\$ -	\$ 18,887,511		\$ 18,887,511	\$ 4,105,726	\$ 6,196,344	\$ 8,585,441
8	Total 2009 Items - %					100.00%	21.74%	32.81%	45.46%
9									
10	<b>2008 Items:</b>								
11	Facilities Project	\$ 190,680	\$ -	\$ 190,680		\$ 190,680	\$ 41,091	\$ 98,677	\$ 50,911
12	Furniture, Fixtures, and Equipment	38,345	-	38,345		38,345	8,263	19,844	10,238
13	Non-Project Capital Spending (Hardware and Software)	1,163,528	-	1,163,528		1,163,528	250,740	602,126	310,662
14	Market Systems and Enhancement Projects	12,609,102	-	12,609,102		12,609,102	2,086,563	4,486,776	6,035,764
15	Non-Market Systems and Enhancement Projects	2,044,427	-	2,044,427		2,044,427	764,264	847,821	432,342
16	Total 2008 Items - \$	\$ 16,046,082	\$ -	\$ 16,046,082		\$ 16,046,082	\$ 3,150,922	\$ 6,055,243	\$ 6,839,918
17	Total 2008 Items - %					100.00%	19.64%	37.74%	42.63%
18									
19	<b>2007 Items:</b>								
20	Facilities Project	\$ 4,309,948	\$ -	\$ 4,309,948		\$ 4,309,948	\$ 928,794	\$ 2,230,398	\$ 1,150,756
21	Furniture, Fixtures, and Equipment	11,576	-	11,576		11,576	2,495	5,991	3,091
22	Non-Project Capital Spending (Hardware and Software)	408,799	-	408,799		408,799	88,096	211,553	109,149
23	Market Systems and Enhancement Projects	6,637,671	-	6,637,671		6,637,671	588,062	1,399,440	4,650,169
24	Non-Market Systems and Enhancement Projects	1,471,382	-	1,471,382		1,471,382	319,195	770,844	381,344
25	Total 2007 Items - \$	\$ 12,839,376	\$ -	\$ 12,839,376		\$ 12,839,376	\$ 1,926,642	\$ 4,618,225	\$ 6,294,509
26	Total 2007 Items - %					100.00%	15.01%	35.97%	49.03%
27									
28	<b>2006 Items:</b>								
29	Facilities Project	\$ 14,960,377	\$ -	\$ 14,960,377		\$ 14,960,377	\$ 3,223,961	\$ 7,741,995	\$ 3,994,421
30	Furniture, Fixtures, and Equipment	-	-	-		-	-	-	-
31	Non-Project Capital Spending (Hardware and Software)	31,680	-	31,680		31,680	6,827	16,395	8,459
32	Market Systems and Enhancement Projects	1,345,720	-	1,345,720		1,345,720	92,470	396,605	856,645
33	Non-Market Systems and Enhancement Projects	512,302	-	512,302		512,302	54,854	400,997	56,452
34	Total 2006 Items - \$	\$ 16,850,079	\$ -	\$ 16,850,079		\$ 16,850,079	\$ 3,378,112	\$ 8,555,991	\$ 4,915,976
35	Total 2006 Items - %					100.00%	20.05%	50.78%	29.17%
36									
37	<b>2005 Items:</b>								
38	Building/property improv. (Renov. workspace, network & voice rewiring)	\$ 16,765,410	\$ -	\$ 16,765,410		\$ 16,765,410	\$ 3,612,946	\$ 8,676,100	\$ 4,476,364
39	Enhancements to Other Existing Market Systems	262,228	-	262,228		262,228	-	171,759	90,469
40	Hardware and Software Upgrades to existing Non Market Systems	25,319	-	25,319		25,319	-	16,584	8,735
41	Capital Interest/Fees	316,803	-	316,803		316,803	-	207,506	109,297
42	Internal Development Costs	86	-	86		86	-	57	30
43	Amortization of Reg Asset	-	-	-		-	-	-	-
44	Total 2005 Items - \$	\$ 17,369,846	\$ -	\$ 17,369,846		\$ 17,369,846	\$ 3,612,946	\$ 9,072,006	\$ 4,684,895
45	Total 2005 Items - %					100.00%	20.80%	52.23%	26.97%
46									
47	<b>2004 Items:</b>								
48	Building/property improv. (Renov. workspace, network & voice rewiring)	\$ 903,699	\$ -	\$ 903,699		\$ 903,699	\$ 194,747	\$ 467,664	\$ 241,288
49	Enhancements to Other Existing Market Systems	28,711	-	28,711		28,711	-	18,806	9,905
50	Hardware and Software Upgrades to existing Non Market Systems	1,018	-	1,018		1,018	-	667	351
51	Internal Development Costs	-	-	-		-	-	-	-
52	Capital Interest/Fees	138,237	-	138,237		138,237	-	90,545	47,692
53	Total 2004 Items - \$	\$ 1,071,665	\$ -	\$ 1,071,665		\$ 1,071,665	\$ 194,747	\$ 577,682	\$ 299,236
54	Total 2004 Items - %					100.00%	18.17%	53.91%	27.92%
55									
56	<b>2003 Items:</b>								
57	Building/property improv. (Renov. workspace, network & voice rewiring)	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -
58	Various hardware and software upgrades for existing systems	2,556	-	2,556		2,556	-	1,674	882
59	Enhancements to Other Existing Market Systems	8,295	-	8,295		8,295	-	7,465	829
60	Internal Development Costs	-	-	-		-	-	-	-
61	Total 2003 Items - \$	\$ 10,851	\$ -	\$ 10,851		\$ 10,851	\$ -	\$ 9,139	\$ 1,711
62	Total 2003 Items - %					100.00%	0.00%	84.23%	15.77%
63									
64	<b>2002 Items:</b>								
65	Building/property improv. (Renov. workspace, network & voice rewiring)	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -
66	Office Equipment	47	-	47		47	10	25	13
67	Various hardware and software upgrades for existing systems	-	-	-		-	-	-	-
68	Load Response II Program Implementation	-	-	-		-	-	-	-
69	Back-up Control Center make-ready costs of new lease space	-	-	-		-	-	-	-
70	Internal Development Costs	-	-	-		-	-	-	-
71	Total 2002 Items - \$	\$ 47	\$ -	\$ 47		\$ 47	\$ 10	\$ 25	\$ 13
72	Total 2002 Items - %					100.00%	21.55%	51.75%	26.70%
73									
74	<b>2001 Items:</b>								
75	Office Equipment	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -
76	Building/property improv. (Renov. workspace, network & voice rewiring)	-	-	-		-	-	-	-
77	Various hardware and software upgrades for existing systems	-	-	-		-	-	-	-
78	Internal Development Costs	-	-	-		-	-	-	-
79	Total 2001 Items - \$	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -
80	Total 2001 Items - %					0.00%	0.00%	0.00%	0.00%
81									
82	<b>2000 Items:</b>								
83	Enhancements to EMS System (mostly software)	\$ -	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -
84	Building/property improv. (Renov. workspace, network & voice rewiring)	-	-	-		-	-	-	-
85	Various hardware/software upgrades(Lawson, JAVA, MIS & del PCs, etc.)	168	-	168		168	36	87	45
86	Total 2000 Items - \$	\$ 168	\$ -	\$ 168		\$ 168	\$ 36	\$ 87	\$ 45
87	Total 2000 Items - %					100.00%	21.55%	51.75%	26.70%
88									
89	<b>Total Unrecovered Plant in Service - \$</b>	\$ 83,075,626	\$ -	\$ 83,075,626		\$ 83,075,626	\$ 16,369,141	\$ 35,084,742	\$ 31,621,744
90	<b>- %</b>					100.00%	19.70%	42.23%	38.06%

## **Attachment 4**

**New England Governors  
and Utility Regulatory  
and Related Agencies**

**Connecticut**

The Honorable M. Jodi Rell  
State Capitol  
210 Capitol Ave.  
Hartford, CT 06106

Connecticut Department of Public Utility Control  
10 Franklin Square  
New Britain, CT 06051-2605

**Maine**

The Honorable John E. Baldacci  
One State House Station  
Rm. 236  
Augusta, ME 04333-0001

Maine Public Utilities Commission  
State House, Station 18  
242 State Street  
Augusta, ME 04333-0018

**Massachusetts**

The Honorable Deval Patrick  
Office of the Governor  
Rm. 360 State House  
Boston, MA 02133

Massachusetts Department of Public Utilities  
One South Station  
Boston, MA 02110

**New Hampshire**

The Honorable John H. Lynch  
State House  
25 Capitol Street  
Concord, NH 03301

New Hampshire Public Utilities Commission  
21 South Fruit Street  
Suite 10  
Concord, NH 03301-2429

**Rhode Island**

The Honorable Donald L. Carcieri  
State House Room 115  
Providence, RI 02903

Rhode Island Public Utilities Commission  
89 Jefferson Boulevard  
Warwick, RI 02888

**Vermont**

The Honorable James H. Douglas  
109 State Street, Pavilion  
Montpelier, VT 05609

Vermont Public Service Board  
112 State Street, Drawer 20  
Montpelier, VT 05620-2701

**New England Governors  
and Utility Regulatory  
and Related Agencies**

Elia Germani, President  
New England Conference of  
Public Utilities Commissioners, Inc.  
c/o RI Public Utilities Commission  
89 Jefferson Boulevard  
Warwick, RI 02888

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Executive Director  
New England Conference of  
Public Utilities Commissioners, Inc.  
50 Forest Falls Drive, Suite 6  
Yarmouth, ME 04096-6937

Harvey L. Reiter, Esq.  
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1150 18th Street, NW, Suite 800  
Washington, DC 20036-3816

Power Planning Committee  
New England Governors' Conference, Inc.  
76 Summer Street, 2nd Floor  
Boston, MA 02110-1226

Heather Hunt  
Executive Director  
New England States Committee on Electricity  
[HeatherHunt@NESCOE.com](mailto:HeatherHunt@NESCOE.com)