



ISO New England

2003 Demand Response Programs

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Mega Savings On Megawatts

Save On Electricity Costs Through ISO New England's Demand Response Programs

Commercial and industrial electricity users in New England can receive incentive payments if they reduce their electricity consumption or operate generation in response to high real-time wholesale electricity prices or when the reliability of the region's electricity grid is stressed.

To date, approximately 200 electricity users, or *customers*, throughout New England have participated in ISO New England's Demand Response Programs, contributing over 200 megawatts (MW) of load reduction. In 2002, participating customers received in excess of \$3.3 million in incentive payments and other services.

Participating customers include steel foundries, chemical plants, manufacturing facilities, cement factories, paper mills, food processing facilities (including dairy and beverage), scientific laboratories, supermarkets, apartment buildings and office complexes.

Customers can contribute demand reduction in a variety of ways:

- Turning off non-essential lights and office equipment
- Adjusting HVAC, refrigeration and water heater temperatures
- Delaying or reducing manufacturing processes
- Operating on-site generators
- Using an energy management system (EMS)

The majority of participating customers reported no adverse impacts on their business (decrease in revenues) as a result of participating in the program.

There are some associated costs. Most customers will be required to have advanced metering installed and, depending on the program, some customers may be required to install an Internet-Based Communication System (IBCS). However, most customers find that their load reduction payments, coupled with the value of having information on their hourly electricity consumption accessible through the Internet, outweigh the costs. What's more, some customers may qualify for financial incentives to pay for the installation of advanced metering and IBCS technologies.

In addition to the immediate financial rewards, customers who participate in demand response programs can achieve long-term benefits. Customers who understand their hourly energy profile and can manage their consumption in response to wholesale prices or reliability events can become more attractive and valued customers to competitive electricity suppliers. And that may translate into the customer negotiating a lower retail electricity price. Plus, the hourly usage information and software systems available to participating customers can be used to help manage energy consumption and demands every day of the year, helping to improve the customer's energy efficiency.

Demand response participants provide an important resource for New England. They help ensure the power grid's reliability, reduce wholesale price volatility that drives up the cost of power for everyone, and reduce air pollution by enabling older, less efficient power plants to run less often.

ISO New England offers four different programs, giving customers the flexibility to choose the program that best fits their individual needs.

Real Time Demand Response

The Real Time Demand Response Program is designed for customers who can make a commitment to reduce electricity demand within either 30-minutes or 2-hours advance notice. By making a commitment, customers will receive a guaranteed minimum payment of \$0.50 per kilowatt hour (kWh) in the 30-minute program and \$0.35 per kWh in the 2-hour program¹. Payments may be higher (up to a maximum of \$1.00 per kWh) based on the actual hourly wholesale prices.

In addition, customers may receive additional credit for Installed Capacity (ICAP) and reserve margin.

Case Study – Real Time Demand Response

A large manufacturing facility is able to reduce its load by 3 MW by starting up an on-site generator within 30 minutes notice from ISO New England’s control room. On one particularly hot day in July, electricity demand becomes extremely high. Seeing energy supplies run low, the control room asks customers in the Real Time Demand Response program for 4 hours of demand reduction. The following payment results:

Hour	Wholesale Price (\$/kWh)	Guaranteed Minimum (\$/kWh)	Payment (\$/kWh)	Load Reduction (kW)	Payment
13	\$ 0.1500	\$ 0.5000	\$ 0.5000	3,000	\$ 1,500.00
14	\$ 0.3800	\$ 0.5000	\$ 0.5000	3,000	\$ 1,500.00
15	\$ 0.6100	\$ 0.5000	\$ 0.6100	3,000	\$ 1,830.00
16	\$ 0.3425	\$ 0.5000	\$ 0.5000	3,000	\$ 1,500.00
Total					\$ 6,330.00

In this case, even though the wholesale price of electricity is less than \$0.50 per kWh, in some hours the manufacturer received the guaranteed minimum payment.

The manufacturer will also receive Installed Capacity (ICAP) credit that can be either used to reduce their retail obligation or sold in the wholesale capacity market. The ICAP credit will be calculated based on the company’s actual reduction, times one, plus the system reserve margin (typically 15% to 20%).

¹ Guaranteed prices subject to Federal Energy Regulatory Commission (FERC) approval. These prices are currently set at \$0.15/kWh for the 30-minute option and \$0.10/kWh for the 2-hour option.

Real Time Profiled Response

The Real Time Profile Response program is designed for *groups* of customers aggregated by Enrolling Participants (see definition on page 7) who can reduce their loads within 30-minutes notice from ISO New England. This program is intended for:

- Businesses with similar facilities in multiple locations such as retail stores, office buildings, etc.
- Companies installing direct load control technologies in residential homes or commercial buildings (i.e., super-thermostat programs, water heater and pool pump controls, etc.)
- Distributed generation installed in multiple locations

An Enrolling Participant aggregating a minimum of 1 MW of load reduction for this program is required to provide a statistical response factor for the group. For example, an aggregated 10 MW demand resource having a 50 percent response rate would be credited for 5 MW of response.

Case Study – Real Time Profile Response

An energy services company installs 2,000 direct load control devices on the central air conditioner compressors of small commercial customers (i.e., convenience stores, small offices, etc.). By installing metering on a statistical valid sample of customers, the energy services company can calculate the average load reduction per hour of its entire customer base.

Within 30 minutes of receiving notification from the ISO New England control room, the energy services company remotely controls the air conditioner units. A small proportion of customers manually override the remote control during the 4-hour period. An analysis is conducted to determine the group’s performance using a combination of actual metered and statistical data.

The energy services company receives the following payment:

<i>Hour</i>	<i>Wholesale Price (\$/kWh)</i>	<i>Guaranteed Minimum (\$/kWh)</i>	<i>Payment (\$/kWh)</i>	<i>Load Reduction (kW)</i>	<i>Payment</i>
13	\$ 0.1500	\$ 0.1000	\$ 0.1500	7,436	\$ 1,115.40
14	\$ 0.3800	\$ 0.1000	\$ 0.3800	5,684	\$ 2,159.92
15	\$ 0.6100	\$ 0.1000	\$ 0.6100	4,426	\$ 2,699.86
16	\$ 0.3425	\$ 0.1000	\$ 0.3425	3,370	\$ 1,154.23
Total					\$ 7,129.41

In addition, the energy services company can receive Installed Capacity (ICAP) credit.

Real Time Price Response

The Real Time Price Response Program is designed for customers who can reduce electricity demand when wholesale prices are projected to be greater than \$0.10 per kWh. This is a voluntary program. Customers are not required but can choose to reduce demand on a case-by-case basis. These customers are paid the actual hourly wholesale prices (up to a maximum of \$1.00 per kWh) with a guaranteed minimum price of \$0.10 per kWh. Customers in this program *do not* qualify for Installed Capacity (ICAP) credit.

Most customers pay about \$0.05 per kWh for retail electricity supply; however, wholesale electricity prices can reach as high as \$1.00 per kWh during peak demand periods. For example, in the summer of 2002 wholesale electricity prices exceeded \$0.10 per kWh for over 40 hours on 12 different days. Each hour over \$0.10 per kWh represents an opportunity for customers to reduce their consumption and receive incentive payments.

Case Study – Real Time Price Response

A university is able to use its energy management system (EMS) to control lighting loads and increase the set-point temperature of its HVAC system. The facilities manager cannot guarantee the same level of response each time or each hour of the day and elects to participate in the Real Time Price Response Program. He checks ISO New England Web site periodically and can anticipate when the wholesale price will exceed \$0.10 per kWh. When he receives an e-mail from ISO New England informing him that price response is in effect for that day, he programs his EMS to start shedding load.

The university reduces load for 4 hours and receives the following payment:

<i>Hour</i>	<i>Wholesale Price (\$/kWh)</i>	<i>Guaranteed Minimum (\$/kWh)</i>	<i>Payment (\$/kWh)</i>	<i>Load Reduction (kW)</i>	<i>Payment</i>
13	\$ 0.1500	\$ 0.1000	\$ 0.1500	3,000	\$ 450.00
14	\$ 0.3800	\$ 0.1000	\$ 0.3800	2,700	\$ 1,026.00
15	\$ 0.6100	\$ 0.1000	\$ 0.6100	2,500	\$ 1,525.00
16	\$ 0.3425	\$ 0.1000	\$ 0.3425	2,100	\$ 719.25
Total					\$ 3,720.25

By participating in price response on multiple days, the facilities manager is able to help reduce the university's overall energy costs.

An added benefit is on-line access to the university's hourly load data. By analyzing the data, the facilities manager has identified ways to further reduce the university's demand and energy charges.

Day Ahead Demand Response

The Day Ahead Demand Response Program is designed for customers who can offer load reductions in the day-ahead wholesale market. This program is intended for customers who understand the day-ahead market and are able to competitively price their load reduction to be selected and scheduled a day in advance.

The advantage of this program is that it provides the customer greater control over their load reduction. The customer will know a day in advance of when their load reduction will be scheduled and for how long. Most importantly, the customer sets the price at which they are willing to reduce load! The customer's load reduction offer is accepted when the day-ahead market price is equal to or higher than the price offered by the customer. If the customer's offer is accepted, they are paid the day-ahead market clearing price.

The disadvantage is a customer's load may not be selected in the day-ahead market if their bid price is too high (in which case the customer can participate in the Real Time Price Response Program if prices are projected to be higher than \$0.10/kWh). If the customer fails to deliver the promised level of load reduction, they will need to make up the difference by purchasing energy for the load that was not reduced at the spot market price. The spot market price may be higher or lower than the day-ahead market clearing price.

Case Study – Day Ahead Demand Response

A manufacturing facility can reduce 2 MW of load; however, it needs more than 2-hours notice. The energy manager decides to participate in the Day Ahead Demand Response Program. She submits an offer to reduce 2 MW of load at a price of \$0.50 per kWh for the next day. The day-ahead market clearing price is \$0.60 per kWh, so her bid is accepted in the day-ahead market, locking in the price. The energy manager is notified that her bid has been accepted and that the 2 MW reduction is required from 1PM to 4PM the following day.

The company is paid as follows:

<i>Hour</i>	<i>Day-Ahead Market Clearing Price (\$/kWh)</i>	<i>Customer's Bid Price (\$/kWh)</i>	<i>Payment (\$/kWh)</i>	<i>Load Reduction (kW)</i>	<i>Payment</i>
13	\$ 0.6000	\$ 0.5000	\$ 0.6000	2,000	\$ 1,200.00
14	\$ 0.6000	\$ 0.5000	\$ 0.6000	2,000	\$ 1,200.00
15	\$ 0.6000	\$ 0.5000	\$ 0.6000	2,000	\$ 1,200.00
16	\$ 0.5000	\$ 0.5000	\$ 0.5000	2,000	\$ 1,000.00
Total					\$ 4,600.00

If the energy manager can produce more than 2 MW of reduction, the company will be paid the difference at the spot market price. Of course, if the company fails to perform as promised, any shortfalls must be made up at the spot market price, which may be higher than the bid price.

This program is in development and currently not available.



Hourly Metering and Data Reporting

With the exception of the Real Time Profile Response Program, an advanced meter capable of recording energy consumption every 5 to 15 minutes is required to participate in these programs. Customers who do not already have an interval meter can obtain one from their local utility or energy supplier. **Customers should ask their Enrolling Participant about subsidies or other incentives that may be available to help offset the metering hardware and software costs.**

Interval meter data must be reported to ISO New England to determine the customer's load reductions.

ISO New England offers three data reporting options.

- **Internet Based Communication System (IBCS):** Interval meter data is reported to ISO New England via an internet-based reporting system in near real time. This system also allows ISO New England to notify the customer of a price or demand response events. In addition, customers can use the software to analyze their meter data to help identify other cost savings opportunities. This system requires either a telephone or LAN connection.
- **Low Tech Option:** Interval meter data is reported to ISO New England within 36 hours of each operating day.
- **Super Low Tech Option:** Interval meter data is reported to ISO New England within 3 months of an event day.

In the low and super low tech options customers are notified of price or demand response events by e-mail, pager, telephone or fax.

The table below describes the metering and data reporting requirements for each program:

<i>Program</i>	<i>Interval Metering Required</i>	<i>Data Reporting Options</i>		
		<i>IBCS</i>	<i>Low Tech</i>	<i>Super Low Tech</i>
Real-Time Demand Response	Yes	Yes	No	No
Real-Time Price Response	Yes	Yes	Yes	Yes
Day-Ahead Demand Response	Yes	Yes	Yes	Yes
Real-Time Profiled Response	Statistical sample required	Loads must be subject to direct control		

How to Enroll in the Program

Customers who wish to participate in any of the programs can do so through an Enrolling Participant. Enrolling Participants can be either NEPOOL members (such as a local utility and energy supplier) or a Demand Response Provider. Demand Response Providers are companies that provide technology and services to help customers participate in Demand Response Programs.

Enrolling Participants are responsible for helping customers identify the program that is most suitable for their operation and enrolling them with ISO New England. ISO New England issues incentive payments to Enrolling Participants who then share the incentives with their customers. Enrolling Participants may offer other incentives and services. Customers should ask their Enrolling Participant for details.

For more information on any of ISO New England's Demand Response Programs call **413-540-4220** or e-mail **custserve@iso-ne.com**.

A detailed description of ISO New England's Demand Response Program, as well as contact information for Enrolling Participants and Internet Based Communication System providers, is available on the Web at www.iso-ne.com.

About ISO New England

Created in 1997, ISO New England Inc. is a not-for-profit corporation responsible for the day-to-day reliable operation of the six-state region's bulk electric power grid and administration of the region's deregulated wholesale electricity marketplace.

New England Power System and Electricity Market Facts:

- 6.5 million households and businesses; population 14 million
- More than 350 generators and power plants
- Over 8,000 miles of high voltage transmission lines
- 12 interconnections to systems in New York and Canada
- More than 30,000 megawatts of total supply
- All-time peak demand of 25,348 megawatts (August 14, 2002)
- More than 200 participants in the marketplace
- \$1.5 billion cleared in regional spot market annually, roughly 30 percent of all wholesale power exchanged in New England (133 billion megawatts)

ISO New England Inc.
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ISO New England Demand Response Summary Table

	Reliability Based			Price Based
Program Name	Real Time Demand Response	Real Time Profile Response	Day Ahead Demand Response	Real Time Price Response
Customer Type	Individual	Group	Individual	Individual
Minimum Reduction	100 kW	1 MW	1 MW	100 kW
Notification	Respond to ISO New England Control Room request	Respond to ISO New England Control Room request	Customer submits bids into the Day Ahead Market. (Minimum bid \$0.05/kWh. Maximum bid \$1.00/kWh.	Notified by ISO that wholesale prices are forecasted to exceed \$0.10/kWh (\$100/MWh) either the night before or during the event day.
Response Time	Within 30-Minutes or 2-Hours of ISO request. Customer must elect option when applying.	Within 30-Minutes of ISO request	If bid accepted, reduction is <i>scheduled</i> for the following day.	Voluntary. Customer decides when and for how long.
Payment Rate and Terms	Greater of Real Time Price or Guaranteed Minimum \$0.50/kWh for 30-Minute Response and \$0.35/kWh for 2-Hour Response. ²	Greater of Real Time Price or Guaranteed Minimum \$0.10/kWh	Paid the greater of Bid Price or Day-Ahead Clearing Price. Any load deviations (+/-) <i>purchased</i> from or <i>paid</i> at the Spot Market Price.	Greater of Real Time Price or Guaranteed Minimum of \$0.10/kWh
Duration of Demand Response Event	Minimum 2-Hour guaranteed interruption	Minimum 2-Hour guaranteed interruption	Based on accepted schedule	Price response “window” open as early as 7AM and remains open until 6PM.
Installed Capacity Credit (ICAP)	Yes	Yes	Yes	No
Program Available	March 1, 2003	March 1, 2003	In Development	March 1, 2003
Metering and Communication Options				
IBCS	Yes	Performance determined through Statistical Analysis	Yes	Yes
Low Tech	No		Yes	Yes
Super Low Tech	No		Yes	Yes

²Rates subject to FERC Approval. Currently \$0.15/kWh and \$0.10/kWh respectively.

Frequently Asked Questions **Real-Time Price Response Program**

Q: Who can participate in the Real-Time Price Response Program?

A: Any customer who can voluntarily reduce their electricity consumption by a minimum of 100 kW in response to ISO New England's notification is eligible to participate.

Q: What if my business can't reduce demand by the minimum 100 kW?

A: Your Enrolling Participant or Demand Response Provider can aggregate several buildings together to achieve the minimum 100 kW, however each building must have its own hourly meter. There are no penalties for not achieving your intended kW reduction goals and absolutely no risk.

Q: How does the program work?

A: ISO New England will notify you when wholesale prices in your region are forecasted to exceed \$0.10 per kWh in any program hour during the next day. This is referred to as a Price Response Event Day. Any voluntary reductions in electricity consumption your business makes during the designated program hours of the Price Response Event Day will be eligible for incentive payments.

Q: Does my business need any special metering?

A: Yes. Your business needs to have an electric meter capable of recording your building's electricity consumption *every hour*. This type of meter is sometime referred to as an "interval" or "hourly" meter. If your local utility has already installed an hourly meter on your building then you may be able to enroll in the program immediately. If you do not have an hourly meter, contact your utility account manager for more information on their hourly metering services and costs.

Q: How and when will I be notified of Price Response Event Days?

A: ISO New England will send an e-mail message to one or more people at your business either the night before or the morning of a Price Response Event Day. The message will tell you when the event will start and end. For example, the message may say that the price event will start at 8 AM and end at 6 PM. Any reductions that your business can make during those hours will be eligible for payment.

Q: How much can my business get paid?

A: Your business will be paid the greater of the wholesale electricity price in your region or a minimum of \$0.10 per kWh. Wholesale electricity prices can reach as high as \$1.00 per kWh. The payments will be based on ISO New England's estimate of your electricity reduction using consumption data measured by your hourly electric meter.

Q: How will ISO New England determine how much electricity reduction my business achieved?

A: Your local utility will send ISO New England your hourly electricity consumption data every day. ISO New England will use the data to calculate your average hourly consumption. This calculated amount is referred to as your "Baseline Consumption".¹ When a Price Response Event Day occurs ISO New England will compare your actual hourly consumption during the event hours to your Baseline Consumption. The difference between your actual usage and the adjusted Baseline Consumption represents your demand reduction.

¹ The Baseline Consumption will be based on the average of ten (10) prior non-event business days before the Price Event Day.

Q: What happens if the weather is different on a Price Event Day than any of the days used to calculate my Baseline Consumption?

A: The Baseline Consumption will be adjusted to match your building's actual electricity consumption just prior to the start of a price event. This way if the weather on a Price Event Day is significantly different than the days used to calculate your Baseline Consumption your businesses Demand Response reduction will not be penalized.

Q: When will price response events happen and how long will they last?

A: It is hard to predict when price response events will happen. It depends on a lot of factors including the weather, fuel prices and the availability of the region's power plants, the availability of the region's transmission lines and the outlook of the companies buying and selling power in the wholesale market. However, historically wholesale prices have been the highest when electricity demand is the highest, which usually occurs on hot summer days. When a price response event occurs it can start as early as 7 AM and always ends at 6 PM.

Q: Is there anyway of knowing in advance what the hourly wholesale prices will be?

A: It is also hard to predict what the hourly wholesale prices will be. However, participating customers are guaranteed a minimum payment of \$0.10 per kWh so there is some price certainty. One indicator of what tomorrow's hourly wholesale prices may be is the "day-ahead" hourly wholesale prices that are set by the power plants and energy traders bidding into ISO New England's day-ahead market every day. If a customer wants some indication of what tomorrow's hourly wholesale prices might be, they could look at the results of tomorrow's day-ahead market which are generally available by 4 PM of the day before on ISO New England's website at www.iso-ne.com. Of course, there is no guarantee that the real-time prices will match or track the day-ahead prices nor are they a guarantee of what a customer will be paid.

Q: What can my business do to reduce consumption?

A: Anything that reduces electricity consumption qualifies. Some businesses have instructed their employees to turn-off unnecessary lighting, office equipment, computers and machinery. Some customers have raised air-conditioner temperatures by a few degrees. Others have used their existing energy management systems (EMS) to automatically control or adjust equipment settings. Some customers turn on on-site generators so that less electricity is drawn from the grid. The bottom line is anything your business can do to reduce consumption can make a difference.

Q: What are the costs to participate?

A: If your business already has an hourly meter that is read every day by the local utility via a telephone line then there may be no additional costs. If your hourly meter is not connected to a telephone line, there is an option to have your local utility send ISO New England your hourly meter data on a monthly basis. However, under this "super low tech" option it will take longer for your business to receive its payment. If an hourly meter needs to be installed, there may be additional costs. You should contact your local utility account manager for the details and costs of their hourly metering services.

Q: Are there any risks?

A: No. The program is completely voluntary. If your business can reduce its consumption in response to high wholesale prices you can get paid. If you do nothing, there are no penalties. No costs, no risk and no reason not to participate.

Q: Why would my business want to participate?

A: The most obvious benefit is your business can get paid at wholesale prices for reducing your electricity consumption. However, there is a more important reason. Customers who participate in the Real-Time

Price Response Programs should be able to negotiate lower retail electricity prices from their competitive electricity supplier as described below

Q: How can participating in the program effect my competitive electricity supplier's retail price?

A: It's all about risk. A customer who does not understand their usage nor has the ability to control its usage is transferring risk to their competitive electricity supplier. The customer is, in essence, asking the supplier to assume the risk that at any point in time the customer can increase their energy consumption without any consideration for the supplier's wholesale costs. The less predictable a customer's behavior is, the more risk that a competitive electricity supplier must assume. Risk always translates into a higher price.

Customers who participate in the Real-Time Price Response Program can prove to their competitive electricity supplier that they can manage their hourly usage, respond to wholesale prices and, therefore, lower their competitive electricity supplier's risk. Lower risk should translate into a lower retail price.

Q: How does my business sign up?

A: Your business can enroll through either an Enrolling Participant or a Demand Response Provider. A directory of Enrolling Participants and Demand Response Providers is available from ISO New England. If you are unsure, contact your local utility. Chances are, your local utility is already an Enrolling Participant and is signing up customers into this program.

Q: My energy management system (EMS) is already recording pulses from my electric meter. Can we use the EMS rather than installing a new interval meter?

A: If your EMS can meet the ISO's accuracy standards then your EMS provider may be able to work with your Enrolling Participant to record and send hourly data to the ISO on a daily basis in the ISO's required format. You should ask your EMS provider to talk with your Enrolling Participant and the ISO to discuss the technical details.

Q: What types of businesses are already participating?

A: Many different types of businesses are participating in the program, including universities, hospitals, retail stores, office buildings, manufacturers, and municipal and government agencies. The Real-Time Price Response Program is for any business that wants to take control of their energy costs and become both a smarter electricity consumer and smarter electricity buyer.

Real-Time Price Response Program Case Study - Wesleyan University

Wesleyan University, located in Middletown, Connecticut is a co-educational private university of liberal arts and sciences. It was established in 1831 and now serves 2,700 undergraduates and 150 graduate students.

Wesleyan University has always strived to be an environmentally conscientious and energy efficient "Green" neighbor. Starting in 1997, the University developed a plan to save energy campus-wide by installing energy efficient lighting and updating their building automation and energy management systems.

At that time, the University's facilities group was saddled with several different control systems of different vintages and state of repair. The systems did not provide the University's operations group with the seamless integration technologies that would be required to meet the challenges of maintaining their ever-expanding operations responsibilities and the future competitive electricity market.



The University selected Automated Logic Corporation (ALC) and their strategic partner RCMS Controls, Inc., of Wallingford, Connecticut, to provide a complete overlay and replication of their existing control systems with added points of control and operational features. RCMS Controls, Inc. offered technologies that surpassed their requirements while keeping within the project budget.

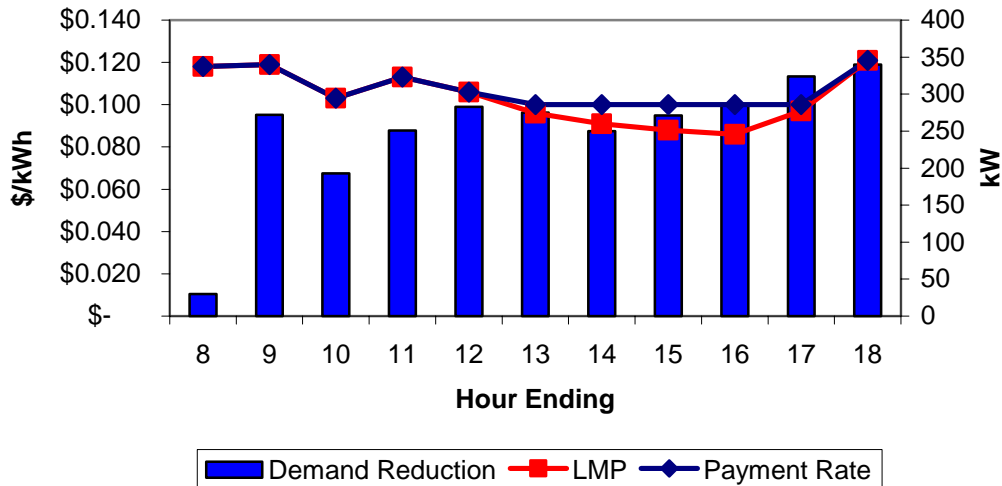
When the University was approached by Connecticut Light & Power to consider enrolling in ISO New England's Demand Response Program, the operations group seized upon the opportunity to use their ALC system to create even greater value for the University. "The Real-Time Price Response Program was a natural fit with what we were already trying to accomplish," explained Mark Chadsey, Wesleyan University's Manager of Mechanical Services & Energy Management

The University is able to use the ALC system in several ways to reduce electric load. The ALC system allows the University to reduce electricity consumption as needed by shutting down various pieces of equipment and resetting heating and air-conditioning temperatures. In addition, the ALC system automatically monitors loads at the University's electric sub-station and has the ability to turn off unnecessary equipment and lighting to limit electric demand. The system automatically notifies Wesleyan personnel when a pre-set demand level has been met. "Wesleyan is able with use of the ALC system to reduce loads when we receive an e-mail from the ISO that wholesale prices are expected to be greater than 10 cents per kWh." said Mark "We just do more of what we normally do when electric loads and wholesale prices are high. By doing this Wesleyan can get paid for our efforts."

The proof is in their performance. ISO New England activated the Real-Time Price Response Program on ten weekdays from March 3, 2003 to March 14, 2003 when wholesale electricity

prices were forecasted to exceed 10 cents per kWh. The University responded by reducing their electricity consumption by an average of 206 kW. They performed at more than twice the level they originally enrolled at. In several hours their reduction exceeded 350 kW. By responding to wholesale prices the University earned over \$1,400 in incentive payments.

The graph below illustrates how the University responded on March 11th from 8AM to 6PM. The Real-Time Price Response Program pays the greater of the regional wholesale price (LMP) or a guaranteed minimum payment of 10 cents per kWh.



“RCMS Controls has a long-term relationship with Wesleyan as a strategic partner and advisor for future energy, control and integration projects,” said Joe Furman, Account Executive at RCMS Controls. “Our WebCTRL® software gives Wesleyan a powerful browser based window into their system and allows them to respond to peak demand and wholesale price events”. Wesleyan was the first site in Connecticut to upgrade to this intranet/internet Web-browser based software.

By participating in the Real-Time Price Response Program the University receives several benefits. The most obvious is the University gets paid at wholesale prices for its demand response performance. In the long term, by reducing its electricity consumption in response to wholesale prices the University is becoming a more attractive customer to competitive electricity suppliers. Customers, like Wesleyan University, who can manage their hourly electricity consumption and respond to high wholesale price can help lower their competitive supplier’s risk. Less risk, translates into a lower retail price.

Wesleyan University is currently controlling and monitoring 58 buildings with over 5,000 control points and plans to remain an active participant in the Real-Time Price Response Program.

For more information about the Real-Time Price Response Program please contact Bob Laurita at ISO New England at (413) 535-4398 or rlaurita@iso-ne.com



ISO New England's Demand Response Program – Internet Shortcuts

New England Wholesale Price Information:

[Real-Time \(LMP\) and Day-Ahead Prices – 5 Minute Data](#)

[Real-Time \(LMP\) and Day-Ahead Prices - Historical Data.](#)

[ISO New England's 7-Day Load Forecast](#)

[Real-Time Price Ticker](#)

Demand Response Program Information:

[2003 Demand Response Program Manuals](#)

[Demand Response Service Provider Directory](#)

[Information about 2002 Price Response Events](#)

[Description of OP4 Action Steps](#)

[OP4 Actions - Historical Archives](#)

Metering and File Transfer Formats:

[File format to transfer hourly data to the ISO for the Real-Time Price Response and Real-Time Profile Response Programs](#)

[File formats for the Internet Based Communication System \(IBCS\) Open Solution for the Real-Time Demand Response Program](#)

[Information on ISO New England's Reimbursement Policy for IBCS Hardware](#)

Power Point Presentations about Demand Response:

[Summary of ISO New England's 2003 Demand Response Programs](#)

[Presentation on Customer Enrollment Process](#)

Other Demand Response Links:

[New York ISO Demand Response Programs](#)

[PJM Demand Response Programs](#)

[General Services Administration \(GSA\) Tactical Curtailment Plan](#)

[New England Demand Response Initiative \(NEDRI\)](#)

[Federal Energy Regulatory Commission \(FERC\)](#)