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Debra A. Howland

PUBLIC UTILITIES COMMISSION
21 S. Fruit Street, Suite 10
Concord, N.H. 03301-2429

Tel. (603) 271-2431

FAX (603) 271-3878

TDD Access: Relay NH
1-800-735-2964

Website:
www.puc.nh.gov

ORIGINAL
N.H.P.U.C. Case No. DE 09-158
Exhibit No. #2
Witness Panel / Gelineau
DO NOT REMOVE FROM FILE

November 17, 2009

Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, New Hampshire 03301

Re: DE 09-158 PSNH - PeakSmartPlus Demand Response Proposal

Dear Ms. Howland:

During the October 27, 2009 technical session held in the above-captioned docket, parties agreed to a second round of discovery with responses due on Friday, November 6, 2009, and a second technical session to be held Monday, November 16, 2009. Staff conducted the second technical session as scheduled yesterday. Representatives from PSNH, National Grid, the Office of Consumer Advocate and Staff participated.

Participants reached consensus on the following points with respect to PSNH's proposal:

- CORE funds are not an appropriate source of support for the PeakSmartPlus program, in light of existing demand response options in energy markets and the limited financial resources available for the CORE programs.

- PSNH has explored alternative sources of funding, including through the existing Energy Service (ES) rate and transmission cost adjustment mechanism (TCAM). These options were discussed at the parties at the November 16 technical session; neither is supported by the parties or Staff.

- Competitive demand response options exist for industrial and commercial customers such as the customers currently enrolled in PSNH's PeakSmartPlus program.

- PSNH will assist existing PeakSmartPlus customers in their transition to demand response market options. PSNH has agreed to release any existing enrolled customers from the program if requested, to allow customers to participate in another program.

- PSNH's rate VIP, a price-response and peak reduction program, will remain available to customers. PSNH will review the program to adjust as appropriate in light of recent and continuing energy market developments.

• PSNH will continue to explore demand response options as energy markets continue to evolve and will provide information on those options to customers.

Parties anticipate addressing the above points at next Tuesday's hearing through PSNH's witness. National Grid has agreed to provide a witness, as well, to discuss the company's approach to providing information on demand response programs to its customers. Attached for your background information is a sample presentation on demand response options that National Grid prepared for its customers.

Thank you for your consideration of this matter. Please do not hesitate to contact me at 603.271.6030 if you should have any questions.

Sincerely,

Lynn Fabrizio

Lynn Fabrizio
Staff Attorney

Attachment

Demand Response Program Outlook and Opportunities After June 1, 2010

Participating Customer Briefing, June 2009

Doug Smith, Manager of Distributed Resources

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Organization and Purpose

1. **Real Time Demand Response Program Review and Outlook**
2. **New England Independent System Operator (ISO-NE)**
    1. 3 Key Wholesale Markets: Day Ahead and Real Time Energy Markets, and the Forward Capacity Market (FCM)
    2. Key differences between FCM and current DR Program
3. **FCM Enrolling Participant Contact Information**
4. **How can National Grid Help?**

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Real Time Demand Response Program (RTDR) Review

- Administered by ISO-NE, offered by Enrolling Participants like National Grid
- Ideal for customers with backup generation or significant loads that can be dropped with short notice occasionally
- Program event is declared when there are capacity shortfalls either regional or New England wide
  - Late Stages of Capacity Deficiency
  - Customers expected to reduce load within 30 minutes
- Capacity payments based on Transitional Forward Capacity Market plus reserve gross up (over 95% of total $)
- Energy Payments based on $0.50 per kWh or real time price, whichever is higher (under 5% of total $)
- Special real time metering required
- Customers enrolled through us receive 85% of total credits earned.
- Program will end on 5/31/2010

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RTDR Program Outlook for 2009-10 (final year)

- **Low probability of significant event hours**
  - Weak economy has driven loads down, significant generation available
  - Probability of a single (audit) event between Aug 15 and Aug 31
  - BUT, extreme weather or unanticipated loss of supply or transmission may cause an event.
  - SO, anything is possible - BE READY!
- **Capacity Payments will be higher than last year**
  - Base TICAP went from $3.75 to $4.10
  - Reserve Gross will likely also go up slightly in '09/10
  - Estimated $59,721 per MW net to customers enrolled through National Grid in final year!
  - Future payments based on most recent event performance

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Estimate of Demand Response Credits - 30 Minute Program

Enrolled/Performed KW: 1000

Credit For	Issued In	Base Capacity Credit (per KW)	Reserve Factor Gross-Up Estimate	Net (85%) to Customer per KW	Estimated Capacity Credit to Customer
Jun-09	Aug-09	$ 4.10	114.20%	$3.98	$ 3,979.96
Jul-09	Sep-09	$ 4.10	114.16%	$3.98	$ 3,978.34
Aug-09	Oct-09	$ 4.10	114.16%	$3.98	$ 3,978.59
Sep-09	Nov-09	$ 4.10	114.11%	$3.98	$ 3,976.84
Oct-09	Dec-09	$ 4.10	159.30%	$5.55	$ 5,551.72
Nov-09	Jan-10	$ 4.10	159.29%	$5.55	$ 5,551.40
Dec-09	Feb-10	$ 4.10	153.86%	$5.36	$ 5,362.17
Jan-10	Mar-10	$ 4.10	153.81%	$5.36	$ 5,360.12
Feb-10	Apr-10	$ 4.10	153.76%	$5.36	$ 5,358.38
Mar-10	May-10	$ 4.10	159.10%	$5.54	$ 5,544.46
Apr-10	Jun-10	$ 4.10	158.88%	$5.54	$ 5,537.05
May-10	Jul-10	$ 4.10	159.04%	$5.54	$ 5,542.57

Notes:
1. Energy credits paid to customer of at least $0.425 per KWH curtailed are in addition to capacity credits estimated above. Due to ISO resettlement timelines, energy credits lag capacity credits by several months.
2. Program ends in May 2010, estimated credits based upon enrollment through National Grid.

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ISO-NE and Wholesale Market Review

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Independent System Operator of New England (ISO-NE)

- **Responsible for 2 Things**
  - Inter-regional reliability
  - Wholesale Market Administration, including dispatch of Supply and Demand Resources
- **Regulated by FERC**
  - FERC wants Demand Resources Integrated into Wholesale Markets to maximize market efficiency
- **All Market Rules and changes subject to NEPOOL Stakeholder Process**
- **Markets for Energy and Capacity as well as Ancillary Services such as reserve products**

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Wholesale Energy Market

- **Represents about 80% of total $ transacted through ISO-NE**
- **Loads bid by retail suppliers and supply offered by generators on a day-ahead hourly basis.**
  - Currently, around 80% of energy market settled either day ahead or outside the market
- **Deviations in real time are settled at the real time hourly prices, also known as the Locational Marginal Price, or LMP.**
- **Further integrating flexible loads into energy markets will provide significant benefits.**
  - There may be competitive supply options available to you that are indexed to LMP

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Forward Capacity Market - Purpose

- Purpose is to make sure there is enough capacity to meet the peak hour requirements.
- Energy alone does not provide enough revenue for investments needed to do this because high cost generating resources are not dispatched many hours.
- The capacity market is a way to make sure that all capacity that is needed is paid enough to be available when it is needed.
- This market currently accounts for around 15% of the total wholesale transaction $.

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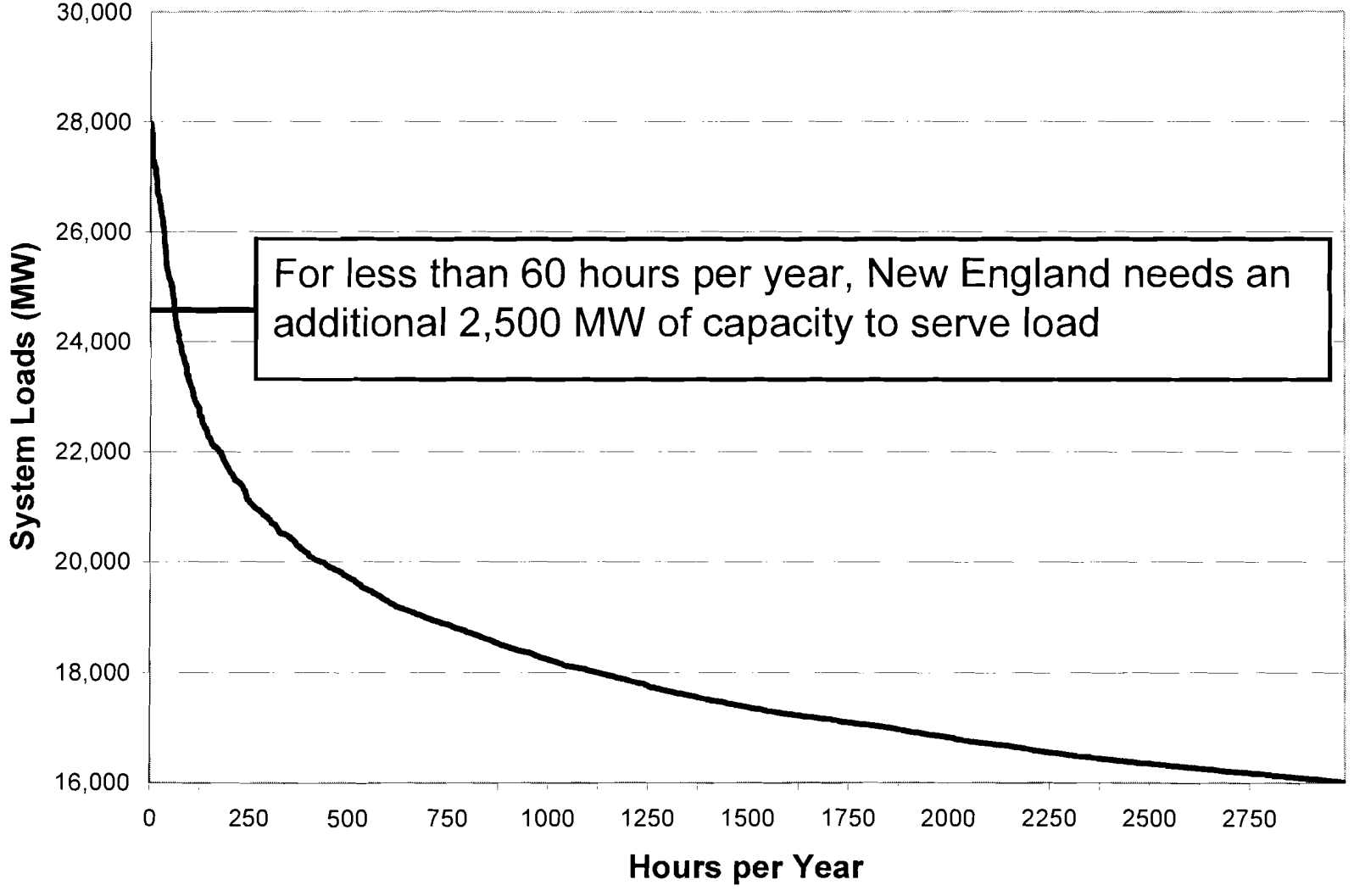
Why do we need a Capacity Market?



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How are Customers charged for Capacity

- The Power Year runs from June through May
- At the end of a calendar year, the ISO reports the day and hour of the highest system wide load
- Utilities supply the ISO with the actual (if known) or estimated load for each customer on that day/hour (this is known as your 'capacity tag')
- Suppliers are then assessed capacity charges for their customers based on their tags as adjusted for system losses, reserve margin, etc. such that the total capacity charged to suppliers equals the total purchased from capacity providers in the FCM
- Suppliers can pass the charge along as energy or demand charges, depending on their contract with you.
  - If you are on Basic Service, the provider has included these costs in the per kWh price.

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The New England Capacity Market is in Transition

- **Transitional period began in 12/2006 and ends in 5/2010**
- **Fixed but escalating base capacity (TiCAP) costs**
  - Dec 2006-May 2008 $3.05 per KW per month
  - June 2008-May 2009 $3.75
  - June 2009-May 2010 $4.10
- **The key driver behind the emergency Demand Response Program credits**
- **The transitional period ends when the Forward Capacity Market (FCM) begins.**
  - After transition, demand response changes from a 'program' to a 'commodity' participating in a wholesale market through Demand Response Providers

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ISO-NE Forward Capacity Market

- **Market Rules allow demand resources to compete against supply resources to meet peak demand**
- **Prices are set by 'declining clock' auction**
  - First auction (for delivery from 6/10 through 5/11) resulted in about 2,500 MW of demand resources out of the total 32,305 MW purchased
  - DR Providers take speculative risk on how much they can sign up and what the price might settle at
- **Prices are going down now due to significant supply and lower than forecast loads due to weak economy.**
- **Very long lead times, but reconfiguration auctions occur annually and monthly.**

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Types of Capacity Resources

- **Supply Resources**
  - Power plants
  - Intermittent (Renewable) wholesale generators
  - Imports from outside New England
- **Demand Resources**
  - Active (Dispatchable)
    - Real Time Demand Response and Direct Load Control
    - Emergency Generation Systems
    - Dispatchable distributed generation
  - Passive
    - Energy Efficiency

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FCM Details

- **Capacity is qualified 4 years ahead of time and bid 3 years ahead of time**
  - Significant Metering and Verification Requirements, as well as financial assurance
  - Annual auction based on declining clock model, next auction is in fall 2009 and will cover capacity to be delivered for the year beginning 6/1/2012
  - Special limitations on Emergency Generation resources
- **Dispatching rules are complicated**
  - More geographic granularity
  - DR will be dispatched according to real time needs
  - This will result in aggregation of many customers into large resources

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Serious Challenges for Demand Response Providers and other Market Participants

- **Financial and performance risk**
  - Financial Assurance requirements
  - More DR in Market leads to more DR Dispatch hours
- **Up-front capital requirements**
  - Customer recruitment
  - M&V Plan development
  - Any required metering and load control hardware
  - 7/24 operations center
- **Revenue uncertainty**
  - In New England, capacity price is known only 3 years out
  - Uncertain quantities of new resources needed
  - The use of emergency generation is capped and subject to environmental regulations
- **Current 'adequate' supply of capacity and economic conditions have resulted in lower than expected capacity procurements and low prices**

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Implications of FCM Rules on RTDR Customers who want to Participate

- Must work with Market Participant
- Lower payments at least for the next few years
- Longer term contracts will likely be the norm
- Customers may have performance penalties or reduced credits to handle performance risk
- Load shedding demand resources (as opposed to environmentally restricted emergency generation resources) may need to shed load for *significantly* more hours than in past Programs
    - Event hours may occur in all seasons due to generation maintenance in Spring and Fall
- Automated DR will become mainstream, as will leveraging these systems to capitalize on wholesale hourly energy markets
- Emergency Generators will likely need to be directly metered

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FCM Market Participants

Demand Response Providers
who Want to Talk to You

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The United Illuminating Company

Roddy Diotalevi
Senior Director – Sales & Business Development
The United Illuminating Company
157 Church Street, New Haven, CT 06506
Email **roddy.diotalevi@uinet.com**
Telephone **(203) 499-3632**

The United Illuminating Company (UI) is a Connecticut-based regional electric distribution company engaged in the purchase, transmission, distribution and sale of electricity and related services to more than 324,000 residential, commercial and industrial customers. UI is a leading ISO-NE Enrolling Participant for all types of demand response programs.

UI currently partners with nearly 200 customers and enrolls over 600 individual DR assets throughout all of the New England load zones. UI has over 120 MW of cleared capacity in FCA1 and FCA2, and is recruiting additional customers.

UI's customers include municipalities, manufacturers, healthcare and educational facilities, data centers, food service industry, and national retail chains.

Like National Grid, UI is a regulated electric distribution company whose primary concern is the safe and reliable delivery of electricity to customers. UI views demand response as a key element in achieving this goal and works intimately with end-use electric customers to align their needs with those of the ISO demand reduction program.

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Enernoc, Inc.

Marshall Chapin
Senior Director of Business Development
EnerNOC, Inc.
75 Federal Street, Suite 301, Boston, MA 02110
Email: mchapin@enernoc.com
Telephone: 617.692.2031

EnerNOC cleared the largest percentage of RTEG obligations for the FCM1 period and retained the large majority of this commitment for FCM2. EnerNOC is actively enrolling new customers in the NEMA, SEMA, WCMA, RI, NH zones to fulfill these obligations for both FCM1 and FCM2. EnerNOC also cleared the largest percentage of RTDR obligations for the FCM1 period and retained substantially the same commitment for FCM2. EnerNOC is actively enrolling new customers in the NEMA, SEMA, WCMA, RI, NH zones to fulfill these obligations for both FCM1 and FCM2.

EnerNOC's head quarters is located in downtown Boston and is the home office for roughly 250 of our 350 employees. EnerNOC has structured its organization to deliver the multiple and interrelated elements of world class demand response services: Customer Operations, Network Operations, Engineering, Marketing and Sales. In FCA1, EnerNOC cleared 438 MW of RTDR and 363 MW of RTEG.

EnerNOC provides demand response services for over 4,000 sites across North America that together represent nearly every sector of the economy. EnerNOC's technology platform and operations capability is designed to maximize the opportunity for commercial, industrial and institutional energy users, ranging from 100 kW to 100 MW or greater in size, to benefit from demand response programs.

EnerNOC is ready and willing to help current National Grid demand response customers understand the FCM. We can provide information to these businesses and institutions about how their experience may change given the new FCM program rules and how EnerNOC's preparation for the FCM might benefit them. EnerNOC would be delighted to host in-person tours of our Boston Network Operations Center or other group events such as an online webinars.

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Constellation New Energy

Vihann Kong
New England Load Response Sales Manager
Constellation New Energy
800 Boylston St, Fl 28, Boston, MA 02199
Email: vihann.kong@constellation.com
Telephone: (617) 717-7907

Constellation has cleared capacity for Real Time Emergency Generation Resources the FCM1 and FCM2 commitment periods that they intend to add customer assets to. Constellation also has Real Time Demand Response Resources capacity cleared for the FCM1 and FCM2 commitment period for that they intend to add customer assets to.

Constellation NewEnergy (CNE) is a leading U.S. competitive energy supplier that serves business customers from Main Street to two-thirds of the Fortune 100. Our more than 14,000 commercial, industrial and public-sector customers, representing over 13,000 megawatts of peak electric load, depend on our expertise to help them make smart energy buying decisions for their business. We are a wholly owned subsidiary of Constellation Energy (NYSE: CEG), a Fortune 500 integrated energy company with more than $22 billion in assets.

CNE has been an ISO-NE enrolling participant since 2002 with over 100 customers curtailing 100kW to over 40MW. Our national portfolio has over 1000MW in all demand response markets across North America.

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CPower, Inc.

Joseph Gatto
Vice President, Business Development
CPower, Inc.
288 Christian St., Oxford, CT 06478
Email **joseph.gatto@cpowered.com**
Telephone **203-405-2257**

CPower has cleared Real Time Emergency Generation Resources in the RI, SEMA, NEMA, WCMA, and NH zones for FCM 1 and intends to add assets to these Resources. CPower has some additional cleared Real Time Emergency Generation Resources in the SEMA, NEMA, and WCMA zones for FCM 2 and intends to add assets to these Resources.

CPower currently has limited availability to add assets to its cleared Real Time Demand Response capacity for FCM 1. CPower does, however, have availability in its On Peak Resources which can potentially be converted into RTDR Resources as needed to fulfill customer demand. CPower currently has limited availability to add Real Time Demand Response assets to its cleared capacity for FCM 2. CPower's combined New Capacity for these two auctions is equal to approximately 243 MW (after proration).

CPower's target market is commercial, industrial, institutional and large residential customers throughout the New England ISO footprint. CPower can serve customers with Real Time Emergency Generation, Real Time Demand Response, and On Peak assets. CPower currently has more than 360 customers in New England and is one of the largest non-utility DR service providers in the region. These customers range in size from 10 kW – 10 MW. In the last 12 months, CPower's New England presence has expanded dramatically from one office in Connecticut to three offices – one in Oxford, CT, one in North Adams, MA, and one in Lawrence, MA. Combined, these offices employ 28 professionals in the fields of software development, metering, installation, project management, account management, registration, bidding, settlement, operations, sales, and market development. Additionally, the New England offices draw on the sales, marketing, engineering, administrative and other support resources at CPower corporate headquarters in New York City as needed.

Additional information is available on our website: www.cpowered.com

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Comverge, Inc.

Gary Peterson
Regional Sales
Company Comverge
56 Standish Road, Colchester, CT 06415
Email gpeterson@comverge.com
Telephone (office) 860-531-9147, (cell) 484-888-0524, (fax) 860-760-6582

Comverge has cleared resources for the first two Commitment Periods and will acquire through bilateral contracts whatever additional resources are needed to meet our customers' needs. We can commit to pay our customers what they would receive for those commitment periods regardless of the status of our resources.

http://www.comverge.com/about/Company.cfm

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How can National Grid Help?

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Services we provide that can assist you

- **Online Energy Profiler Online service can help you monitor and manage your load**
- **If you choose not to participate in the FCM with a DR Provider, we can enroll you in the voluntary Price Response Program**
- **We can provide Demand Response technical audits for your facility to help you establish your response plan**
- **We can keep you up to date on new opportunities to participate in wholesale markets or new retail options that are aligned with hourly markets**
- **Our award winning energy efficiency programs are being ramped up and will include new opportunities such as CHP**
  - We have additional Energy Efficiency money allocated for incentives towards load automation and other DR enabling projects, including communications with DR Providers

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You need to understand your load to manage it - Energy Profiler Online Service

- **Access load data via the internet**
  - kW and kVA data for every 15 minute period going back several years for all >200 KW accounts

- Provide access to suppliers, brokers, consultants, etc.
- Export data and graphics to Excel or PDF file
- Compare usage between periods or before and after a power factor or energy saving project
- Set up a report to be emailed to you regularly
- Cost: $26.75 per month added to your electric bill
- Optional modem service will allow EPO to update daily

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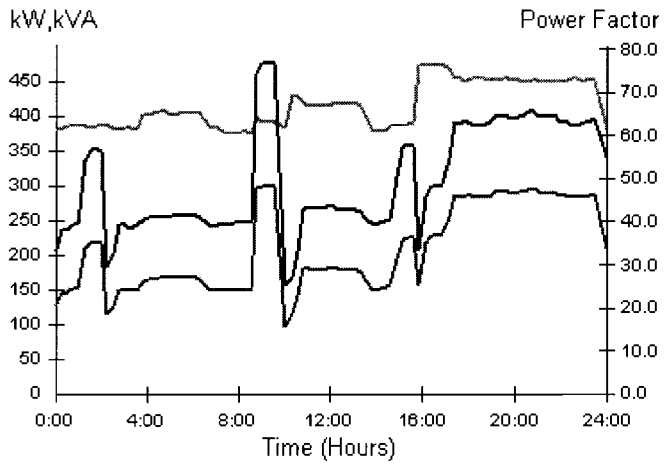
Select Customer
Date Range/Accounts
Summary Statistics
Average Profiles
Load Duration Curve
Load Profiles
Usage History
Export
Preferences

Logout | Help
PDF | Print
Memorize Report

Profile for Selected Accounts on Wednesday, 3/8/2006



Table

Selected Date Range: Wednesday, February 01, :

kVA
kW
Power Factor

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What else are We Doing at National Grid?

- **Promote technologies like Smart Metering and EPO enhancements that will enable additional demand side participation**
- **Evaluating and Piloting 'non-wires' alternatives to T&D capital projects**
- **Preparing for a future with more options for dynamic pricing along with higher levels of information and control capabilities**
  - Studies by ISO-NE show that 'average' customers may attain significant commodity savings by taking an unhedged supply product based on hourly prices.
  - National Grid is interested in this as a possible alternative to Basic Service, and is working to develop this concept further.

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Supply and Demand Resource Integration

Base Loaded Nuclear & Coal

Combined Cycle Gas and Large Renewables

Combustion Turbine, Pumped Storage, and other Peaking Plants or new storage technologies

Energy Efficiency

Dynamic Pricing, Price Response, low impact DLC

Dispatchable demand response, plug-in hybrids, high impact DLC

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Questions and Discussion

Doug Smith, Manager of Distributed Resources
(781) 907-1594
douglas.smith@us.ngrid.com

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Thank You

Doug Smith, Manager of Distributed Resources
(781) 907-1594
douglas.smith@us.ngrid.com

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