CONSERVATION LAW FOUNDATION

July 11, 2008

Luly Massaro, Clerk
Public Utilities Commission
89 Jefferson Blvd.
Warwick, RI 02888

Re: PUC Docket 3943 (National Grid Application Regarding Gas Rates)

Dear Ms. Massaro:

Enclosed please find one original and nine copies of Pre-Filed Testimony of Seth Kaplan, Esq., on Behalf of Conservation Law Foundation. Mr. Kaplan CLF's expert witness in this Docket. Service of Mr. Kaplan's testimony is being made in accordance with the Certificate of Service included at the end of the document.

CLF is aware of the fact that Docket 3943 is scheduled for hearing from Monday, September 8 through and including Friday, September 12, 2008. Mr. Kaplan, is available to appear to testify in person and take cross-examination during two of those days -- specifically, on Tuesday, September 9, and Friday, September 12. It would be helpful to Mr. Kaplan's schedule if the PUC were able, on or before July 31, to schedule Mr. Kaplan's testimony for one of these two dates in September.

Thank you very much for your assistance. Please do not hesitate to contact me if you have questions about this matter.

Very truly yours,

Jerry Elmer

55 Dorrance Street, Providence, Rhode Island 02903-2221 • Phone 401-351-1102 • Fax 401-351-1130 • www.clf.org

MAINE: 120 Tillson Avenue, Rockland, Maine 04841-3416 • Phone 207-594-8107 • Fax 207-596-7706
MASSACHUSETTS: 62 Summer Street, Boston, Massachusetts 02110-1016 • Phone 617-350-0990 • Fax 617-350-4030
NEW HAMPSHIRE: 27 North Main Street, Concord, New Hampshire 03301-4930 • Phone 603-225-3060 • Fax 603-225-3059
VERMONT: 15 East State Street, Suite 4, Montpelier, Vermont 05602-3010 • Phone 802-223-5992 • Fax 802-223-0060

STATE OF RHODE ISLAND
PUBLIC UTILITIES COMMISSION

IN RE: NATIONAL GRID GAS -- APPLICATION TO IMPLEMENT NEW RATES — Docket No. 3943

**PRE-FILED TESTIMONY OF SETH KAPLAN, ESQ., ON BEHALF OF CONSERVATION LAW FOUNDATION**

Pursuant to Public Utility Commission Rule of Procedure and Practice 1.20(e)(1), Conservation Law Foundation submits the following pre-filed testimony of its expert witness, Seth Kaplan, Esq.

## I. Introduction

**Q. Please state your name, position, and office address.**

A. Seth Kaplan. I am the Vice President for Climate Advocacy and the Director of the Clean Energy/ Climate Change program for the Conservation Law Foundation (CLF). My office address is 62 Summer Street, Boston, MA, 02110-1016.

**Q. What is your educational background?**

A. I graduated from the Wheeler School in Providence, where I was awarded the Claiborne Pell Medal for American History. I graduated from Wesleyan University with honors in 1989, and I received a law degree in 1993 from Northeastern University Law School. While in law school, I was a research assistant for Professor Lee Breckenridge.

**Q. What are your major responsibilities as Vice President for Climate Advocacy and the Director of the Clean Energy/ Climate Change program for CLF?**

A. I oversee CLF's climate change advocacy in five state offices -- Rhode Island, Massachusetts, Maine, New Hampshire, and Vermont. In each of these states, I direct and manage CLF's substantive advocacy and oversee personnel performance (including performance reviews) in the areas of clean energy and climate change. This involves working with CLF's state office directors and staff attorneys in each state. This also involves managing CLF's extensive efforts in each state to reduce emissions from power plants and transportation fleets, build renewable energy projects, foster energy efficiency and improve public transportation. In short, I serve as CLF's lead advocate on critical clean air, clean energy and climate-change issues and lawsuits.

**Q. What else are you responsible for in your position with CLF?**

A. I represent CLF in the New England-wide effort to create a greenhouse gas "cap and trade" program for power plants known as the Regional Greenhouse Gas Initiative (RGGI), in which Rhode Island is a member state. On behalf of CLF, I am responsible for overseeing implementation of RGGI. In addition, I work with environmental organizations, developers, and a variety of other stakeholders on a wide range of issues, including the siting of wind power, regional electric system planning, utility rates, and creation of new markets for energy efficiency. I participate in the environmental review of power plants, litigation

regarding carbon dioxide standards for cars, legislative reform to increase funding for renewable energy and efficiency, and governmental obligations to build public transit. My work often involves collaboration with private industry such as wind developers and clean demand-response providers.

**Q. What role do you play with regard to the New England Power Pool and ISO-New England?**

A. At my instigation, CLF became a voting participant in the New England Power Pool (NEPOOL). I often represent CLF at the NEPOOL Participants Committee and the ISO-New England Planning Advisory Committee. I led CLF's work regarding the design of the Forward Capacity Market, including extensive work through the Demand Resources Working Group on the market rules governing the inclusion of demand resources in that new market. That work is memorialized and described in an article in the June 2008 issue of Public Utilities Fortnightly of which I was the co-author. A copy of that article is attached to this testimony.

**Q. Do you have specific experience with decoupling and related tariff issues?**

A. Yes, I have extensive experience over many years with utility commission dockets dealing in whole or in significant part with decoupling. CLF has participated directly in decoupling dockets in Vermont, New Hampshire, and Massachusetts. I have spent many years studying issues that are commonly raised or presented by a variety of gas and

electricity decoupling mechanisms, and I have had occasion to observe and comment on such mechanisms in several states. I have also been an invited presenter over many years at New England regional and national programs on topics related to energy efficiency, distributed resources, and decoupling.

More specifically, I represented CLF in an extensive generic proceeding on distributed resources in Massachusetts and related proceedings including both a docket concerning stand-by rates which resulted in a settlement and a long-running distributed resources collaborative that included successful negotiation of uniform interconnection standards.

Currently, I supervise and manage CLF participation in decoupling dockets in New Hampshire and Massachusetts and closely related alternative regulation dockets in Vermont.

**Q. What are the main purposes of your testimony?**

A. There are three main purposes of my testimony.

First, I identify two main issues presented in this PUC Docket, one of which is decoupling. Second, I explain what decoupling is. Third, I discuss and explain why decoupling is sound public policy.

## II. Identifying the main components presented in this Docket.

**Q. Have you reviewed the pre-filed testimony of National Grid in this Docket, the filing of which testimony initiated this Docket?**

A. Yes, I have.

**Q. In your view, what are the main components of Grid's initial filing in this Docket?**

A. There are two main components in Grid's initial filing in this Docket.

First, Grid seeks what it refers to as a "gas-distribution rate increase." (See Pre-filed Direct Testimony of Nickolas Stavroupolos, page 3 of 28, lines 9 to 16, especially line 16.) In plain language, this is a price increase.

Second, Grid has a proposal for "revenue decoupling." (See Pre-filed Direct Testimony of Nickolas Stavroupolos, page 12 of 28, lines 11 to 13; and page 13 of 28, lines 3 to 6.) In my testimony I refer to this as simply "decoupling." As Mr. Stavroupolos indicates on page 13 of his testimony, Grid's specific proposal for decoupling is presented in detail in the Pre-filed Direct Testimony of Mr. James D. Simpson, which is contained in Volume 3 of Grid's initial filing.

**Q. With regard to the first main component of Grid's initial filing in this Docket, what price increase is Grid seeking?**

A. Grid's profit from gas distribution is expressed as "Return on Equity," or "ROE." In this Docket, Grid is seeking a gas-distribution rate increase from 4.5% of ROE to 9.23% of ROE.

**Q. Does Grid present reasons why it believes that its requested gas-distribution rate increase should be approved by the PUC?**

A. Yes. In its Pre-filed Testimony, Grid presents reasons why it believes that the PUC should grant its (Grid's) requested rate increase.

**Q. Do you have a position as to whether or not the PUC should approve Grid's requested gas-distribution rate increase?**

A. No. Neither I nor CLF has any position on whether or not the PUC should approve Grid's requested gas-distribution rate increase.

**Q. Is there any necessary connection between the two parts of Grid's initial filing in this Docket, that is, between Grid's requested gas-distribution rate increase and decoupling?**

A. No, there is no inherent connection between Grid's requested gas-distribution rate increase and decoupling, although in the future the question of whether decoupling has been implemented or not and how it has been implemented may be relevant to determination of appropriate ROE and therefore gas-distribution rates.

**Q. Can you explain more fully what you mean by the assertion that "there is no inherent connection between Grid's requested gas-distribution rate increase and decoupling"?**

A. Yes.

As I said earlier, Grid's profit from gas distribution is expressed as Return on Equity, or ROE. One can have decoupling and give Grid a gas-distribution rate decrease. This could be done very simply by reducing Grid's ROE to 1% or 2% or 3%. In fact, one could have decoupling together with a gas-distribution rate decrease by reducing Grid's ROE to anything less than the current 4.5%, such as reducing Grid's ROE to, say, 1.75% or 3.33% or 4.2%.

In the alternative, one can have decoupling and not change Grid's ROE at all, but instead leave the ROE at 4.5%.

Or one can have decoupling and give Grid a gas-distribution rate increase. Hypothetically, the PUC could grant Grid its requested gas-distribution rate increase by setting Grid's ROE at 9.27%. However, there is nothing magical about that number. The PUC could grant Grid a different gas-distribution rate increase simply by increasing ROE to any number above the current level of 4.5%. By way of illustration only, Grid would receive a gas-distribution rate increase if the PUC were to set ROE at, say, 5.0%, or at 6.25% or even at 85.00%.

In short, decoupling does not directly affect Grid's gas-distribution rates. The PUC can approve decoupling while simultaneously keeping gas-distribution rates exactly where they are now (ROE = 4.5%) or the PUC can approve decoupling while simultaneously increasing gas-distribution rates (by setting ROE at any number higher than 4.5%) or the

PUC can approve decoupling while simultaneously decreasing gas-distribution rates (by setting ROE at any number lower than 4.5%).

In other words, there is an infinite variety of gas-distribution rates -- higher than now, lower than now, or the same as now -- that are completely and entirely compatible with decoupling.

**Q. Is there also an infinite variety of gas-distribution rates that are completely compatible with not decoupling?**

A. Absolutely.

The PUC can decide not to decouple while simultaneously keeping gas-distribution rates exactly where they are now (ROE = 4.5%). Or the PUC could decide not to decouple while simultaneously increasing gas-distribution rates (by setting ROE at any number higher than 4.5%). Or the PUC could decide not to decouple while simultaneously decreasing gas-distribution rates (by setting ROE at any number lower than 4.5%).

In other words, there is an infinite variety of gas-distribution rates -- higher than now, lower than now, or the same as now -- that are completely and entirely compatible with not decoupling.

**Q. Can you explain more fully what you mean by the assertion that "the question of whether decoupling has been implemented or not and how it has been implemented**

**may be relevant to determination of appropriate ROE and therefore gas-distribution rates"?**

A. Yes.

Historically, ROE of a regulated utility reflected to some degree a premium to compensate the utility for the risk that in any given year consumption of the commodity the utility provided might decline and that its revenue would decline accordingly. This "risk premium" was sometimes counterbalanced by a possibility that demand could exceed expectations and the utility would receive unanticipated revenue. The degree to which regulated ROE of a utility reflected such a risk premium varies widely from state to state and from utility to utility. It is also just one of many factors considered in calculation of ROE -- although my review of the regulatory literature indicates that states that have adopted decoupling mechanisms (California and Maryland most notably) have modified the ROE of regulated utilities due to changes in the risk profile of utilities in a decoupled environment.

The fundamental lesson that I take from these experiences is that after decoupling has been implemented it would appropriate to look back at the change in the risk profile of the utility and determine, based on facts and experience, whether a change in ROE would be appropriate. I would note that the change in ROE proposed by Grid is not premised on any change in risk profile but is justified by completely different factors enumerated at length in Grid's submissions.

## III. Decoupling Explained

**Q. Before discussing Grid's specific proposal for decoupling contained in this Docket, can you explain in more general terms what decoupling is?**

A. Yes.

Decoupling is closely related to issues of efficient, and reduced, consumption of the regulated commodity and the role of the utility as a provider of efficiency services as well as its traditional role as a provider of reliable service.

Traditional utility regulation creates a disincentive for utilities to promote energy efficiency and conservation or to support policies that advance efficiency and conservation because any reduction in sales will cause a reduction in revenue and profits for the utility. This is true because traditional utility ratemaking couples a utility's revenues, and ability to capture authorized rate of return, with the volume of its sales, providing a strong incentive to sell more of the regulated commodity (whether it be gas or electricity). This volumetric method of compensation means that any affirmative effort to provide an incentive for the utility to provide energy efficiency and conservation services to customers (lowering the customers' bills and thus the customers' environmental impact) also results in a reduction in the core revenue received by the utility as the total volume of regulated commodity sold declines. Thus, volumetric compensation of the utility (the current and historic model that decoupling would replace) creates an inherent tension within the business model, economics and culture of the utility

that always threatens to undermine efforts to cast the utility in the role of efficiency and conservation service provider to customers.

Decoupling eliminates this problem by aligning the utility's pecuniary interest with the public interest in fostering efficiency and conservation, an interest that rests on both an environmental pillar (because reduced use of energy commodities means lower need to extract resources from the earth and reduced emissions from fuel combustion) and a pure consumer-protection foundation (because reduced use translates into reduced bills and reduced customer cost).

Under a full decoupling mechanism regulators determine in advance a utility's fixed costs, and set rates to produce revenue to cover those costs, and to cover a rate of profit approved in advance by the regulators. Should efficiency increases lead to reduced commodity sales, thereby reducing revenue, a periodic "true-up" ensures that utilities will recover fixed costs (plus profit) regardless of -- that is, decoupled from -- sales volume. Conversely, if the true-up shows an amount in excess of fixed costs paid by ratepayers, then the ratepayers receive a rebate or credit. The result is removal of a key disincentive to the utility providing efficiency and conservation services to its customers.

**Q. So, does decoupling equal energy efficiency?**

A. No. Implementing decoupling is not the same as achieving increased energy efficiency or conservation -- or even putting in place a positive incentive for the utility to take on the role of achieving such efficiency and conservation. Decoupling simply

removes a perverse disincentive to the utility, a disincentive that acts as a brake on the utility taking on that role. As I indicated above, without decoupling, utilities such as Grid are given an actual disincentive to fostering efficiency and conservation which would reduce demand. While decoupling removes a key obstacle to achieving greater energy efficiency and conservation, decoupling should also be accompanied by active efforts to provide the utility with incentives for fostering efficiency and conservation. In fact, laudable efforts to increase the provision of efficiency and conservation will be undermined by continued use of volumetric compensation for utilities.

In short, providing the utility with a mandate and incentive to provide efficiency and conservation without decoupling is like accelerating a car with one foot while applying the brakes with the other.

**Q. Does this have any specific application to Rhode Island that the PUC should be aware of?**

A. Yes. In 2006, the Rhode Island General Assembly passed the Comprehensive Energy Conservation and Affordability Act of 2006 (the "Comprehensive Energy Statute"). The Comprehensive Energy Statute expressly announced that Rhode Island public policy is to achieve all cost-effective energy conservation and energy efficiency. As described above, decoupling is an important step in achieving that public policy: decoupling removes a major disincentive that structurally pushes the utility, a major player in the statutory and administrative scheme put in place by the Comprehensive Energy Statute,

away from fully and completely playing the role of conservation and efficiency provider to its customers.

**Q. Are there any additional or further aspects of decoupling that have specific application to Rhode Island and Rhode Island public policy that the PUC should be aware of?**

A. Yes. In 2006, the General Assembly created the Energy Efficiency Resources and Management Council (EERMC) as Part of the Comprehensive Energy Statute. See R. I. Gen. Laws § 42-140.1-1, et seq. In creating the EERMC, the General Assembly expressly found that "Energy conservation and energy efficiency have enormous, untapped potential for controlling energy costs and mitigating the effects of the energy crisis for Rhode Island residents and the Rhode Island economy."

On February 29, 2008, pursuant to the Comprehensive Energy Statute, the EERMC submitted to the PUC a set of proposed "Standards for Energy Efficiency and Conservation Procedures and System Reliability." In response to that submission, the PUC opened Docket 3931.

The main thrust of Docket 3931 was examining ways and means of achieving energy efficiency and energy conservation. Decoupling is closely related to achieving energy efficiency and conservation, because decoupling removes a major pecuniary disincentive to the utility to achieving efficiency and conservation.

In short, decoupling is closely related to what the General Assembly has declared to be the public policy of Rhode Island.

## IV. Decoupling and Public Policy

**Q. Why is decoupling good public policy?**

A. In general, decoupling provides benefits to both utilities and consumers. It assures that utilities can collect reasonable costs from rates while providing consumers with a reliable and safe distribution system that maximizes the use of the lowest cost and least polluting resource -- efficiency and demand resources. It does this simply and effectively by removing the link between the volume of sales and revenue. CLF and I support PUC approval of the decoupling portion of this Docket as the most expeditious and efficient route to eliminating the financial disincentives that prevent the maximization of energy efficiency and demand resources. Decoupling is especially desirable in Rhode Island at this specific time because it is being implemented in tandem with, and as an aid to, other programs designed to increase efficiency and conservation.

Decoupling is an absolutely necessary -- but thus far missing -- part of the overall energy puzzle as Rhode Island moves toward greater energy efficiency as an important part of reducing its overall greenhouse gas emissions.

**Q. Are there particular aspects of Grid's decoupling plan in this Docket that you wish to discuss in greater detail?**

A. Yes. The decoupling mechanism which Grid has proposed in this Docket, as reflected in Mr. Simpson's Pre-filed Testimony, does two things simultaneously. First, and most obviously, it separates, or decouples the utility's profit from the quantity of the commodity -- gas -- which the utility sells and which rate-payers consume. This is, by definition, decoupling. Second, Grid's proposed decoupling mechanism simultaneously leaves in place the pecuniary incentive for individual rate-payers to use less energy.

Thus, two things -- both of which are desirable -- are being done simultaneously. First, the incentive to the utility to sell more gas is eliminated. Second, the incentive to individual consumers -- rate-payers -- to conserve and to use less gas (and use what gas they do use in the most efficient manner possible) is preserved.

In fact, the pecuniary incentive to individual rate-payers to conserve is being preserved in two separate places -- on the commodity component of the consumer's bill and on the distribution component of the consumer's bill.

On the commodity component of the rate-payer's bill, the utility pass-through (without any profit) of the commodity cost remains unchanged. This commodity charge represents approximately 70% of the typical rate-payer's monthly gas bill. With current record-setting commodity prices, this factor alone creates a powerful incentive to consumers to conserve. It is, in fact, at least in the short to medium term, a factor likely to increase in strength as natural gas prices rise to re-correlate with oil prices. This price trend will only heighten the need and desire for customers to receive the maximum amount of efficiency and conservation services.

On the distribution component of the rate-payer's bill, decoupling preserves the incentive to rate-payers to consume less energy because, even after decoupling, a consumer who uses less gas will pay a lower monthly distribution charge. Conversely, a consumer who uses more gas will pay a higher distribution charge.

This is good public policy. The incentive for Grid to sell more gas is removed, while simultaneously the incentive to rate-payers to conserve, use energy commodities like gas efficiently, and to consume less is preserved.

**Q. Isn't Grid's proposal for decoupling bad for consumers because the proposal, in effect, guarantees profits for the utility?**

A. No. While it is true that decoupling does allow for periodic true-ups in which the utility can seek to recover a certain ROE approved by the PUC even in a circumstance in which energy efficiency and conservation programs have worked well and accomplished their goals, it is the ROE -- not decoupling -- that sets the level of Grid's profit.

To put the same point another way, under decoupling Grid can only recover an ROE which has been carefully considered and approved in advance by the PUC. The best and most appropriate way to regulate the utility's profits is to adjust ROE upward or downward to reflect public policy. But, as I explain above, adjusting the utility's ROE upward or downward to reflect public policy can be done just as well and just as effectively with decoupling as without it. The risk profile of the utility might well change

as a consequence of decoupling, and the risk profile of the utility is one of many factors the regulator will look to in setting the ROE of the utility.

**Q. But what about poor people who find it difficult or impossible to pay even current utility bills, let alone utility bills which reflect future rate increases?**

A. The possibility and advisability of adjusting utility rates for poor people is a matter of public policy. Grid's submission in this Docket proposes that low-income consumers who are eligible for LIHEAP assistance would also receive a so-called "low income distribution rate" 10% lower than the regular distribution rate.

Whether or not a separate, discounted low-income distribution rate is a good idea -- and, if so, at what level it should be implemented -- are matters of public policy for the PUC decide. The important point here is that a separate, discounted low-income distribution rate (if that is deemed to be a good idea) is perfectly compatible with decoupling. To the extent that the PUC wishes to address the problems of low-income consumers, it can do so by providing them a separate, discounted rate. If the PUC is more concerned about the ability of poor people to pay their utility bills, the PUC can elect to put into effect a more steeply discounted rate or apply the discounted rate to a larger class of consumers. If the PUC is less concerned about the ability of poor people to pay their utility bills, the PUC can elect to put into effect a more modest discount, or apply the discount to a smaller class of consumers.

The crucial thing to keep in mind here is that we should use the correct tool to address each separate problem or issue. The problem of low-income rate payers is properly addressed by a discounted low-income distribution rate. The problem of achieving energy efficiency and conservation is related to decoupling. Low-income people will not be hurt by implementing decoupling; and discounted distribution rates are fully consistent with and compatible with decoupling.

It is also true that low-income households can benefit greatly from the provision of efficiency and conservation services as a reduction in energy bills is likely to be of great value to households with limited income. Because decoupling removes a disincentive from the utility providing such services and is a foundational element in a comprehensive scheme for providing such services, decoupling is likely to be of significant value to low income households.

**Q. Does this complete your direct testimony?**

A. Yes.

## CERTIFICATE OF SERVICE

I hereby certify that, pursuant to PUC Rule of Practice and Procedure 1.7(a), an original and nine copies of the within Testimony were hand-delivered to Luly Massaro, Commission Clerk, Public Utilities Commission, 99 Jefferson Blvd., Warwick, RI 02888. In addition, a hard copy was hand delivered to Mr. Thomas F. Ahearn, Administrator, Division of Public Utilities, 99 Jefferson Blvd., Warwick, RI 02888. In addition, hard copies of the within Motion were sent by first-class mail, postage prepaid to each of:

| |
|---|
| Thomas R. Teehan, Esq.<br>National Grid.<br>280 Melrose St.<br>Providence, RI 02907 |
| Cheryl M. Kimball, Esq.<br>Keegan Werlin LLP<br>265 Franklin Street<br>Boston, MA 02110 |
| Paul Roberti, Esq.<br>Dept. of Attorney General<br>150 South Main St.<br>Providence, RI 02903 |

In addition, electronic copies were transmitted to all of the persons on the PUC's updated service list for this Docket, as transmitted by the PUC Clerk on July 9, 2008. I hereby certify that all of the foregoing was done on the 11th day of July 2008.

# Exhibit A

# Prime Time for Efficiency

## New England shows the benefits of demand resources in forward capacity markets.

By Sandra Levine, Doug Hurley and Seth Kaplan

New England is leading the way toward a future that is both cleaner and provides greater electric reliability at reduced cost. New England Independent System Operator (ISO-NE) has created an innovative mechanism that addresses concerns about ensuring adequate energy capacity by allowing the cleanest and lowest-cost resources to be used to meet the nation's power needs.

As the saying goes, the cheapest kilowatt is the one that isn't used. The challenge always has been how to create the business and regulatory structures to allow reduced and managed energy use to be as financially rewarding as building another power plant. By including demand resources in the forward capacity market (FCM) in 2007, New England is making this happen in ways that are easily transferable to other regions of the country.

### Green New England

Throughout the 1980s, New England states created programs allowing utilities to use demand-side management (DSM), demand response and energy efficiency to better manage electricity usage and costs. Rapidly rising fuel and electricity costs, coupled with rising electricity demand, placed consumers and the environment at risk. Programs used ratepayer dollars, usually collected through a systems benefit charge (SBC), to invest in energy-efficiency programs that improved lighting, cooling and industrial operations, while saving electricity. As a result, utilities and consumers saved money and reduced pollution by avoiding additional electricity generation to meet demand.

For example, Massachusetts ratepayers invested $371 million in energy efficiency from 2003 to 2005, which avoided nearly 3,000 GWh of energy, prevented emissions (9 million tons of carbon dioxide, 4,300 tons of nitrogen oxides, and 16,000 tons of sulfur dioxide) and ultimately saved consumers about $1.2 billion.[1] With these programs, new demand-side businesses created real efficiencies, and effective measurement and verification systems were developed to reliably account for the savings produced. Both of these are key building blocks to the future success and acceptance of demand resources.

### From LICAP to FCM

As the New England economy grew throughout the 1990s, increased pressure was placed on the region's power supply—a supply that by the early 2000s was dominated by merchant generation that either had been divested by utilities or had been newly built by independent power developers.

Conflicts erupted everywhere. First, there were pressures to close down old coal and oil plants that did not meet new pollution standards, or at least force installation of modern pollution-control equipment. Upward spikes in natural gas prices undermined the economics of gas-fired generation, in some cases causing owners to write off newly built power plants, by simply turning over the keys to a lender. All the while, peak electricity demand was rising. Concerns over lack of capacity needed to meet this demand collided with economic and business realities when a number of older and less efficient plants filed requests to retire with the ISO-NE. The conclusion that »

these plants still were needed to maintain system reliability led to a number of reliability-must-run (RMR) contracts—FERC-approved contracts that pay a considerable premium to keep a facility available for operation.

Each retirement application led to a hotly contested FERC proceeding, resulting in a non-market RMR agreement, contracts that both FERC and ISO-NE believed undermined the wholesale market but were needed as a temporary backstop. Eventually, in a key RMR proceeding, FERC mandated creating a more systematic approach of paying for capacity to avoid this *ad-hoc* and non-market approach.

The FERC mandate resulted in a process that produced a mechanism for making locational installed capacity (LICAP) payments to generators. As with RMR contracts, the LICAP requirements would result in paying a premium to generation facilities to stay in operation—however the payments would be made to all generators, not just those that had applied to retire, creating a general incentive with a locational premium to develop capacity on the New England wholesale electric system. The cost of LICAP for consumers was estimated at roughly $12 billion. This proved a tough pill for regulators, consumers and some utilities. Lengthy and painful legal and political challenges to LICAP followed.

As FERC considered an administrative law judge report advising approval of a highly contested settlement implementing LICAP, Congress included a section in the Energy Policy Act of 2005 (EPAct 2005) directing FERC to reconsider the LICAP requirements. FERC subsequently entertained presentations and testimony on LICAP and its alternatives, eventually convening marathon and arduous settlement negotiations.

> After this first auction, more than 5 percent of New England's peak load will be met with demand resources. This could grow to 15 percent.

The challenge, as it has been since the beginning, is how to keep the lights on while continuing to provide New England with affordable power. A break in what seemed like never-ending gridlock came with a proposal to put in place a new FCM that would replace LICAP as a vehicle for inducing the creation and retention of capacity resources. A noteworthy provision of this settlement is that for the first time, energy efficiency and other demand resources would be allowed to compete with generation to meet reliability needs, provisions championed by key state regulators, major utilities and the representatives of efficiency providers like the Conservation Services Group. Recognizing that demand resources had the potential to provide cleaner and lower-cost alternatives to new and existing generation, groups representing consumer interests and most of the region's regulators supported this compromise.[2]

**FIG. 1 TOTAL NEW AND EXISTING SUPPLY- AND DEMAND-SIDE RESOURCES BY STATE**

(IN MEGAWATTS)

Source: ISO-NE

| | New Supply-Side Resources | New Demand-Side Resources | Existing Supply-Side Resources | Existing Demand-Side Resources |
|---|---|---|---|---|
| Connecticut | 354 | 238 | 6,835 | 610 |
| Maine | – | 170 | 3,244 | 103 |
| Massachusetts | 190 | 567 | 12,777 | 481 |
| New Hampshire | 10 | 64 | 4,083 | 54 |
| Rhode Island | 21 | 78 | 2,401 | 87 |
| Vermont | 50 | 71 | 900 | 30 |
| Imports | – | – | 934 | – |
| **Total** | **626** | **1,188** | **31,373** | **1,366** |

### Competitive Conservation

Key provisions in the LICAP settlement provided a level playing field for demand resources. This offered an opportunity to lower capacity costs and to reduce pollution. Instead of meeting capacity and reliability needs by simply paying generators additional money, there was to be an auction for all capacity, and demand resources were to be eligible to compete and participate in the auction.

First, under the settlement, the LICAP requirements were replaced with an FCM. This is a locational market where all capacity needs and prices are determined by auction. Resources that could meet power needs are bid into the auction. The bids determine the price for capacity in the region. Second, the settlement provided that demand resources explicitly were included as eligible to meet capacity needs. Recognizing the different qualities and specific value of demand resources, the settlement required that a distinct method be developed to allow demand resources to be fully integrated as qualified capacity in the FCM.[3]

These provisions allowed demand resources to be treated as comparable to generation. Where reliability and capacity needs responsibly could be met by reducing demand, those resources were eligible for capacity payments the same as were generation.

New England already had a successful experience with demand resources providing needed reliability. In the early years of this decade, Southwest Connecticut experienced significant capacity constraints. When ISO-NE issued a gap RFP for resources to address that constraint, significant demand resources »

## DR in New England's 2nd Forward Capacity Auction

- 282 Show of Interest (SOI) Forms Received
- 260 projects paid Qualification Deposit on or before Dec. 18, 2007
  - 167 Carry-Over Projects, which also participated in FCA-1
  - 53 Expansion Projects totaling over 536 MW
  - 40 New Projects totaling 319 MW
- 22 projects rejected for non-payment of Qualification Deposit by Dec. 18, 2007

Source: ISO-NE

successfully were bid, and 92 MW of energy efficiency and load reduction were used to meet the overall 250 MW of awarded contracts. The intervening years have shown that demand resources are capable of competing with generation to meet reliability needs.

Although the LICAP settlement created the opportunity for demand resources to compete in the market, the devil was still in the details. A year-long working group process shaped the rules for the demand-side aspects of the FCM. Effective rules were needed to ensure adequate resources would be available and eligible to compete in the new market. Reliable measurement and verification (M&V) was needed for all demand resources. Responsible operation of a power grid requires being able to confidently account for, and call upon, all the resources being used. For demand resources, the extensive M&V rules that had already been developed and were being used for the various DSM and efficiency programs in the region provided a firm foundation. The M&V provisions for demand resources in the FCM rules relied extensively on the experience and infrastructure created for the region's efficiency programs. These existing M&V procedures gave ISO-NE confidence that actual demand resources would fulfill commitments made through the auction process.

### Demand Futures

The first auction for the FCM is now complete, and the market experienced a very robust response from demand resources. In rough terms, nearly half of the new resources that qualified to bid were demand resources. This is remarkable for the first auction. It shows that existing programs and efficiency are barely the tip of the iceberg.

The final auction results as reported by ISO-NE are even more remarkable (*see Figure 1*).[4] New demand resources outperformed new supply by a nearly 2:1 ratio. For every 1 MW of new generation, there will be 2 MW of new demand resources. The auction also shows a near doubling of the existing demand resources to meet future needs.

In terms of cost, the auction opened at $15 per kilowatt-month and systematically decreased through each round. In the eighth and final round of the auction, the price reached the predetermined floor of $4.50/kW-month with 2,000 MW of excess resources remaining.[5] These results show the potential for demand resources to be used much more widely to meet the region's reliability and capacity needs.

After this first auction, more than 5 percent of the region's peak load will be met with demand resources. Over a seven- to ten-year period, this could grow to 10 percent or even 15 percent of the region's reliability requirement.

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Additionally, all owners of new resources that intend to participate in the second auction have submitted the required show of interest forms to the ISO, representing more than 800 MW of new demand resources. This amount is above and beyond those resources that were bid into the first auction. Now that ISO-NE has offered the opportunity to participate in the capacity auction, demand-resource providers are responding in great numbers (*see sidebar, "DR in New England's 2nd Forward Capacity Auction*).[6]

This early experience suggests the New England FCM is a successful model. FERC Commissioner Jon Wellinghoff said the FCM's provisions for integrating demand resources were "as advanced as any market in the country."[7]

After the third FCM auction in mid-2009, the floor and ceiling prices set by the original settlement will disappear. The clearing price from the first auction suggests prices might stabilize at a level that is more competitive for inexpensive demand resources than fossil-fuel-fired generation. Additionally, consistent with FERC's recent NOPR on Wholesale Competition in Regions with Organized Markets (*Docket Nos. RM07-19-000 and AD07-7-000*), the New England markets have an opportunity to incorporate demand resources into ancillary services markets like those for forward reserves and the energy markets. Much work will be needed to figure out how to accomplish this integration.

### Repeating Success

Ultimately, the greatest value of this work in New England is in the creation of a replicable precedent that can be applied across the nation. An obvious place this replication can play out is in California, which has the same architecture of well-developed demand-side management, demand-response and »

energy-efficiency programs—creating a reservoir of demand resources that could be purchased in capacity, ancillary services and energy markets. The California ISO has the ability, working with stakeholders and the state government, to use the same legal and regulatory tools the New England ISO has employed to create a new market, a new revenue stream and incentive for demand resources.

The FCM provides an effective gateway for demand resources to participate in other markets as well. For example, PJM is in the process of working out the details of how energy efficiency will participate in its capacity construct, the reliability pricing model (RPM), to comply with a FERC order issued on December 22, 2006.[8] Since its first auction in April 2007, RPM has included demand-response resources, which have long been participating in PJM's existing capacity, energy and ancillary services markets. In fact, 127.6 MW of demand response cleared in that first auction. But these market designs have not yet included other demand resources such as energy efficiency. PJM plans to include energy-efficiency resources in both its incremental and base residual auctions starting in January 2009.

Additionally, in the Midwest Independent Transmission System Operator (MISO) region, demand resources are considered in the transmission-expansion planning process, and MISO says the forthcoming ancillary service market will provide a platform for demand response to participate. Other demand resources, such as energy efficiency or behind-the-meter generation, are not specifically incorporated. They are considered in retail load planning but aren't treated as a biddable resource in the MISO market.

Like demand response, many energy efficiency resources provide reliable capacity at costs lower than new generation, and markets that include these resources will become more efficient. Many details still must be ironed out through the stakeholder process, but already in its nascent stages, the FCM has shown that demand resources can, and will, compete with generation—and that a significant amount of those resources will enter service if the markets provide a fair price signal.

If the cheapest kilowatt is the one that isn't used, then those unused kilowatts deserve a chance to compete in organized markets, as they do in New England. The challenge is to ensure the nation's energy future includes meaningful and robust opportunities that increase reliance on demand resources—and allow ratepayers and society to capture the real value of efficiency and conservation.

*Sandra Levine is a senior attorney with the Conservation Law Foundation.*

*Doug Hurley is an associate with Synapse Energy Economics Inc., and Seth Kaplan is vice president for climate advocacy at the Conservation Law Foundation.*

## Endnotes

1. *Massachusetts Saving Electricity: A Summary of the Performance of Electric Efficiency Programs Funded by Ratepayers Between 2003 and 2005*, Massachusetts Division of Energy Resources, Apr. 2007, available at www.mass.gov/Eoca/docs/doer/pub_info/ee03-05.pdf.
2. *Maine Public Utilities Commission v. FERC*, No. 06-1403 (D.C. Cir. 2008): On March 28, 2008, the D.C. Circuit, deciding an appeal of a settlement brought by the Maine PUC, the Attorneys General of Massachusetts and Connecticut and a group of industrial customers, affirmed the substance of the settlement and the FERC decision approving it. The Court did, however, find for petitioners on the procedural question of what standard of review applied to decisions implementing the settlement, refusing to apply the "*Mobile-Sierra*" standard to challenges brought by non-settling parties.
3. *Devon Power, LLC*, 115 FERC ¶61,340 (2006) Settlement Agreement at 14, §11.II.E.2.b.
4. *Wholesale Marketplace Helping to Achieve Long-term Power System Reliability Goals*, ISO-NE report on FCM results, available at www.iso-ne.com/nwsiss/pr/2008/press_release_fcm_auction_results_02_13_08.pdf
5. Id.
6. "Demand Resource Show of Interest (SOI) for the 2nd Forward Capacity Auction (FCA#2) ISO-NE," Demand Resources Working Group, Jan. 21, 2008, available at www.iso-ne.com/committees/comm_wkgrps/mrkts_comm/dr_wkgrp/mtrls/2008/jan252008/index.html.
7. Commissioner Jon Wellinghoff, Presentation, Northeast Power Markets Forum, March 29, 2007, Washington, D.C.
8. *PJM Interconnection, L.L.C.*, 117 FERC ¶61,331 (2006), December 22 order; and June 25 order on rehearing, 119 FERC ¶ 61,318.