



# ISO New England Outlook

A wholesale electricity  
industry update

September 2009

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Please address inquiries to:  
[isone-outlook@iso-ne.com](mailto:isone-outlook@iso-ne.com)

## What's Your Outlook?

### Interview with NESCOE Executive Director Heather Hunt

*ISO New England Outlook* spoke with Heather Hunt, NESCOE's Executive Director, to discuss the states' efforts to coordinate on regional energy issues. Hunt is an attorney and served previously as a public utility commissioner in Connecticut and Maine and as general counsel for a regulated utility in Connecticut.



### What is NESCOE and why was it formed?

NESCOE stands for New England States' Committee on Electricity. The Federal Energy Regulatory Commission (FERC) proposed the concept of regional state committees (RSC) through which the states in each region would provide a collective view on issues in their region. The six New England governors asked the FERC to approve NESCOE as the RSC for New England. Following a lengthy stakeholder process, FERC approved the governors' proposal.

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## Better Late than Never, New England's Summer Arrives in August

### During Cooler Months, Wholesale Power Prices Took a Plunge

It was the summer that nearly wasn't. But in the late weeks of August, the damp and dreary months of June and July finally gave way to more seasonal hot and humid weather. The week of August 17 marked the top five days of electricity use so far this year, though they fell far short of the all-time top-five days for electricity consumption in New England.

The weather, the impacts of a weakened economy, and declining fuel prices all worked in concert to drive electricity use and costs down.

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## ISO-NE Applies for DOE Smart Grid Funding

### Projects Could be Completed Earlier and at Half the Cost to Region

The *American Recovery and Reinvestment Act (ARRA) of 2009* provides the U.S. Department of Energy (DOE) with funding to facilitate the development and implementation of smart grid efforts. In close partnership with the transmission owners (TOs) in New England, the ISO submitted two applications to DOE seeking funding for several projects that will serve as a backbone for regional smart grid efforts. The funding would enable these key projects to be completed earlier and at half of the cost to the region. Here are some fast facts about the proposed projects.

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## From President and CEO Gordon van Welie ●●●

### Just a Few Weeks Left in Annual Budget Process

Fiscal responsibility has always been the guiding principle used by ISO management, and therefore the current economic environment was one of many factors that ISO New England considered when preparing our 2010

budget. We understand that times are tough, the cost of living keeps increasing, and that people have lost their jobs and homes. ISO New England employees are electricity consumers too and realize that all New England electricity consumers ultimately pay for the operation of the ISO.

Consequently, we first developed a flat budget for 2010 that would have required significant decreases in the services we provide. However, it was determined after meeting with stakeholders that it was necessary to maintain our obligations, and therefore a budget increase was unavoidable. Not only does ISO New England have to carry out its core responsibilities, we must also work on new, priority initiatives next year that cannot be delayed without jeopardizing system reliability and market efficiency.

Moreover, the nation is moving aggressively to integrate renewable resources and the smart grid. New England must keep pace with these developments to best manage costs and regulatory compliance obligations. We recognize that economic conditions make the idea of the up-front investment difficult; however, we must continue to invest in the infrastructure at ISO New England to ensure that our systems are technologically up-to-date and efficient. We believe that ongoing investment will pay dividends to consumers just as the region has seen dividends from the investment it has made in the ISO and in upgrading infrastructure over the past decade.

Efficient wholesale electricity markets have saved the region hundreds of millions of dollars. Transmission upgrades have created a grid that not only is reliable but saves money through reduced use of inefficient resources. Our highly successful demand-response programs have lowered costs, increased wholesale market competition, and provided customers the ability to better manage their electricity costs.

Therefore, based on feedback from our stakeholders, our revised proposal maintains existing services, allows for unavoidable increases in these services, and accommodates certain limited increases in services based on identified priorities

(such as demand-response integration, wind integration, and additional planning studies). Any noncritical items were cut from this year's budget or put on hold. As we do each year, stringent financial management enables us to achieve operational efficiencies that offset costs for new projects and services.

In the end, our 2010 budget proposes a 5.7% increase for a total proposed operating budget of \$108.9 million (up from \$102.6 million in 2009). The ISO estimates that its highly specialized services and responsibilities will cost the average New England residential consumer roughly 79 cents per month.

ISO New England will file its budget with FERC for approval by October 31. Read more about our business planning and budget process in the [August 2007](#) issue of *ISO New England Outlook*.

### Your Input to Help Shape Newsletter

I'd like to thank the *ISO New England Outlook* subscribers who participated in our recent newsletter survey.

Responsiveness to stakeholders and transparency in our business are critical to the ISO's ability to provide efficient, reliable, secure, and high-quality services. We offer numerous information sources to stakeholders through our Web site, direct email contact, meetings, reports, papers, and press releases.

However, it's through our newsletters that we can touch on a variety of topics in one place, provide more context and background on subjects and, through Q&As, introduce readers to interesting and important individuals in our industry. We can also describe some of the ISO's critical services and unique responsibilities that otherwise take place in the background.

We support two newsletters. *ISO News* is geared toward market participants, and provides deadline notices, training announcements and technical market information ([subscribe here](#)). Written for market participants, utility commissioners, policymakers, consumer groups, and, media, *ISO New England Outlook* provides comprehensive updates on the region's wholesale electricity industry, including market, power system, and ISO company news; publication and forum announcements; and in-depth features ([subscribe here](#)).

The July survey on *Outlook* shows us that the subject, style, and level of depth of the articles in this newsletter appear to be on target; however, many of you suggested topics you'd like to read more about. We will be sure to cover those and evolve the newsletter based on your feedback so that it continues to provide you timely and useful information on the progress of and state of affairs within New England's wholesale electricity industry.●●●

## Connecting with Consumers

### Consumer Liaison Group Holds Kick-Off Meeting



ISO New England can be a bit of a mystery, especially to end-use consumers who primarily hear about the electricity industry from their local utility or retail supplier. This lack of awareness is natural: ISO New England's focus is mostly on the wholesale side of the business and, in the past, the ISO has had limited opportunity to outreach to consumers. But now this is changing—a

direct line of communication has emerged between the ISO and the region's electricity consumers through the formation of the Consumer Liaison Group, or CLG, for short.

Decisions made on the wholesale level can impact retail consumers, and the electricity industry is a complicated one, so the intent of the CLG is to put wholesale and retail together—literally in one room—for an open discussion, with the goal of information sharing and increased understanding. The CLG has been designed as a public forum to give consumers and those who represent consumers an avenue for further insight into the decisions that have an impact on the operation of the region's bulk power system and wholesale markets, including infrastructure investment, reliability standards, policy initiatives, and market-rule changes and enhancements. It gives them the opportunity to ask questions and voice concerns.

“Staying fully apprised of rapidly changing industry issues can be difficult,” says Carolyn O'Connor (pictured above), Director of External Affairs and the ISO's designated point of contact for the CLG. “We are hopeful that the CLG will create a dialogue among all stakeholders that, in turn, will help end-users and consumer representatives navigate stakeholder processes and understand key issues.”

The first meeting, held in late July, gathered together ISO senior management and other staff, representatives from state offices of consumer advocates and attorneys general, industry market participants, large industrial and commercial consumers, and chambers of commerce. The group discussed matters ranging from the CLG's organizational structure, ongoing ISO New England work, issues of interest for future discussions, as well as next steps to make these meetings informative and productive.

To learn more about what happened at the CLG kick-off, read the [meeting notes](#). Two more meetings are being planned for the remainder of 2009. ●●●

## ISO-NE Offers Update Notification through “Feeds”



ISO New England now offers feeds in RSS and Atom formats to help you stay better informed of events, notices, and deadlines. RSS, which stands for Rich Site Summary or Really Simple Syndication, and Atom, an abbreviation of Atom Syndication Format, are formats for delivering regularly changing Web content.

Subscribing to one or more of these feeds ensures that updated information on any of 38 available topics will be delivered to you. With one click to “subscribe,” you will not need to constantly check for updates on your own; the system will automatically search for any new posts and send them to your feed-reader program.

In addition to the convenience of receiving updates automatically without having to access [ISO New England's Web site](#), feeds can be read without using email. Several programs are available to collect feeds, allowing you to choose the option that works best for you. Subscriptions can be received through desktop software applications or through Web-based readers like [Google Reader](#).

Readers then group updates together and, if you are subscribed to multiple lists, you can view them all in one place and see all the updates at once. ISO New England feeds provide hyperlinks to bring you to the Web site for more details and to see the information in its original context.

ISO New England currently offers feeds in four categories: Deadlines, Meetings, Notices, and Training & Seminars. Users have the option of subscribing to all feeds in a particular category or to specific subtopics within each.

To get started, you can access a current list of [ISO New England's feeds](#) now or use the hyperlink available on the Feeds page on ISO New England's Web site, located in the upper right corner of most Web pages under “At A Glance.” If you have any questions, contact ISO New England Customer Support at 413-540-4220, or email [custserv@iso-ne.com](mailto:custserv@iso-ne.com). ●●●

## Transmission Upgrades Help Minimize Out-of-Merit Dispatch on Cape Cod, Bolstering Reliability and Lowering Costs

Recent improvements to the transmission system in Southeast Massachusetts (SEMA) have made the area less reliant on a local power plant, resulting in enhanced system performance and reduced costs.

### In and Out of Merit

The transmission system in the lower SEMA area (of Cape Cod) was originally designed to rely on a combination of two 345 kilovolt (kV) transmission lines, two 115 kV transmission lines and Canal Station—a dual-unit, oil-fired electric power generator with a capacity of over 1,100 megawatts (MW). In the first few years following the 2003 implementation of New England’s wholesale electricity market makeover, Standard Market Design, in which the lowest-priced generation is dispatched and wholesale prices are set by zone, the operation of the Canal units did not change significantly. At the time, Canal’s oil-fired generators were less expensive to operate than natural gas units in the region, so the plant’s units ran “in merit,” meaning they were among the competitively priced units needed to meet consumer demand and maintain reliability.

However, beginning in January 2006, the price of oil rose significantly and outpaced the price of natural gas. Although the Canal units were not priced competitively, the ISO identified a need to use the Canal plant for local reliability reasons, so the units were run “out of merit” and received a payment higher than the rest of the region’s real-time wholesale price. These additional costs are “uplift costs.” From 2006 through 2007, more than \$170 million in uplift costs were paid to the Canal units, and following a FERC-sponsored mediation, an agreement was reached to allocate the uplift charges to the entire SEMA

region, remaining consistent with wholesale market rules for uplift cost allocation. The settlement agreement also required the transmission owners involved to pursue near-term upgrades to the SEMA-area system.

### Solutions Identified

Work began in 2006 to address weaknesses in lower SEMA. In conjunction with NSTAR and National Grid, the ISO identified upgrades that could be made in a relatively short period of time. These short-term upgrades included the addition of 115 kV and 345 kV transmission lines and the installation of infrastructure, including an autotransformer and a dynamic reactive device.

With the last of the upgrades implemented July, the performance of the electrical system in lower SEMA has improved significantly. Under optimal conditions in which all transmission elements are in service, the short-term upgrades raise the regionwide demand threshold at which it is necessary to operate the Canal units from 11,000 MW to 21,000 MW in the summer and 24,000 MW in the winter. With the improvements now in place, operational steps can now be taken to reduce the need to operate the local Canal station even further. The ISO and NSTAR have developed a new transmission operating guide for SEMA so that the Canal units are no longer needed for out-of-merit dispatch for second-contingency coverage in the area.

The region already has seen cost savings over the past few months. The upgrades, combined with the summer’s cooler temperatures and lower demand (see related article on page 1), have resulted in a considerable reduction of out-of-merit dispatches of the Canal units. ●●●

## Want to Change a Load Zone? Consider These Guidelines

In early 2008, a complaint was filed with FERC on the SEMA cost-allocation settlement agreement. FERC gave the ISO stakeholder process time to work on the issue and asked for a report in one year’s time. This July, the ISO filed a compliance report with FERC, which recommends that SEMA zone boundaries not be modified at this time. The region awaits FERC’s final decision.

In addition, the compliance report provides a new set of guidelines developed through stakeholder collaboration that can serve as a starting point for any future discussion about possible load zone changes. Reliability regions, load zones, and pricing zones all are one and the same. They serve two primary purposes under the current wholesale market structure: they aggregate costs for pricing energy and are used as the basis for allocating reliability costs, including uplift or other out-of-market charges.

Guidelines for Modifying Existing Reliability Regions identifies possible situations that may warrant the exploration of a change in load zone, such as wholesale market conditions, resource additions or retirements, and changes in the transmission system. It also recognizes that a significant notice period should be required to make a change in load zone designation, suggesting at least a year from the notice date. Boundaries and subdivisions of zones within states are other topics covered. For example, when considering maximum size, one recommendation is for load zone boundaries to be contiguous with state boundaries to ensure the retail load being served with a particular load zone is also within the jurisdiction of one state. ●●●

What's Your Outlook?...Continued from page 1

### What is NESCOE's mission?

NESCOE's mission is to represent the interests of New England citizens by advancing policies that will provide electricity at the lowest possible price over the long term, while maintaining reliable electric service and environmental quality. Our subject matter focus is resource adequacy and system planning and expansion.

### How is NESCOE governed? Who appoints representatives? Does each state have voting rights?

NESCOE is governed by a board, referred to as managers. The managers are appointed by the governor of each New England state. The governors can appoint more than one manager to NESCOE, although each state has one vote. Tom Getz, Chairman of the New Hampshire Public Utilities Commission, is NESCOE's current president and directs NESCOE staff activities on a day-to-day basis.

### How is NESCOE funded?

NESCOE is funded by a surcharge on customers throughout New England, which is recovered through the ISO New England tariff. NESCOE proposes its budget through the New England Power Pool (NEPOOL) stakeholder process, and the ISO submits the NESCOE budget annually to the FERC for approval.

The ISO acts as a billing agent for NESCOE, but the budget is not subject to ISO approval.

### How does NESCOE represent the states in the region's stakeholder process?

NESCOE participates in the NEPOOL stakeholder process, including the Participants Committee and some technical committees. We also participate in the Planning Advisory Committee (PAC) and ad hoc committees. The PAC is an open forum for New England stakeholders to provide input to the ISO's

regional system planning process. In the near term, for example, NESCOE commented on the ISO's *2009 Regional System Plan* and will offer a regional point of view on Installed Capacity Requirement-related issues currently under consideration in the stakeholder process.

NESCOE also will intervene in proceedings at the FERC where appropriate, although, of course, our hope is to work effectively within New England and minimize the need for FERC interventions.

### What is the objective and timeframe of the New England governors' renewable blueprint?

The New England governors have a shared goal of serving consumers with cost-effective, low-carbon, secure electricity. To help sort through the most sensible way to bring New England's renewable resources located in and around the region to our load centers, the governors asked the ISO to conduct an economic study. NESCOE presented the request to the PAC. Subsequently, the ISO presented the study's assumptions, which were developed by NESCOE with ISO technical assistance, to the PAC for consideration.

The purpose, broadly, was to help identify the significant sources of renewable energy available to New England, the means to reliably distribute them within the region's power grid, and estimated costs. The governors were interested in making sure that policy decisions in connection to renewable resource development are informed by environmental and economic data.

The ISO presented the results to the PAC in August. The study showed that New England has significant potential to develop wind resources both inland and offshore. The study also assumed increased penetration of energy efficiency

and emerging technologies, such as plug-in electric vehicles and energy storage.

With the economic study providing a technical foundation, NESCOE, working with the New England Governors' Conference, began to develop the New England Governors' Regional Renewable Energy Blueprint (Blueprint). The purpose of the Blueprint is to consider the technical analysis within the New England states' policy goals. In July 2009, we issued a status report on the Blueprint's development, which included some initial observations on the preliminary economic study results. You can find that at [www.nescoc.com](http://www.nescoc.com). This month, we'll provide a further assessment and examine practical means to facilitate the commercial development of renewable resources. This will include a look at potential opportunities to coordinate siting of interstate facilities and at contract opportunities available under current state law that could help



provide revenue certainty to cost-competitive renewable projects that emerge in the market. Further work on these practical implementation issues may continue beyond September.

What the economic study and Blueprint are not designed to do is also important. This effort is not intended to identify preferred locations for resource development or preferred transmission pathways.

• Continued on next page

## ISO-NE Passes NPCC Audit

### One of First in U.S. to be Audited for CIP Standards

After visiting ISO New England for five days this spring, a team of auditors from the Northeast Power Coordinating Council (NPCC), accompanied by observers from the North American Electric Reliability Corporation (NERC) and FERC, found the ISO compliant with all applicable reliability standards, including Critical Infrastructure Protection (CIP) standards.

From April 20-24, the auditors evaluated the ISO's



compliance with 41 reliability standards and 375 requirements and subrequirements over a two-year period, from June 2007 to April 2009. Areas reviewed included the ISO's long-range system planning, real-time system operations, cyber security management, control room procedures and operating guides, and how the ISO activates its Backup Control Center (BCC). The audit team also evaluated the ISO's

compliance culture and concluded in its [final report](#) that "...it is clear that compliance is an integral component of ISO New England operation."

While audits for compliance with six new CIP cyber security standards were not scheduled to begin until July 1, the ISO volunteered to be audited on those standards as well during the scheduled on-site audit. ISO New England was one of the first organizations in the U.S. to be audited on these standards.

### Number of Standards and Requirements Continue to Increase

Since the *U.S. Energy Policy Act of 2005* established more stringent oversight of the industry in the wake of the 2003 Northeast blackout, NERC has developed more than 100 reliability standards. The NPCC is a regional entity responsible for overseeing compliance with NERC standards in the six

New England states, New York State, and the Ontario, Québec and Maritime provinces. FERC can levy significant civil penalties, as high as \$1 million per day, on organizations or market participants failing to comply with reliability standards.

Because compliance with NERC standards spans so many of the company's functions, the audit involved 33 ISO staffers at various points, including the five-member Reliability and Operations Compliance (ROC) team, as well members of the System Operations, System Planning, Information Technology, Finance, and Human Resources departments.

### Expanded CMS to Help Keep Track

ISO New England regularly tracks new and modified reliability standards and works to address new reliability issues proactively. Currently, the ISO has a multi-year project making significant upgrades to the BCC. The project, which started in earnest this year, is designed to maintain a high level of reliability at the BCC and comply with new NERC and cyber security requirements.

The ROC group is also expanding its Compliance Management System (CMS) to track a larger body of regulatory obligations to which the ISO is subject—for example, FERC tariff obligations, FERC and Internal Revenue Service filing requirements, and certain state requirements. The greater functionality of the CMS is designed to "track a greater number of changes the ISO is proposing to make and to track how the company complies with the rules and regulations that apply to us," said ROC group director Matthew Goldberg (pictured).

In addition to Goldberg, ISO New England's compliance program is staffed by Richard W. Burke, Principal Analyst, Reliability Services; Kathleen Goodman, Senior Operations Compliance Coordinator; John E. Pearson, Lead Engineer; Robert M. Coughlin, Principal Scientist; and Judianne O'Brien, Compliance Analyst. ●●●

### What's Your Outlook...Continued from previous page

Current market mechanisms and specific proposals by entities in the market will identify what resources ought to be built where and by whom and the appropriate transmission pathways to deliver power to New England load centers.

The Blueprint will be discussed by the New England Governors and Eastern Canadian Premiers at their meeting on

September 14 and 15, 2009, in Saint John, New Brunswick.

### Are other planning issues on the horizon for NESCOE?

This year, NESCOE representatives began discussions with various regional state representatives and organizations in the Eastern Interconnection about how to

ensure state representation in interconnection-wide planning efforts. As the Eastern Interconnection Planning Collaborative takes form, having New England contribute technical analysis and proactively communicate New England's planning priorities and resource preferences in the context of the national planning dialogue will be important. ●●●

Better Late than Never...Continued from page 1

“New England didn’t have much of a summer this year, so the typical climb in electricity demand we normally see in the summer months from air conditioning use never came to pass,” said Vamsi Chadalavada, ISO New England’s Senior Vice President and Chief Operating Officer. “Couple this low summer usage with the effects of a down economy and efforts by business and consumers to become more energy efficient, and the reductions can really add up.”

All told, overall electricity use in 2009 from January to August was down approximately 4% compared with the same period last year, largely due to the weather.

**Prices Plunge**

Power use wasn’t the only thing falling in the summer of 2009; wholesale prices for electricity also took a steep downward dive. “The cost of electricity is largely driven by the cost of the fuels that run the power plants, such as oil and natural gas,” noted Chadalavada.

In 2008, the cost of natural gas and oil—the dominant fuels for New England power generation—reached their highest levels in nearly a decade. Last year’s fuel prices were exceptionally high, so comparing this year’s lower prices makes the contrast between the two years that much more dramatic.

Compared with the same period in 2008, natural gas prices in New England were down over 56% between January 1, 2009, and August 31, 2009. Wholesale power costs closely followed the direction of this fossil fuel price, falling over 53% so far this year compared with the same period in 2008.●●●

2009 Electricity Use		All-Time Electricity Use	
Date	Demand (MW)*	Date	Demand (MW)
August 18, 2009	25,314 MW	August 2, 2006	28,130 MW
August 17, 2009	25,106 MW	August 1, 2006	27,467 MW
August 21, 2009	24,911 MW	July 18, 2006	27,329 MW
August 19, 2009	24,748 MW	August 3, 2006	27,118 MW
August 20, 2009	23,877 MW	July 27, 2005	26,885 MW

\*All 2009 figures are preliminary.

## ISO-NE Submits Price-Response Progress Report to FERC

ISO New England, NEPOOL, and the New England Conference of Public Utilities Commissioners (NECPUC) have been actively engaged in ongoing stakeholder discussions to evaluate the future treatment of price-responsive demand in the region’s energy markets. (See the [January](#) and [May](#) issues of *ISO New England Outlook* for more.) On July 31, 2009, the ISO filed with FERC a [progress report](#) on the status of these regional considerations.

Over the course of a half a dozen meetings, regional stakeholders and policymakers met to identify, discuss, and evaluate the various approaches for encouraging price-responsive demand. The stakeholder discussions have largely focused on the development of potential design approaches to achieve price-responsive demand in the energy market.

This would be either through a “supply-side approach,” which

would allow market participants with price-responsive demand to enter load-reduction offers into the electric energy market in a manner similar to supply offers of traditional generation resources, or through a “demand-side approach,” which would give consumers the opportunity to change consumption levels in response to different energy prices in a manner similar to the demand bids of load-serving entities, or through some combination of the approaches.

To help facilitate discussions, a “Price-Responsive Demand Matrix” was created (see page 9 of the July 31 FERC filing). Using this matrix as a guide, the group plans to complete a design document that will form the basis of the proposal and help focus the group’s deliberations as they continue into the fall of this year.

The ISO has proposed a schedule for the coming months with the goal of deciding on a final market design by the end of this year, at which time another progress report will be filed with FERC. The ISO’s projected timeline suggests filing market rules with the FERC by June 2010, with implementation of the new market design by June 1, 2012.●●●



ISO-NE Applies for DOE Smart Grid Funding... *Continued from page 1*

### **Will ISO-NE's applications include smart grid projects in every New England state?**

Yes. ISO New England is working with all of the TOs, the University of Maine, and others to implement smart grid improvements to the region's bulk electrical system in all of the New England states.

### **What are the estimated total costs for these projects?**

For the **Smart Grid Investment Grant**, the ISO and the TOs estimate that the total cost of these projects would be up to approximately \$18 million over a three-year implementation period. Under the provisions of Funding Opportunity Announcement (FOA) 58, the DOE could fund up to 50% of the total cost. The ISO's share of the total cost is estimated to be approximately \$2.5 million.

The ISO and the TOs estimate that the total cost of the **Smart Grid Demonstration** projects would be approximately \$20 million over a three-year implementation period. Under the provisions of FOA 36, DOE could also fund up to 50% of the total project cost. The ISO's share of the total cost is estimated to be approximately \$9.4 million.

A description of the projects can be found on the [next page](#). And read more about ISO New England's smart grid efforts in the [January 2009](#) issue of *ISO New England Outlook*.

### **Where does ISO-NE's share of the project cost come from?**

The ISO's capital budget. If both the applications are funded by DOE, the ISO estimates that its annual capital budget will increase by approximately \$4.3 million for 2010–2011 and \$3.8 million

for 2012. The implementation of these projects should yield efficiencies that will result in lower grid operation costs for consumers. The synchrophasor project (under FOA 58) will provide fundamental technology for smart grid devices and is an essential piece of the reliability backbone of the electric power grid. The implementation of these tools and associated algorithms was one of the key recommendations of the [DOE report](#) following the 2003 blackout.



### **How is this share allocated among the region?**

If awarded funding by the DOE, the ISO's share of the costs for these smart grid projects will be allocated across the region based on load, just as other capital costs are. The capital costs will be spread out over three years and offset by anticipated power system operational efficiencies. These projects will not increase ISO's level of debt. It is likely that the additional technology and software applications implemented as a result of these projects will have a modest impact on the ISO operating budget starting in 2013.

### **Would ISO-NE have done these projects anyway?**

Yes, the projects are existing priorities. The projects for which we are seeking DOE funding have been studied for some

time and their benefits to the operation of the grid long identified. For example, ISO staff began planning for the synchrophasor project over a year ago.

Our applications to DOE will enable us to do these projects for about half of what we would have spent and do them sooner than we would have absent federal funding.

### **What are the anticipated impacts of the smart grid projects on the wholesale price of electricity?**

The smart grid projects are expected to help keep costs in check over the long run by reducing transmission congestion; increasing the efficiency and reliability of power system operations, including increasing intraregional situational awareness; and enhancing the quality of power delivered to the region's customers.

### **Will these projects help with the deployment of new renewable energy resources such as wind?**

Yes. For example, the projects will improve the ability of the grid to accommodate the variable nature of some renewable resources.

### **Will these smart grid projects yield environmental benefits?**

Yes, greenhouse gas emissions will be reduced as a direct result of enhanced integration of renewable generation, and the increased operational efficiency of the grid will help reduce emissions from higher-emitting generation.

### **How long will it take to get the smart grid projects up and running?**

The projects will be completed in three years. • *Continued on next page*



## Rundown of Smart Grid Projects Submitted for DOE Funding

On August 6, ISO New England and the TOs submitted an application under Funding Opportunity Announcement 0000058 (FOA 58) for Smart Grid Investment Grants. Then on August 25, the ISO and TOs submitted an application to FOA 0000036 (FOA 36) for Smart Grid Demonstrations. The DOE will announce grant recipients in November and award the funds in early 2010.

### FOA 58 Project **Synchrophasor Infrastructure and Data Utilization**

The goal of this project is to provide ISO New England and associated TOs an expanded base of measurement devices to accurately monitor the performance of the region's electric power grid. These devices are known as "phasor measurement units." This project will allow the ISO to improve reliability and security of the grid by more accurately pinpointing potential problems and providing specific data from which decisions on grid design and operation can be made.

### FOA 36 Projects **Wide-Area Monitoring and Visualization**

Through this project, a variety of electronic devices would be developed to enable New England operators to monitor neighboring balancing authority areas such as New York with greater accuracy and frequency of data than is currently possible. These tools would help operators learn about and act upon potential problems more quickly and efficiently.

### **Coordinated Voltage Profile Control**

Software developed through this project would automate the selection of the mechanisms grid operators should use to coordinate and adjust voltage profiles across New England. This type of automatic decision making is increasingly important as the grid becomes ever more complex to operate.

### **Demand-Response Integration**

This proposal would allow better communication between the ISO and



demand resources (DR), which includes energy efficiency, load management, and distributed generation. It would allow the ISO to dispatch DR by more specific locations than is currently possible, thereby allowing the ISO to get the maximum benefits from DR.

### **Information Exchange**

In its grant application to DOE, the ISO included an information exchange component to share the experiences, data, and results of the various demonstration projects with other grid operators. The repository of information can then be used to guide similar smart grid projects being developed nationwide.●●●

ISO New England is the independent, not-for-profit corporation responsible for reliably operating New England's 32,000 megawatt bulk electric power generation and transmission system, by overseeing and ensuring the fair administration of the region's \$12 billion wholesale electricity markets, and by managing comprehensive regional electric power planning.



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One Sullivan Road, Holyoke, MA 01040  
[www.iso-ne.com](http://www.iso-ne.com)  
[isone-outlook@iso-ne.com](mailto:isone-outlook@iso-ne.com)

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### **Are others applying for DOE funding for smart grid projects in New England?**

Yes, many of the TOs and very likely a number of other companies are submitting applications to DOE to receive smart grid funding. We have coordinated our applications with the TOs, so they are fully aware and support our applications.

### **Will any power disruptions occur when the smart grid projects are implemented? Will the bulk power system be impacted?**

No, ISO New England does not expect any disruptions. Reliability of the bulk power system will be maintained throughout the course of these projects. The installation of the projects will be contained within existing transmission substations, and therefore the project will not have to go through a construction permitting or siting process. No environmental impacts are expected, and the ISO does not anticipate the need for regulatory approvals from any local, state, or federal agencies.●●●