



Mark Dean

Attorney

August 15, 2012

James T. Boffetti
Senior Assistant Attorney General
Consumer Protection and Antitrust Bureau
33 Capitol Street
Concord, NH 03301-6397

RE: Joan E. Wirth – New Hampshire Electric Cooperative, Inc.
Your File No. 201299515

Dear Attorney Boffetti:

I represent New Hampshire Electric Cooperative, Inc. ("NHEC"). I am writing in response to your letter of August 3, 2012 concerning a complaint against NHEC sent to your office by Joan E. Wirth. Thank you for providing NHEC with a copy of Ms. Wirth's complaint. I am happy to provide you with NHEC's position on this matter and to outline NHEC's past and planned actions with respect to the matters raised by Ms. Wirth.

I have enclosed the following documents which may provide both context and detail to the circumstances surrounding Ms. Wirth's July 27, 2012 letter to your office.

1. NHEC's letter to NH PUC re: Wirth Meter Replacement Refusal, dated August 9, 2012. This letter includes NHEC's response to Ms. Wirth, with multiple enclosures;
2. Relevant pleadings from the Grafton County Superior Court litigation in which Ms. Wirth was a petitioner, Nelson, et al v. NHEC, Case No. 215-2012-CV-00046. This includes the Court's order on the requested preliminary injunction and Ms. Wirth's request for a voluntary dismissal;
3. Legislative records regarding Senate Bill 226 (highlighting added);
4. A copy of a PowerPoint presentation which is part of the information which NHEC has presented to various state agencies and community groups concerning NHEC's Smart Grid Project;

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5. Various NHEC communications to the membership over the past several years concerning the Smart Grid Project;
6. FCC documents concerning Radio Frequency issues;
7. World Health Organization documents concerning Radio Frequency issues;
8. Elster Solutions, NHEC's meter supplier, document concerning Radio Frequency safety and its EnergyAxis meters; and,
9. Reports from the Maine CDC, the Vermont Department of Health, and the California Council on Science and Technology relating to Smart Meter Safety and the adequacy of the FCC standards.

I will not rehash here the details of NHEC's positions and supporting arguments which are covered several times over in the enclosed materials. In summary, however, I will say that the factual allegations and legal conclusions expressed in Ms. Wirth's letter of July 27, 2012 are mistaken and misguided.

In particular, the claim that the "consent" provision of RSA 374:62 somehow applies to the meters which NHEC is currently installing is blatantly contrary to the statute upon which it is premised. Please see the information behind Tabs 1 and 3.

Likewise, the allegation that NHEC has never "come up with any information" concerning the safety of its meters is absurd. As much of the information in the enclosed documents shows, NHEC's new meters comply with all applicable safety standards, most notably the FCC safety standards for radio frequency exposure. The FCC standards were developed in cooperation with the Environmental Protection Agency (EPA), Food and Drug Administration (FDA), National Institute for Occupational Safety and Health (NIOSH) and Occupational Safety and Health Administration (OSHA) and other federal agencies.

The FCC's standards were the subject of a lengthy and public federal rule-making process, which involved input from a wide array of scientific and medical experts, as well as contributions from many points of view, including RF skeptics. Courts have reviewed this rule-making process and the FCC standards and have concluded that the FCC standards represent the "consensus view of the federal agencies responsible for matters relating to public safety and health." Please see the court order and NHEC's pleadings at Tab 2.

These FCC standards apply to a wide variety of consumer electronic devices, including: cellphones, cordless phones, baby monitors, microwave ovens, walkie-talkies, computer wireless network routers, Wi Fi equipped computers, tablets and smartphones, garage door openers, and other remote control devices, all of which use the same basic technology and operate at similar signal strengths and at similar frequencies. NHEC's smart meters comply with the FCC standards. Please see the information behind Tab 1.

By federal statute, federal regulation, and federal case law, state and local governments are prohibited from regulating the installation of personal wireless service facilities such as smart meters based upon the perceived health risks posed by radio frequency emissions, as long as those facilities conform to the FCC standards for such emissions. Please see the court order and NHEC's pleadings at Tab 2.

The FCC has noted that the exterior location of smart meters, coupled with their very brief and infrequent transmissions, means that the actual real-world RF exposure from smart meters is significantly less than many common household electronic devices and is typically "thousands of times less" than the worst case measurements used to test their compliance with FCC standards.

The new meters' weak (1/4 watt), short (<1.5 sec) and occasional (7 to 10 times daily) wireless transmissions do not present a health risk to NHEC members, employees or the public. The transmitters in NHEC's new meters operate on the same basic technology as cellphones, except that they have approximately 1/4 to 1/12 of the signal strength of a typical cellphone. NHEC's smart meters also transmit at approximately 1/4 of the signal strength of many other types of smart meters.

The anti-smart meter claims made by a small group of "RF skeptics" who inhabit the internet run against the overwhelming consensus of the scientific community and have not been adopted by any state or federal safety agency or regulator. Every federal and state health agency which has reviewed the issue of smart meter RF safety has concluded that the current FCC standards are appropriate.

Extensive reports issued by the California Council on Science and Technology, the Vermont Department of Health, and The State of Maine Center for Disease Control all found that the FCC's current standards are adequate and that smart meters result in much smaller exposure to radio frequency than do many common household electronic devices. Please see the reports at Tab 8.

While Ms. Wirth may hold strong and sincere opinions in opposition to the use of smart meters, I trust you will see from the enclosed that the factual allegations and legal claims she makes in support of those opinions are erroneous, and in some cases, are directly opposite of objectively verifiable facts. These allegations and claims were presented before the Grafton County Superior Court, and they were both rejected and abandoned. (See, Tab 2). They were presented again before the New Hampshire Senate and the New Hampshire House of Representatives, and they were again rejected. (See, Tab 3). These previously vetted, rejected and abandoned allegations and claims do not fall anywhere within the scope of NH RSA Chapter 358-A. Nor do they warrant any of the actions requested in Ms. Wirth's letter of July 27, 2012.

I hope that this response is of assistance to you. If you have any questions or comments, please do not hesitate to contact me.

Sincerely,



Mark W. Dean

CC w/enclosures: Joan E. Wirth and NH PUC Consumer Affairs

PUBLIC WORKS AND HIGHWAYS

SB 324-FN, relative to the use of funds generated by the Hampton Beach parking facilities. **OUGHT TO PASS WITH AMENDMENT.**

Rep. John A Graham for Public Works and Highways: The committee amendment replaces the entire bill, while preserving the original intent to provide additional revenues to the state park fund. As amended, \$200,000 a year will be transferred from the Hampton Beach meter fund to the Hampton Beach capital improvement fund. This is a reduction from the current formula, and will allow additional funds to be placed in the state park fund for use not only at Hampton Beach, but also at other state parks. The second major change to the bill made by the committee is to have 50 percent of the bond approved in the last Capital Budget for rehabilitation of the seawall in Hampton be paid for from the parking meter fund as required by RSA 216:6. Currently 100 percent of the bond would be paid for out of general funds. The committee was unanimous in support of this bill as amended. **Vote 15-0.**

SCIENCE, TECHNOLOGY AND ENERGY

SB 48, relative to state regulation of telephone service providers and clarifying the authority of the public utilities commission to regulate pole attachments. **OUGHT TO PASS.**

Rep. Frank R Holden for Science, Technology and Energy: This bill modernizes the regulation of telecommunications services in four important ways. One, it offers local exchange carriers relief from monopoly era retail regulation, freeing them to compete more effectively. Two, it confirms that Voice over Internet Protocol services and IP enabled services are not subject to regulation as telecommunications services in New Hampshire. Three, it preserves Incumbent local exchange carrier obligations to serve as the carrier of last resort and ensures that all residents have an affordable Basic Service option for phone service. Four, it preserves incumbent local exchange carrier obligations to provide wholesale services to competitors further encouraging competition among providers. Today's communications landscape offers consumers more choice of providers and services than at any other time in history. Modernization of monopoly era regulations will further encourage investment and innovation in New Hampshire's communications infrastructure. The committee believes that this legislation finds the right balance between continued Public Utilities Commission oversight and modernization of regulation to allow consumers and the state of New Hampshire to benefit from a highly competitive communications environment. **Vote 17-0.**

SB 215, establishing a study committee on updating and improving the procedures and criteria for review of projects by the site evaluation committee. **INEXPEDIENT TO LEGISLATE.**

Rep. Frank R Holden for Science, Technology and Energy: The site evaluation committee makes decisions about the selection of sites for energy facilities, including the routing of high voltage transmission lines and energy transmission pipelines. In making these decisions it balances the state's need for new energy facilities with environmental considerations. The site evaluation committee is able to strike that balance and the changes and additional oversight that would result from this bill are not needed. **Vote 16-1.**

SB 218-FN, relative to electric renewable portfolio standards. **OUGHT TO PASS WITH AMENDMENT.**

Rep. James M Garrity for Science, Technology and Energy: This bill as amended makes significant changes to New Hampshire's renewable electric portfolio standards (RPS) law. It expands the potential number of eligible renewable generation facilities, giving slight preference to New Hampshire indigenous resources such as wood, wind and water. It eliminates some regulatory roadblocks, allowing more New Hampshire facilities to qualify for the program. It reduces the maximum premium price for renewable electric classes and limits the future prices of same. It sets goals for the percentage of each class of renewable that are reasonable. The amendment reduces the cost to New Hampshire electric customers that will most likely result in them paying less in the future than they would have without the changes. The amended bill strikes a delicate and fair balance between ratepayer rights, local economic development benefits and fuel diversity of electricity generation. **Vote 14-3.**

SB 258-FN, authorizing group net metering for limited electrical energy producers. **INEXPEDIENT TO LEGISLATE.**

Rep. James D Summers for Science, Technology and Energy: This bill would have greatly expanded the state's limited net metering law (in which small producers of renewable electricity are allowed to pay the net of their on-site generation minus their purchases from their electric utility). It would have allowed the creation of virtual net metering "groups" in which the members could benefit from the socialized subsidy of net metering without all being actual producers of energy. The bill had many shortcomings. It failed to define what a "group" was. It assumed that the groups should be allowed to use the electric transmission and distribution system without paying the price. It was an attempt to use net-metering as financing mechanism

to develop new and larger renewable energy generation projects instead of the traditional methods of becoming a qualifying facility in the ISO-NE grid, or of building a distributed energy resource project in partnership with an electric utility. It would have provided savings (or subsidies) to a few at the expense of the rest of the customers of an electric utility. **Vote 13-4.**

SB 266-FN, prohibiting electric utilities from installing and maintaining smart meter gateway devices without the residential or business property owner's consent. MAJORITY: OUGHT TO PASS.

MINORITY: INEXPEDIENT TO LEGISLATE.

Rep. Sam A Cataldo for the Majority of Science, Technology and Energy: This bill addresses a potential future privacy concern of customers whose electric utility installs so-called "smart meters." The bill does not deal with the meters themselves, which are "smart" only in that they can more efficiently send summary readings back to the utility without human meter readers. Rather the bill deals with an optional piece of equipment which could possibly be installed in the meter in the future, called a "smart meter gateway device." It defines the terms and makes it clear that electric utilities may not install such devices without the written consent of the homeowner or business owner. It also requires the electric utility to inform a new electric customer if their meter has a smart gateway device installed inside; if so, the customer may ask, and the utility must remove the device. **The committee found no conclusive evidence that the smart meters themselves are any danger to human health or privacy. Vote 11-4.**

Rep. Jacqueline A Cali-Pitts for the Minority of Science, Technology and Energy This bill prohibits the use of smart electric meter gateway devices without the written consent of the homeowner and leaves many unanswered questions involving transfers of property, etc. The technology is meant to enable customers and utilities to better manage use of their power and potentially lower costs all around. The fear that utilities will act like Big Brother, will shut down or decrease a customer's power or know exactly how a customer uses their power and somehow interfere is unfounded. The metering device is owned by the utility and should be the most accurate and technologically advanced device to benefit both utility and customer.

SPECIAL COMMITTEE ON PUBLIC EMPLOYEE PENSIONS REFORM

SB 228-FN-L, repealing the assessments for excess benefits paid by employers in the retirement system. OUGHT TO PASS WITH AMENDMENT.

Rep. Kenneth Hawkins for Special Committee on Public Employee Pensions Reform: This bill originally was to repeal the spiking charge on employers for payments made to employees above the normal pay passed in 2008, but never implemented. The amendment replaces the formula passed in 2008 with a new method of calculating end of career payments, and goes into effect on July 1, 2013. The amendment also raises the bet at charity games of chance from \$4 to \$6, and will allow poker in a private residence as long as no payment is required by the participants. **Vote 13-0.**

SB 229-FN, establishing a commission to make recommendations on whether the New Hampshire retirement system should be replaced with a defined contribution plan for all new hires and to study the impact such change would have on the retirement system. MAJORITY: OUGHT TO PASS WITH AMENDMENT. MINORITY: INEXPEDIENT TO LEGISLATE.

Rep. William B Smith for the Majority of Special Committee on Public Employee Pensions Reform: This bill amends SB229, as passed by the Senate, which establishes a commission to make recommendation on whether the NH retirement system should be replaced with a defined contribution plan for all new hires. The majority felt that the retirement system, which has an estimated unfunded liability of \$3.7 billion, needs to be changed to a defined contribution plan as soon as possible. However, we recognize that there are a number of open questions that must be addressed before the actual plan is established. Consequently, the amendment establishes a legislative committee in lieu of a commission, includes a non-voting advisory group to assist it, and charters it to answer remaining questions and propose legislation to enable the establishment of a specific plan prior to Nov 1, 2012. If the committee meets this reporting requirement, the amendment enacts a basic defined contribution plan, based on the originally introduced version of SB229, effective as of Nov 1, 2013, primarily for new state hires, and a concrete timetable for implementation, with modifications by legislation that the committee will likely submit as part of its reporting. The amendment defines the broad objectives for the plan, and instructs the committee to prepare, issue, and evaluate requests for proposals to collect information to address the open questions, and refine the plan parameters. **Vote 9-4.**

Rep. Daniel J Sullivan for the Minority of Special Committee on Public Employee Pensions Reform: This bill as amended is seriously flawed and poorly designed. It uses state employees as test subjects for a defined contribution plan that numerous national experts and the retirement system's actuaries have determined is more expensive for employers and employees. Furthermore, the retirement system's actuaries have shown

Rep. Andrew J. Manuse, R-Rockingham 5 (Derry)

Testimony for SB 266-FN, prohibiting electric utilities from installing and maintaining smart meter gateway devices without the residential or business property owner's consent.

February 9, 2012

The idea behind SB 266 came about last summer, when a constituent received a letter from his utility company informing him that he would have a "smart meter" installed on his home within the next few months, but he noted that he does not want to have such a meter installed on his home due to privacy concerns and asked me to do something about it. The conversation reminded me that I received a similar letter from my utility, the New Hampshire Electric Co-Op. Upon checking the utility's Web site and its FAQ PDF, I learned that I cannot opt-out of having the smart meter installed on my home, which concerned me because I too have privacy concerns about certain components of the devices.

I confirmed my fears by meeting this summer with Bob Dunn and Mark Dean, attorneys from Divine Millimet who represent NHEC. After speaking with them, the issue got a bit more complicated, but we worked out the details over the next few weeks and came up with a legislative solution that both sides could agree on. I then asked Sen. Forsythe to sponsor the result of that work in the Senate, and Sen. Forsythe and I have been working together on the language ever since. I am confident that SB 266 will solve the problems that most people have with Smart Meter devices when it comes to privacy and will also not cause any problems for NHEC or other utility companies in the state.

To be clear: you will hear testimony from folks who also have health concerns related to the Smart Meters themselves. I am open to this committee considering an amendment to address those concerns, but I would also be happy if you simply passed this bill as-is to address the privacy concerns.

It was my understanding that the New Hampshire Electric Co-Op's \$35 million "smart meter" project is now underway. I also understand that Unitel and PSNH may be installing smart meters. The fiscal note to this bill from the Public Utility Commission notes only one electric company is currently installing Smart Meters in New Hampshire, and that utility is NHEC.

As I understand it, NHEC "smart meters" communicate the electrical-use data of a whole home (the same data that "dumb meters" communicate today) along with a unique identifier (not a meter number) via a weak microwave communication. Each "smart meter" transmits these two pieces of information once for one-and-a-half seconds, seven to ten times a day, through an Internet-like node communications system. A single Smart Meter at the end of a line will transmit the entire line's data to the utility's internal network for processing. It's important to note that one smart meter will not transmit or receive any more data than any other smart meter, thus any health concerns would be the same for all consumers.

If a person were to opt-out of having a "smart meter" installed on their home, the utility company would have difficulty transmitting a message from one smart meter over the opted-out home to the next smart meter in some circumstances, and would thus have to install approximately \$1,000 "repeaters" between the two smart meters to ensure the data is still transmitted for all smart meter customers in the network and to make sure that no "smart meter" is effectively "stranded." The State of Maine, responding to health concerns, went in this direction, by allowing consumers to opt-out by law of a smart meter installation, in exchange for a fee to have a meter reader come out and continue to read these consumers' meters. Potentially, we could go in this direction, too, but NHEC and other utilities would likely oppose this move. Thus, allow me to clarify what this bill does.

This bill currently does NOT address "smart meters," per se, as described above. If you look at the bill, in section 1, the definition of a "smart meter gateway device" was specifically tailored by Bob Dunn, Mark Dean and me to deal only with the privacy concerns of smart meter devices, such as the gateway devices and load control devices that are optional add-ons to a "smart meter." These add-ons can read and control the appliances inside of a person's home, and this bill requires that all utility customers opt-in to approve the use of such devices on their homes. The next definition in the bill: namely, "electric utility," ensures that all companies providing electricity delivery services in New Hampshire will be treated equally under this law.

As I understand it, NHEC's current "smart meter" devices do NOT include so-called Zigbee boards, also referred to as "gateways," which would be able to read information from "smart" appliances inside the home and transmit that data to the company (or the government). NHEC, at least, is allowing consumers to voluntarily add these devices to their homes. In addition, so-called "load controlling units," which would allow an electric company (or the government) to remotely control certain appliances, such as heaters or air conditioners, are not being installed by force, but may be installed if a person volunteers. However, this bill prohibiting these devices installation without a homeowner's consent is needed to make sure such programs remain voluntary, and to ensure that when someone buys a home from someone who has volunteered to have such features added to their meters, that these features can be uninstalled.

To recap, and to be clear, with this bill, WE ARE NOT allowing people to opt-out of "smart meters," per se, because the device itself does the same thing as a "dumb meter." Instead of a meter reader coming to your house, the electricity reading of the full house will be sent wirelessly to the company 7-10 times a day once a smart meter is installed. What the bill WILL DO is require people to opt-in to the installation of "load control devices," which enable a remote control of your heating or air conditioning systems, for instance, as well as the technology (called a "gateway board") that reads electrical use data for specific enabled appliances inside your home, such as your heater, air conditioner, refrigerator, and so on. While some people might want this technology, and this bill does not prohibit them from installing it, other people DO NOT want this technology, and this bill would protect them. For those folks, a smart meter gateway device constitutes an unreasonable search of the inside of their homes. This is not a "reasonable" invasion by any stretch of the imagination. These folks should not be subjected to such invasions of their privacy. The bill Sen. Forsythe and I have written will ensure they are not subject to such privacy-rights violations, without their consent.

Thank you for your time.

SENATE CALENDAR NOTICE

ENERGY AND NATURAL RESOURCES

✓ Senator Bob Odell Chairman
 ✓ Senator John Gallus V Chairman
 Senator Jeb Bradley
 ✓ Senator Gary Lambert
 ✓ Senator Amanda Merrill

For Use by Senate Clerk's
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☐ Bill Status

☐ Docket

☐ Calendar

Proof ☐ Calendar ☐ Bill Status

Date: February 2, 2012

HEARINGS

Thursday

2/9/2012

ENERGY AND NATURAL RESOURCES

LOB 102

9:00 AM

(Name of Committee)

(Place)

(Time)

EXECUTIVE SESSION MAY FOLLOW

9:00 AM SB217-FN

relative to management of Cannon mountain by the department of resources and economic development.

10:00 AM SB266-FN

prohibiting electric utilities from installing and maintaining smart meter gateway devices without the residential or business property owner's consent.

Sponsors:

SB217-FN

Sen. Jeb Bradley
 Sen. David Boutin
 Sen. James Forsythe
 Sen. Andy Sanborn

Rep. David Bettencourt
 Sen. Peter Bragdon
 Sen. Fenton Groen

Rep. Kenneth Weyler
 Sen. Sharon Carson
 Sen. Gary Lambert

Sen. John Barnes, Jr.
 Sen. Tom De Blois
 Sen. Jim Luther

SB266-FN

Sen. James Forsythe
 Sen. Jeanie Forrester
 Rep. Andrew Manuse
 Rep. Timothy Comerford

Sen. John Barnes, Jr.
 Sen. John Gallus
 Rep. J. Brandon Giuda

Sen. David Boutin
 Sen. Gary Lambert
 Rep. Neal Kurk

Sen. Jeb Bradley
 Sen. Raymond White
 Rep. Alfred Baldasaro

START: 11:47 AM

END: 12:55 PM

Energy and Natural Resources Committee

Hearing Report

FROM: Richard Parsons, Legislative Aide

SB 266-FN – prohibiting electric utilities from installing and maintaining smart meter gateway devices without the residential or business property owner's consent.

HEARING DATE: February 9, 2012

MEMBERS PRESENT: Senators Odell, Gallus, Lambert, Merrill

MEMBERS ABSENT: Senator Bradley.

Sponsor(s): Sen. Forsythe, Dist 4; Sen. Barnes, Jr., Dist 17; Sen. Boutin, Dist 16; Sen. Bradley, Dist 3; Sen. Forrester, Dist 2; Sen. Gallus, Dist 1; Sen. Lambert, Dist 13; Sen. White, Dist 9; Rep. Manuse, Rock 5; Rep. Giuda, Merr 7; Rep. Kurk, Hills 7; Rep. Baldasaro, Rock 3; Rep. Comerford, Rock 9

What the bill does: This bill prohibits electric utilities from installing and maintaining smart meter gateway devices without the residential or business property owner's consent.

Who supports the bill: Senator Boutin; Senator Forrester; Senator Gallus; Senator Forsythe; Rep. Manuse; Rep. Comerford; Rep. Kurk; Rep. Gionet; Rep. Simard; Jim McKinley; Peggy Brewster; Erik Nelson; Joan Wirth; Mark Lambert, Until; Dan Arseneau;

Who opposes the bill: Larry Sunderland, NH Audubon

Neutral position: Mark Dean, NHEC;

Summary of testimony received:
Hearing opened at 11:47 AM

Senator Forsythe, District 4 – Prime Sponsor

Some "smart meters" have additional components that can monitor other appliances in the house if you have smart meter enabled devices and there are safety and privacy concerns. This bill does not address the safety concerns as the transmitters do not transmit anywhere close to cell phones and the scientific data isn't sound to support certain safety concerns.

The privacy concerns are very real however. It is not beyond the realm of possibility to see the government force the smart meter devices to monitor and regulate home devices for energy savings.

No utility in NH has tried to force these meters on homes, as the ones they are currently installing does not have the component that allows monitoring smart devices within the homes.

Senator Odell asked if we are talking about the external devices and the possible next step being to add a component to link the meter to appliances in your house, but this bill would make it so you would have to opt in to that component. **Senator Forsythe** stated that is correct and that people have already used these and already have to opt-in, but this bill is proactive in case the government ever tries to mandate the use of these devices.

Rep. Manuse, Rock 5

The idea behind this bill came from a constituent who stated a smart meter would be installed on his house in a few months. Upon checking the website you cannot opt out of smart meters on your home and there are concerns with this. This bill will solve problems people may have and also not change much for the companies installing these devices.

Several sponsors of the bill did not want to take a position on the possible safety concerns this bill could pose as this bill will only address the privacy concerns related to smart meters.

The fiscal note states that only one electric company is installing smart meters and that the Commission does not have data to determine how many customers would be offered a smart meter or would refuse the installation of one to determine the fiscal impact of this bill.

The State of Maine allowed people to opt out in exchange for a meter reader at a cost.

This bill does not deal with the regular smart meter at all. The definition of smart meter gateway device was tailored to only deal with the privacy concerns that the additional components added on to read appliances in the home would bring about.

The "electric utility" definition ensures that all companies providing this service would be treated equally.

This bill will require people to opt-in to the gateway devices and does not prohibit them from getting it.

This bill is being proactive to make sure these devices aren't forced upon people.

Rep. Kurk, Hills 7

In support of the bill but has a few suggestions to improve the bill. On page 1, line 17-26, there is the process for opting in. The process needs to be improved. First, it needs to be clear that there is a choice because this should be a clearly informed opt-in. The bill needs to be amended to do the following: 1. So that it makes it clear that the opt-in is optional; 2. That there are some brief clear statements that talk clear pros and cons for the benefits of opting in or out; 3. That this information has to be provided in advance of when they

have to make the decision so that they can read it, understand it and decide; 4. That it has to be in large type so people can read it and it has to be under a certain amount of words so people can simply understand it.

Jim McKinley, Littleton

There are three key issues: health, privacy and cost concerns.

The health concerns are still not very clear and needs to be looked at more. In the Western US, people have seen their electricity bills increase by a factor of 5 at times.

Do not believe this fully protects privacy. These meters can tell when you turn on appliances and when you don't. Information has been used by law enforcement to tell if people are growing marijuana or not.

Peggy Brewster, Middleton

People in Maine have experienced side effects from the meters being put on. Had a heart palpitation and had a magnetometer that pulsed.

California has said they need to look closer into health concerns of these meters.

Also, the meters can see anything that you do at anytime and they can sell that information to insurance companies to see if you are going to be a health risk and the police departments are also a concern. There is a large privacy concern.

Rep. Simard, Graf 8

Has a constituent in Bristol who has a lot of musical equipment and he related that his machinery is very sensitive and these devices interfere with the equipment in his house. He was told that it was mandated that he have one of these devices.

Larry Sunderland, NH Audubon

Opposed to this bill because of a very specific point. Believe smart metering is something that will become much more important in the future and realize that there is a privacy issue involved, but believe the problem is written consent. These additional written consent requirements would place unreasonable administrative burdens on utilities which would result in higher rates. Feel for environmental and economic reasons smart metering will become a lot more important in the next century. Believe this bill could be a hindrance.

In response to Rep. Kurk's changes, do not find objections to those changes.

Joan Wirth, Bristol

The scientific studies have found that the effects on the human body relates to non-thermal frequency and not the thermal that has been looked at. There has not been a long history of the devices use.

International studies have done research on wireless radiation and they now consider it to be a possible carcinogen.

There is no mandate that these smart meters be installed. They do not mandate a wireless smart meter.

Submitted documents and studies about the effects on the human body.

Suggest an amendment to include further study to look at the health effects on the human body.

Erik Nelson, Bristol

In support of the bill but would like an amendment to study health considerations. Wife is a cancer survivor and was very concerned about the effects the meters have on people and quite surprised at the amount of energy that these meters can emit. Received a letter from the Co-Op saying a preliminary study suggests the meters would not cause harm to citizens.

These devices are not UL underwriting on these meters and they have never been tested. They meet construction standards but not UL standards.

Submitting documents for the record concerning lax US Energy standards in comparison to other countries.

Mark Lambert, Unitil

Support the bill, but wanted to point out the definition of smart meter gateway device and the reference to the component. There is a meter and perhaps components and this bill is talking about the gateway devices which have the ability to control devices within the home.

Unitil does not have wireless meter technology and the information that you see can gather includes the whole house's information but cannot see it in real time. Unitil ran a time of use pilot over the summer on A/C time of use pilots. The other two pilot programs were opt-in programs. The first one gave the user the ability to control their thermostat or outlets and the last one was very enhanced where the utility had the ability to implement thermostats control. But was an opt-in program and it was very successful.

Senator Merrill asked about the pilot and if there were plans for next steps from the pilot. Mr. Lambert stated that it is probably too soon to know as the final report has not been released. The goal is to reduce customer costs.

Mark Dean, NH Electric Co-Op

Co-Op is neutral on the bill and not opposed to Rep. Kurk's proposed changes. The co-op intended that any part that involved the gateway meter had to be an opt-in.

In response to Mr. Lamberts possible concerns about the definition, the bill, as written, does not seem to be too broad on the definition.

Passed out handouts by manufacturer Elster about the meters the Co-Op uses. People throw out the definition of smart meter everywhere and it is not something that is defined. A smart meter in California is different than one in NH. The device uses a quarter of a watt transmitter.

The next document, from California, is about concerns of the meters and there were experts commissioned to research all the current literature. They took into account information given by others and it has taken into account

all known possible health effects.

They have concluded that the FCC

guidelines are appropriate.

Also submits the World Health determination that radio frequencies could be possibly included in the carcinogen definition. However, they put out a statement about local wireless networks, which this would fall under, that say the current standards are appropriate.

Senator Merrill asked what is actually happening now and if these smart meters are deployed. Mr. Dean replied that they are deploying them now and they communicate wirelessly and not into the house.

Senator Merrill asked if there is potential for disruption if people opt-out. Mr. Dean responded that it could definitely disrupt this service because the meters send out a signal and tries to find the meter closest to it. If a house wanted to opt-out it may be necessary to put a transmitter on a telephone pole or someplace close so that the network of wireless connections is not broken.

Hearing closed at 12:55 PM

Funding: The Public Utilities Commission states this bill may have an indeterminable fiscal impact on state, county and local expenditures in FY 2012 and each year thereafter. There is no impact on state, county and local revenue.

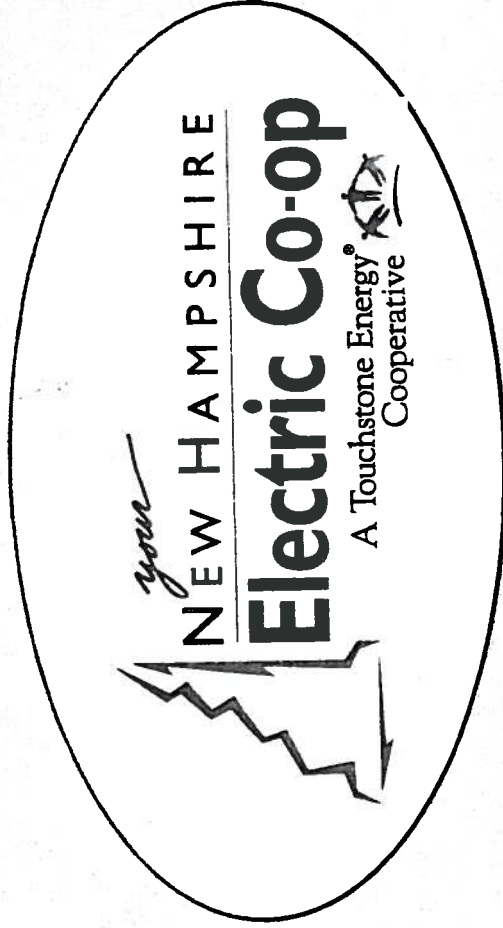
Future Action: *Pending.*

RMP

[file: SB 0266 report]

Date: 2/10/12

NHEC's Smart Grid Project



The Problem



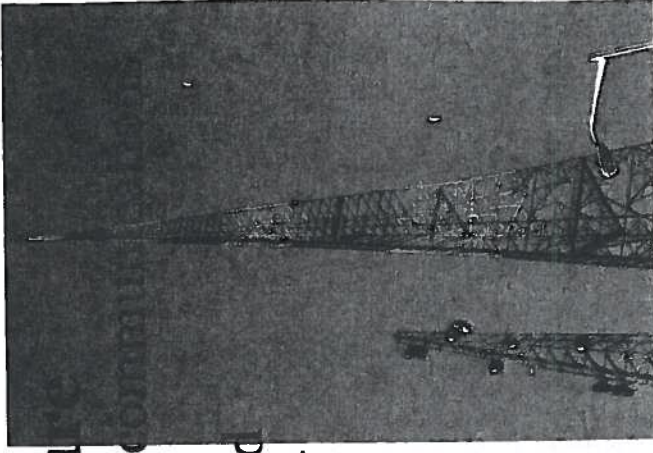
- Issues with 2-way radio system
- Outdated (40+ years)/obsolete
- Operates in portion of spectrum that experiences period interference
- Lacks advanced features
- Business continuity risk due to reliance on vendor
- Member expectations – pressing need to implement a more intelligent distribution network control, monitoring & metering infrastructure

The Solution



Backbone Communications Infrastructure

- A microwave and fiber optic network comprised of equipment at 20 tower sites and one pole site
- Over 150 permits (Federal, State and local) required
- 30 miles of fiber optic cable for business continuity



Advanced Metering Infrastructure

- Meters and equipment
- Rates and programs
- In-home displays
- Web portal
- Automated functions, efficiencies



Investment Decision



- Sunk costs (continued maintenance on current system)
- Current system inability to support new technologies & networking applications
- Providing overall quality of service to members is contingent on having a reliable, flexible telecom infrastructure
- Safety/reliability
- Advanced capabilities (future options)

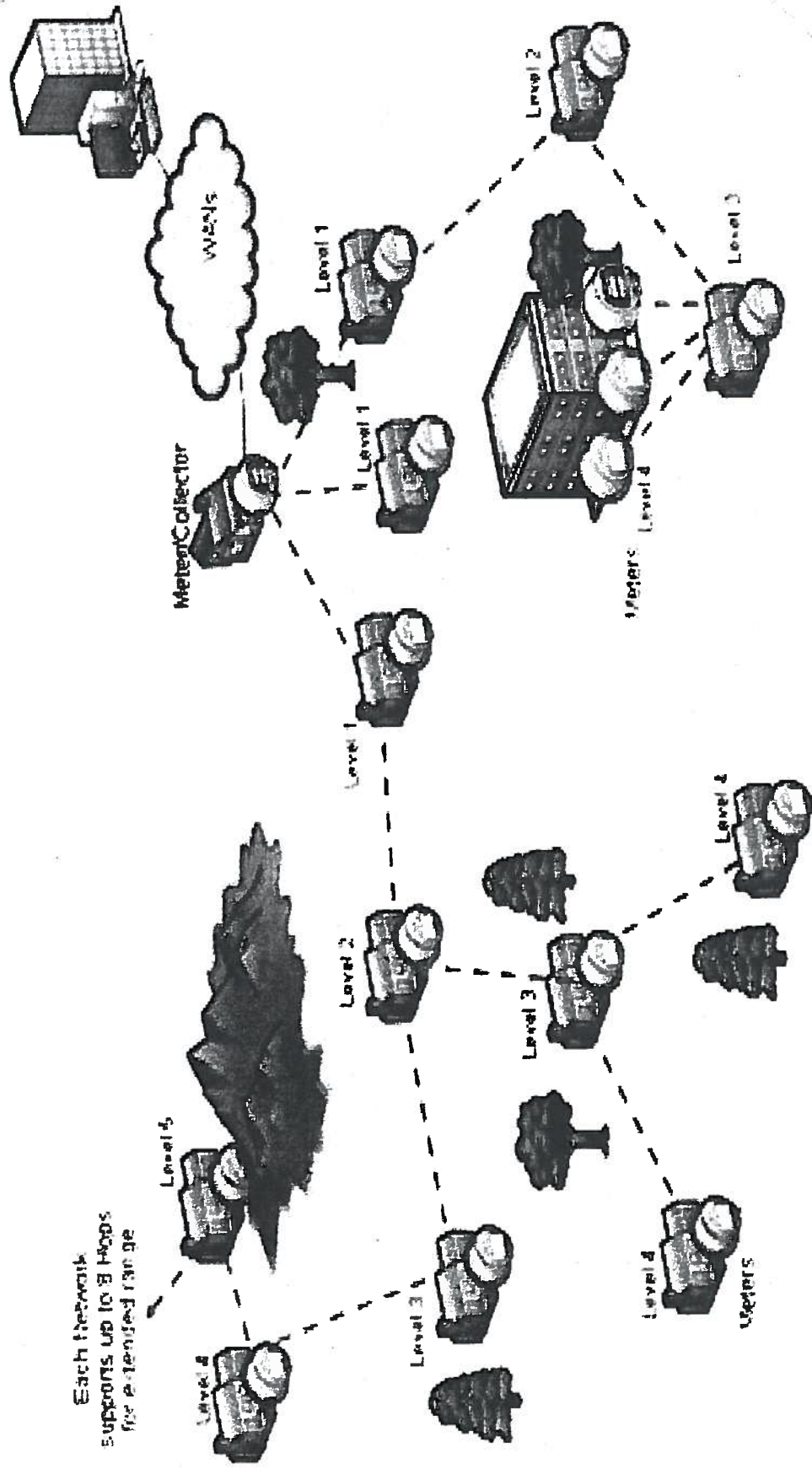
Project Funding



- Total project cost \$35 million
- DOE funding 45% (or \$15.9 million)
- Funding for NHEC's 55% share comes from the membership (out of existing rates)
- DOE reporting requirements
- Separate line of credit

Illustrative AMI Technology

Mesh AMI Networks



Project Vision/Goals



- Empower members to better understand and manage energy use
- Protect the security of member data, information
- Maximize operational efficiencies
- Ensure transparency in project planning and implementation



Project Benefits

NHEC:

- Improved safety & reliability
- “Savings”: Reduced meter reading costs, fewer truck rolls
- Operational efficiencies
- Enhanced member service
 - business analytics tool to perform detailed analysis of electric usage;
 - predictive modeling capabilities; and
 - identify detailed patterns for residential versus commercial members

Member:

- Remote meter reading
- Remote connect/disconnect
- Automated outage notification
- Check/monitor electric usage
- Reduced fees and charges
- Ability to manage energy usage
- Opportunity for energy and cost savings



System Capabilities



- Meter Reading
- Outage Notification
- Tamper Detection
- Disconnect / Reconnect
(potential)
- System Load Control
- Power Quality
- Distribution Automation
- Member Presentment
- Prepay (potential)
- Home Automation (opt-in)
- In-home Display (opt-in)
- Demand Response (opt-in)
- System Analysis
- Aggregate Load Analysis
- RTP/CPP/TOU (opt-in)

Installation Process



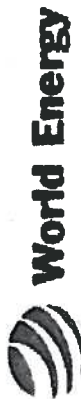
- Meters installed on town by town basis
- Members are not required to be home for installation
- Utility Partners of America (UPA) will perform all meter installations
- All contractors wear UPA uniform, drive a clearly marked UPA vehicle and carry identifying badges
- When arriving at property, they will knock on door and introduce themselves
- If no one is home, a notice will be placed on door to advise of installation.
- Members who have a medical condition, previously identified to the Co-op, will be contacted prior to the meter installation.

Data Security



- Transmissions sent/received by meters will not contain personal information
- Only information transmitted is voltage and wattage data and an identifying number
- Though the meter transmission does not contain personal information, it will be encrypted
- Cyber Security Plan developed and approved by DOE

AMI Member Applications



Request Service	>>
Pay My Bill	>>
My Energy Usage	>>
My Energy Costs	>>
About My Rate	>>
Home Energy Audit	>>

Select Account: 123456

Electric Usage Gas Usage

Electricity Usage July 17, 2007

Display Usage By:

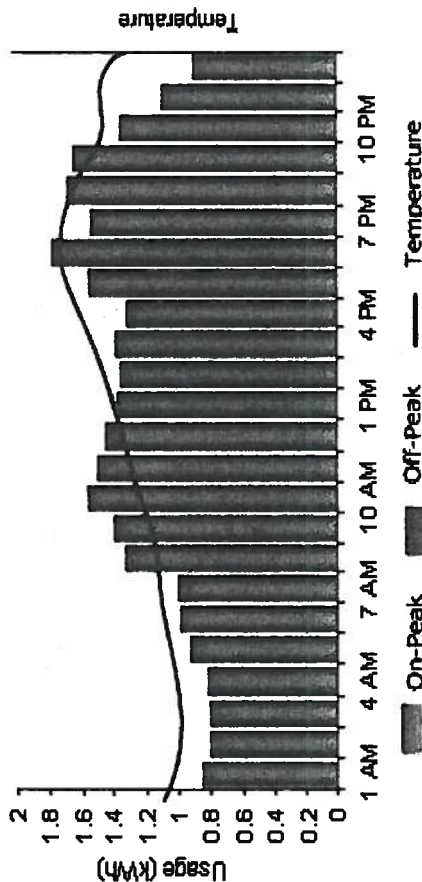
- ☒ Day
☐ Week
☐ Month
☐ Year

☒ Show Temperature

Select Date:

7/17/2007

Show Table



Total usage during the period was 57 kWh.
 Average Temperature during the period was 78°F
 Your peak usage during the period was 1.5 kWh at 7:00 pm
 Your CO2 consumption was approximately 457 lbs.

Compare To:

- ☐ Previous Day
☐ Same Day, Previous Week
☐ Same Day, Previous Month
☐ Show Temperature

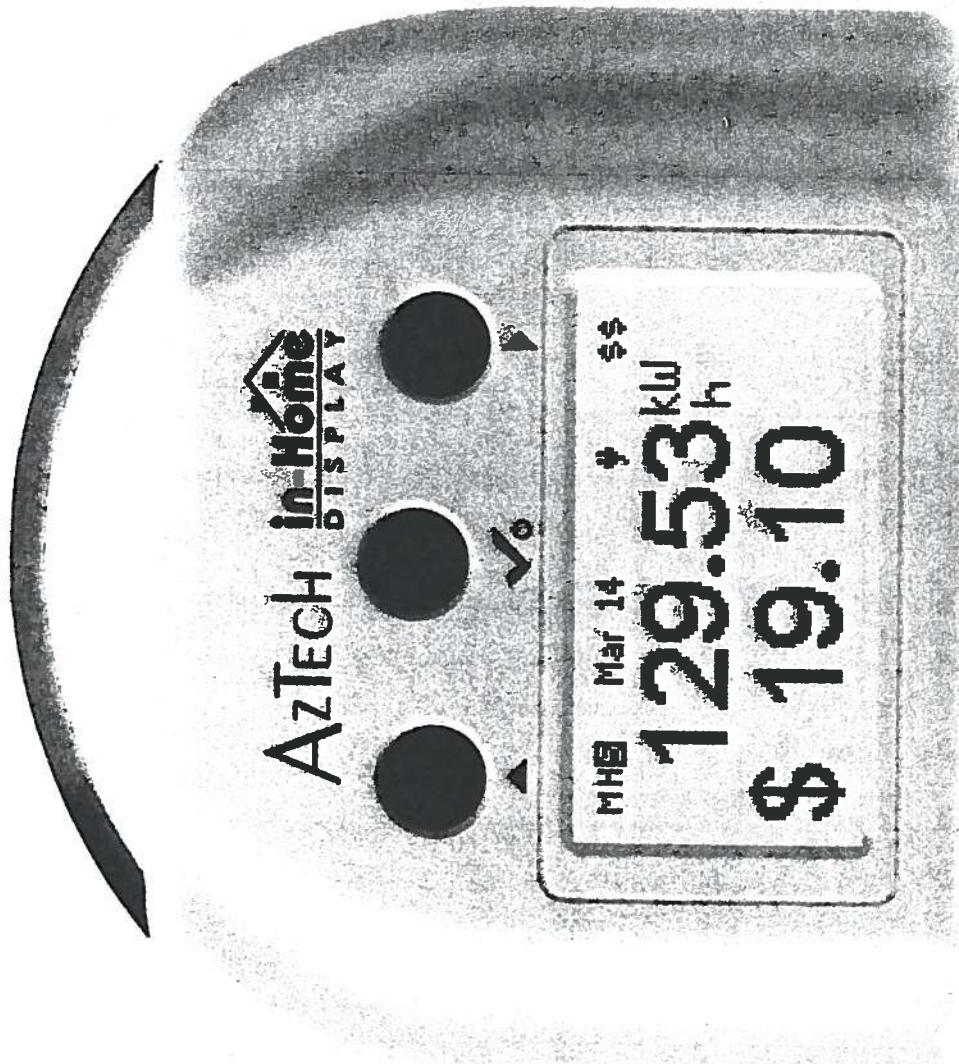
Advanced Features: Opt-In



Dynamic Pricing Pilot Program

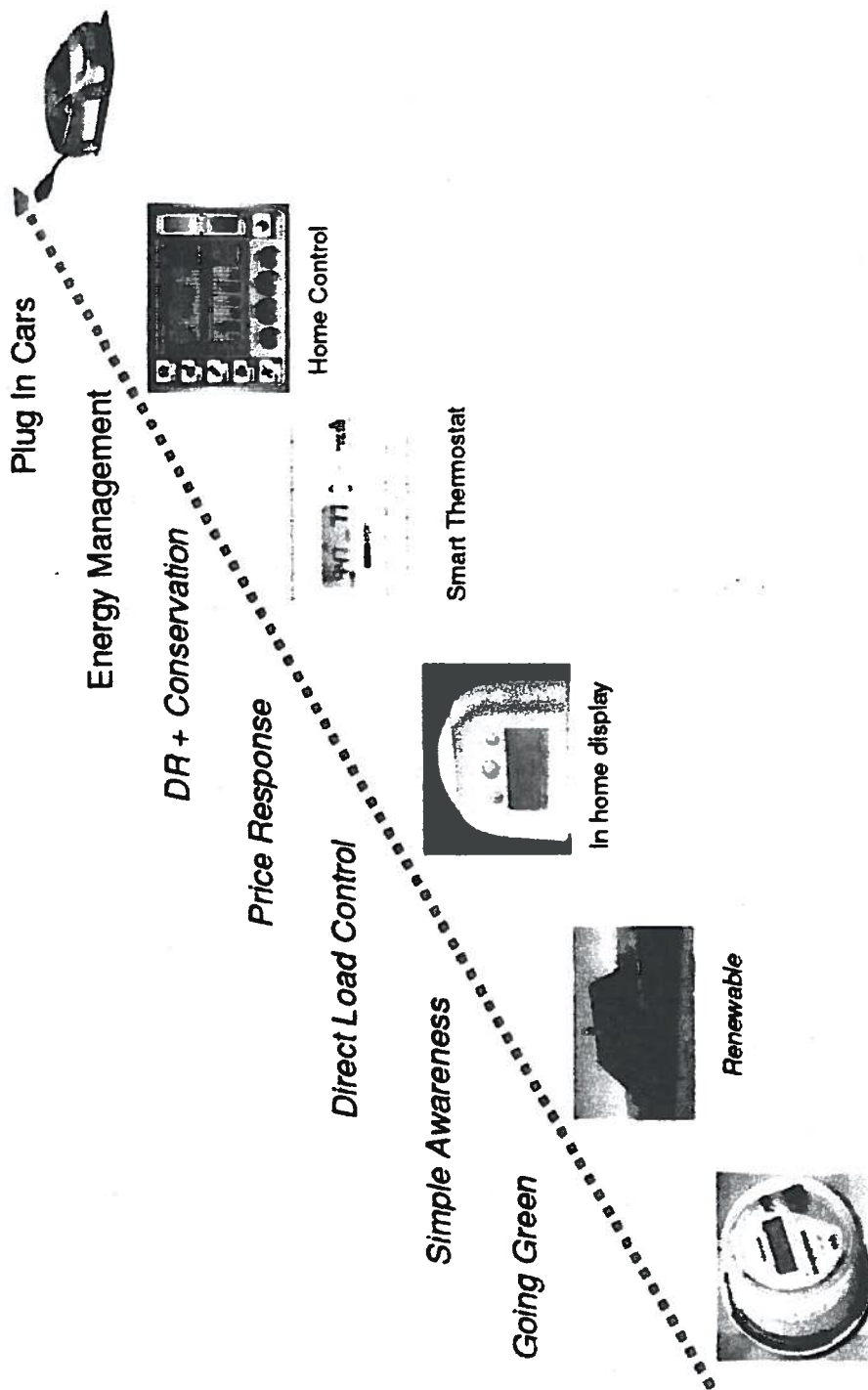
- Randomly select up to 2,000 participants from a pool of residential meters installed and ask the members if they want to volunteer
- The volunteers will be randomly selected for test groups and some will be included in a non-test group.
- All participants will have an in-home display
- Dynamic pricing strategies & programs will be developed and implemented for the test group

In Home Display



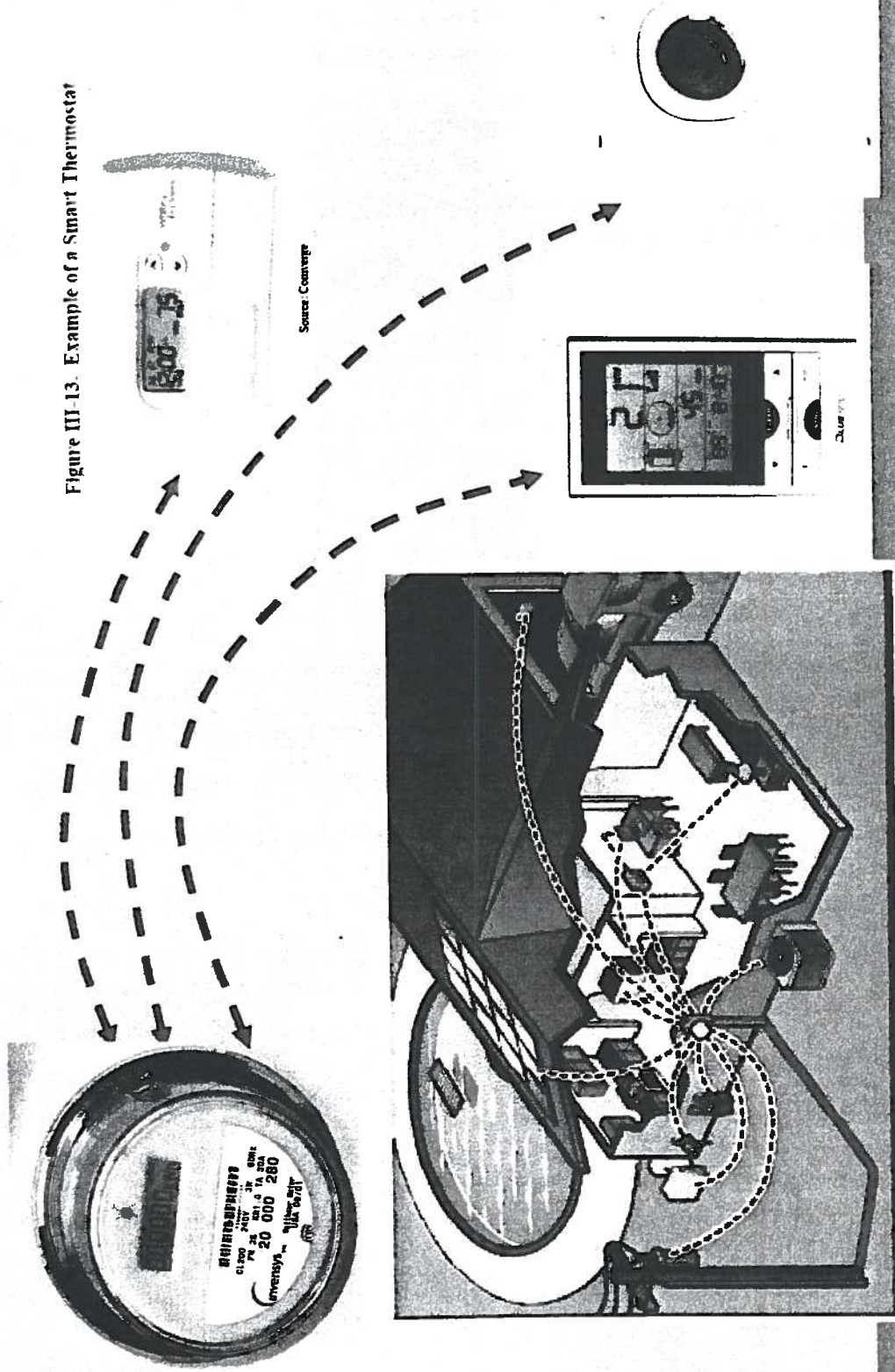
Smart Grid

In the home – Home Area Network (HAN) Opt-In



Home Area Network Supported by AMI

HAN & Smart Appliances "Enabling Technologies" - Opt In



Transparency



- Web page dedicated to project
- Follow progress of project; FAQs
- Explanation, announcement of project, costs – 1 year ahead of deployment
- Comprehensive education, communication plan/effort
- Network with other SGIG recipients to share best practices, dialogue on experiences
- Presentations to community groups

Summary



- **Educate our members**
 - New technology capabilities/opportunities
 - Provide information to make informed decisions on energy usage to save money and energy
- **Provide programs promoting energy efficiency**
- **Optimize our Outage Management System**
- **Optimize our distribution system operations**
 - Business processes
 - Network operations including distributive generation

Thank You. Questions?

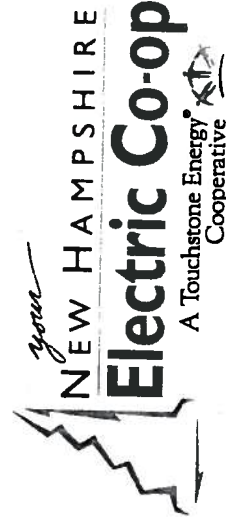


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- Watts Happening
- Emergency Prep
- NRECA Award
- Member Discount
- Fred Said

Your Electric Co-op's Newsletter

JANUARY 2008

Warm Up to Insulation

Insulation is a homeowner's primary line of defense against cold weather with its ability to keep heat inside. Its ability to resist heat flow is measured in R value – the higher the R value, the less heat will be able to transfer. There are many types of insulation on the market today which all have different benefits, applications and costs.

The most common and least expensive insulation is fiberglass. It has been very popular in new construction for decades but does not perform as well as many of the newer advanced types being used today. It can easily be purchased in rolls or batts and installed by a homeowner. When installed properly, it will improve the energy performance of any home.

A more advanced type of insulation is cellulose. Made from recycled newspaper, it's one of the better materials for new or existing construction. It is blown by a machine into attics, wall cavities and other hard-to-reach places. Unlike fiberglass, it can reduce air movement, therefore improving the air leakage of a building.

One advanced type of insulation becoming very popular today is spray foam. Although it is one of the most expensive types, it provides the largest benefit in home performance. Not only does spray foam have the highest R value per inch, but it also eliminates air leakage and provides a moisture and air barrier. It requires some very high tech equipment to install spray foam and should only be installed by a qualified professional.

Insulation also comes in a variety of other materials. Foam boards in 2x8 or 4x8 sheets of different materials can be used easily to provide thermal, air and moisture resistance. Many new homes are utilizing these materials by manufacturing structural panels (SIPS), to create a wall system which provides insulation and framing easily put together on site.

Whatever type of insulation you are using, it needs to be protected with a fire resistant material. Make sure you check with local or state officials to be sure what coverings will be adequate for your particular situation.

(Information for this article was provided by NHEC Residential Energy Efficiency Program Administrator Chris Johnson. Chris is also President of the Northeast Home Energy Rating System Alliance)

Who is Fred? He's Fred Anderson, President & CEO of the Co-op and he's big on energy efficiency!

FRED SAID: "Did you know that you can take a federal tax credit of up to \$500 for adding insulation to your home?"



RESOURCE CORNER



Check these **HELPFUL WEBSITES** for more information about what type of insulation is **BEST FOR YOUR HOME...**

<http://www.ornl.gov/~roofs/Zip/ZipHome.html>

A joint venture between Oak Ridge National Laboratory and the U.S. Department of Energy, this site lets you enter your zip code and a quick calculation will tell you the most economic insulation level for your new or existing house.

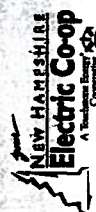
www.insulationsmart.com

An online calculator lets you estimate your potential monthly savings with insulation that minimizes a major source of energy loss from your home.

www.builderonline.com

A great source of "how-to" information that's perfect for the do-it-yourself homeowner.

For member advice please call 1-800-499-5007 Monday-Friday 8-5:00 or visit us online at www.nhec.coop



To report an outage please call 1-800-343-6432
New Hampshire Electric Cooperative
575 Willey Mountain Highway
Plymouth, NH 03264

FEATURE ARTICLE: 2008: What's On Tap?

The Co-op is hitting the ground running in 2008 with plans that build on the success of last year and set the stage for future improvements.

In the field, NHEC will be taking the first steps towards implementation of a Metering Infrastructure (AMI), that will revolutionize the way information is exchanged between our headquarters and the electric meter on your house or business. In 2008 NHEC will begin a multiple step program that upgrades its electronic communications infrastructure to ensure adequate communications coverage from Colebrook to Raymond. The project will be phased in over the next four years.

As part of this comprehensive capital investment, the Co-op will be replacing its aging two-way radio system with a wide area telecom network consisting of microwave and fiber links throughout NHEC's service territory and a two-way radio

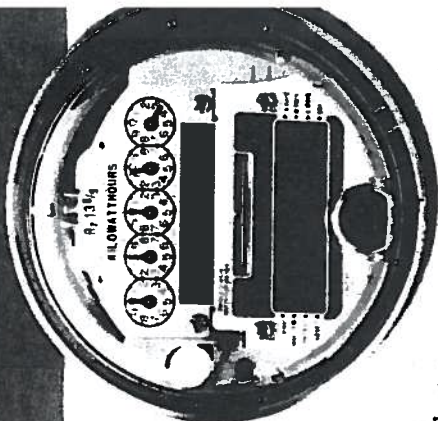
system to replace the existing low band system. These two technologies will greatly improve our ability to "talk" with our crews out in the field and gather data from our substations and meters throughout the service territory.

When AMI is fully deployed in the later stages of the project, NHEC will be able to read every meter every day, on a schedule or on demand. There will be no need for meter readers to go to every property each month, nor will there be a need for Metering Specialists to make trips to properties for "off-cycle" activities such as re-reads or transfer reads. Under a funding plan approved by the NHEC Board of Directors, the entire Communications/AMI implementation will be paid for by repurposing existing funds, thereby avoiding the need to increase rates.

Also in 2008, the Co-op will be expanding its energy efficiency and renewable energy programs to help members reduce their carbon

emissions and manage their energy costs. NHEC will continue to offer rebates on the installation of solar hot water systems and wind generators in its service territory. New in 2008, rebate offers will also be extended to members installing solar photovoltaic systems (solar PV). The Co-op will also expand its Commercial & Industrial program to include rebates on the replacement of fossil fueled boilers with high efficiency units, as well as a rebate program for businesses installing geothermal heat pump systems.

There's a lot to look forward to in 2008 and we'll keep you up to date on our progress in the months to come.



Winter Storm Outages – Be Prepared

Winter is here – be ready for storm-related outages with the following preparations...

A home emergency kit can be invaluable in an outage, especially if power is likely to be out for some time. We all hope that any outage is short lived, but preparing for longer interruptions is time well spent. Here are some ideas for your kit:

Basic Needs

- Portable radio
- Flashlight(s)
- Spare batteries
- Candles
- Matches or a lighter
- Wind up or battery alarm clock
- Moist towelettes (baby wipes)
- Freezer ice packs - keep them in the freezer all the time so they're ready to use
- Large cooler or ice chest
- Sleeping bags or blankets
- Warm, dry clothing
- First aid kit
- Personal hygiene supplies
- Baby supplies, including diapers

Water

If you know a storm with the potential to cause outages is coming, fill containers with water, including your bathtub(s). Separate water for drinking from that for other uses. Flush toilets sparingly with a bucket of water.

Food

Plan on a 3 to 5 day supply for each member of the family, including family pets. These can include:

- Canned meats, vegetables and fruits
- Prepared meals
- Instant foods
- Foil pouch products
- Infant foods and needs
- Pet foods
- In addition, the following will make life without power easier:
 - Manual can opener
 - Disposable plates, cups, and eating utensils
 - Camp stove and fuel

To Report an Outage

The Co-op's Control Center is a busy place during times of widespread power outages. You can help our employees and yourself if your power goes out by following these simple steps:

- To report an outage, call 1-800-343-6432. We recommend you keep this number posted in a convenient place in your home – near the phone, on your refrigerator...wherever it's easy to remember and locate.
- Have your account number ready – if we don't have your phone number on record, you'll be prompted to enter your 10-digit account number. This information will automatically enter your outage in our computer database without the need to speak to a Control Center employee directly.
- Tune in to local radio – the Co-op will notify local radio stations in your area if we expect your power to be out for an extended period of time.

Co-op Wins 2008 National Community Service Award

The National Rural Electric Cooperative Association (NRECA) announced that New Hampshire Electric Co-op (NHEC) is the recipient of its 2008 Community Service Award for Energy Efficiency.

The award recognizes NHEC's energy efficiency efforts at Cranmore Mountain in North Conway, where the ski area saved more than \$50,000 in energy costs last winter.

NHEC bested more than 60 electric cooperatives from across the country in winning the award, which is given annually to a cooperative that has done the most to provide their members with the most efficient systems and practices possible.

Working in partnership with Cranmore staff, NHEC provided a rebate of \$15,000 toward the purchase of 20 low energy tower snow guns that are estimated to be 60% more energy efficient than conventional guns. In addition, NHEC provided the capital to purchase two fan guns costing \$56,300 through its SmartSTART program (Savings Through Affordable Retrofit Technologies). This program allows for the cost of improve-

ments to be repaid over time on the member's electric bill, using the energy savings generated by the products themselves.

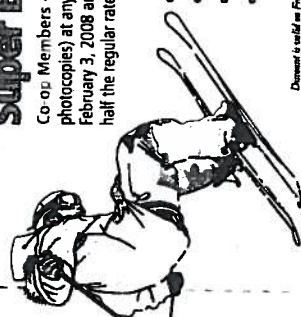
NHEC also developed a program for Cranmore staff which enabled the resort to participate in ISO-New England's demand response program. Notified by NHEC of high electricity prices/demand periods, Cranmore was able to curtail its electric usage and get paid the actual price for the power it did not consume. 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.

NHEC will receive the award at NRECA's 2008 Annual Meeting to be held February 24-27 in Anaheim, CA. NRECA is the national service organization that represents the nation's more than 900 private, not-for-profit, consumer-owned electric cooperatives, which provide service to 40 million people in 47 states.

Get half-price lift tickets on Super Bowl Sunday

Co-op Members - Present this coupon (originals only, no photocopies) at any of the following ski resorts on Sunday, February 3, 2008 and receive up to four all-day lift tickets at half the regular rate in effect at the time:

- Cranmore
- The Balsams Wilderness Ski Area
- Black Mountain
- Dartmouth Skiway



Demand is valid on February 2, 2008 and is a combined total of any other lift tickets held by the member on the day of the event. This offer is subject to availability. Co-op members may also purchase lift tickets through the Co-op website at www.nhecc.com.

Super Sunday Ski Bash!

The Co-op is again teaming up with its member ski areas to offer half-price all-day lift tickets for members only on Sunday, February 3, 2008.

Start your Super Bowl Sunday on the slopes, then get ready to cheer on the Patriots (fingers crossed) in the big game!

Clip the coupon to the right and present it at the ticket window at any of the participating mountains on February 3, 2008 to receive your discount. Each coupon is good for up to four people and applies to all age groups.

Take your pick of any of these great ski resorts: Cranmore (North Conway), The Balsams Wilderness Ski Area (Dixville Notch), Black Mountain (Jackson), Dartmouth Skiway (Lynde).

Board of Directors Meetings

The NHEC Board of Directors meets monthly at dates and locations that are available on the Co-op website at www.nhecc.coop/boardofdirectors, or by calling Sharon Yeaton at 603-536-8801.

Seeking Candidates for Board of Directors

Four seats on the 11-member Co-op Board of Directors will be up for election to three-year terms in 2008. In a cooperative, the members themselves elect candidates they feel will best represent them on the Board of Directors. Voting takes place by mail ballot in May 2008 with board members installed at the June annual meeting. The Co-op seeks broad representation from a diverse group of individuals and encourages all qualified members to consider running for one of the open seats. You must be a Co-op member in order to run for a position on the Board. For more information about how to get your name on next year's ballot, contact Sharon Yeaton at 603-536-8801, or nhecc@nhecc.com.

D.C. Youth Tour – Last Chance!

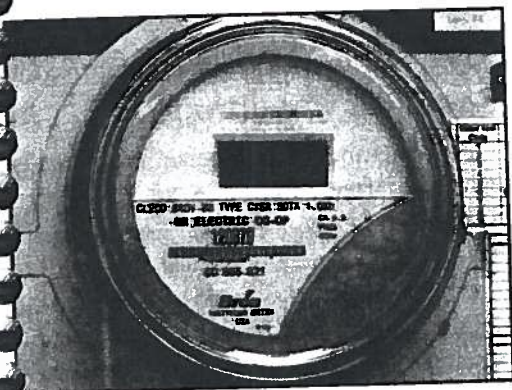
11 high school juniors have until February 29, 2008 to apply for a spot on the 2008 Washington D.C. Youth Tour. To enter, just write a letter to an elected official about an issue that's important to you. Before you send it, make a copy and send it to Youth Tour Coordinator Audrey Simpson, c/o NHEC, or simpsona@nhecc.com. More information is available under the Community menu on our website: www.nhecc.com.

Average Bill Going Down in January

Members will see a modest bill decrease effective this month. The monthly bill for the typical residential member will go down approximately 73 cents due to a combination of rate changes. While the Delivery Charge portion of your bill will increase slightly to cover the cost of the Co-op's expanded energy efficiency and renewable energy programs, a reduction in the Stranded Cost portion of your bill will more than offset that increase. The Stranded Cost charge is a per kilowatt-hour charge that pays for part of the costs related to the Seabrook Station nuclear power plant and the cost of terminating a long-term power supply contract with Public Service of New Hampshire.

Featured Article:

Advanced Metering Infrastructure (AMI): Get the Facts



Starting this fall, NHEC will begin swapping out existing electric meters with advanced, digital electric meters. At first, it will be business as usual - you'll continue to receive the same electric service with the same rate structure. Over time, however, the new meters will allow you to take advantage of new tools to better manage your electricity use. How will a simple meter do that? Let's look at the facts...

AMI meters feature two-way communications.

All 80,000 meters in NHEC's service territory are being replaced over the next three years. Instead of a meter reader visiting your property once a month to record your usage, AMI meters will report their own readings via a wireless communications network. NHEC will receive the same information from these meters as it currently does, however, the information will be more timely and provide you with more information on your energy usage so you can make decisions on how you use energy. These meters will also provide more real-time information on power outages. This will enable more efficient operations and communications.

AMI can help you control your energy costs – but only if you want it to.

The two-way flow of information that is possible with AMI opens the door to a number of potential cost saving applications, but only if you want to take advantage of them. By installing switches on the biggest energy users in your home – air conditioners, clothes dryers, water heaters, etc. – a signal can be sent through your meter that lowers or shuts down the appliances when energy prices or regional demand exceed a pre-set limit. However, simply installing an AMI meter in your home or business does not give NHEC the ability to remotely adjust your energy usage. This feature can only work with the installation of load control devices that will not be installed unless you want them and expressly allow NHEC to install them.

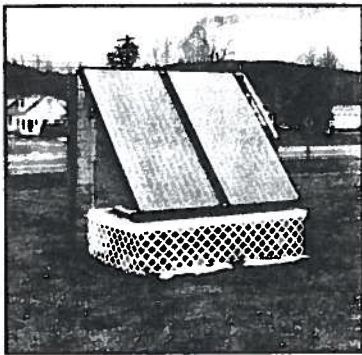
If you choose to participate in the voluntary programs available, this two-way flow of information between your meter and NHEC will provide you with an opportunity to use a variety of in-home energy management systems and intelligent controls in appliances. In fact, members selected from a group of approximately 8,000 will be able to start using some of these enhanced capabilities right away as part of NHEC's Smart Grid Demonstration Project. One thousand demand response switches will be installed at members' homes in the Demonstration project area who volunteer to be part of the program. These switches will remotely control devices, with the members' consent, such as water heaters or thermal storage devices, helping NHEC reduce its members' peak load. In addition, 500 in-home displays will be provided to selected members' homes, allowing them to understand their energy use patterns, view real-time usage data, historical data, and actual costs. Using data collected from the Demonstration group, NHEC will then decide whether or not to expand the program to all members.

Learn more at nhec.coop

The web home of NHEC's AMI transition is www.nhec.coop. Follow the progress of meter installations, browse our list of Frequently Asked Questions and find out when your town is scheduled to receive the new meters. Information is also available by calling NHEC Member Solutions at 1-800-698-2007.

Skip the Stamp...Pay Your Bill Online! NHEC.COOP

Rebates for Renewable Energy Education Projects



NHEC has rebate money available to help businesses and institutions promote the growth of renewable energy.

Say you're a business that's planning to install a solar hot water system or wind turbine. If you add a public education component to that project (signage, tours of the system, an online link to follow its performance, etc.), then NHEC will rebate 25% of the cost up to \$5,000.

All business entities will be eligible including schools, towns, non-profits, for-profits, etc. The only requirement is a component that allows the community to benefit from the installation. For more program details and rebate applications, please visit our website at www.nhec.com/renewable_energy_programs, or contact Member Solutions at 1-800-698-2007.

Co-op Member Discounts

Deyab Electric, L.L.C.

Robert G. Deyab II,
Master Electrician Serving the
Lakes Region

25% Off All Services
(limit one 8-hour day)

**Free CFL Bulb w/Every Light
Fixture Installed**
(while supplies last; limit 20 per household)

www.deyabelectric.com 603-944-8181
Coupon expires December 31, 2010



\$500 Off Admission

153 Parade Road
Meredith, NH 03253

"COME HOME TO FORESTVIEW"

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- Short Term Respite - Grant money available
- Adult Day Care
- Veterans Funds Available

For more information and a tour please call
Susan at 279-7612

www.forestviewmanor.com

White Mountain Photography and Photo-Gallery
Located at The Snowflake Inn in Jackson Village, NH
P.O. Box 285, Bartlett, NH 03812
603-374-6070



25% Off

All Purchases

Limit one coupon per person
Coupon expires December 31, 2010



Harborside Dental
Center Harbor, NH

25% Off
New Patient Cleaning

- prophylaxis only
- one discount per person
- must present coupon at time service is rendered

www.drtaoka.weebly.com 603-253-8700



For member service
please call
1-800-698-2007
Monday-Friday, 8-5:00
or visit us online at www.nhec.coop

To report an outage
please call
1-800-343-6432

Watts Happening

Board of Directors Meetings

The NHEC board of directors regularly meets on the last Tuesday of each month at the cooperative's headquarters in Plymouth. Please check the Board of Directors page on the Co-op website at www.nhec.coop, or call Sharon Yeaton at (603) 574-3801 to confirm the current meeting time and location.

ENERGY STAR

Co-op Member Discounts

Co-op members can receive a \$20 mail-in rebate after purchasing an ENERGY STAR appliance.

In addition to the \$20 rebate, members can receive an additional 10-20% less on the purchase of \$25 per year or more information about the benefits of ENERGY STAR appliances, including a list of participating ENERGY STAR appliance retailers in New Hampshire, please visit the Co-op online at www.nhec.coop.

A Boat Trailer, Portrait Camera and a Compound Bow

What do they have in common? They were all for sale last month in the online Co-op Classifieds. Buy, sell or swap at www.nhec.coop. Ads are free of charge to Co-op members and there's no limit on how many ads you can post. To get started, register online and follow the links to post your free ads.

Free Fluorescent Bulb Recycling

Our Plymouth headquarters (Tenney Mountain Highway) and Meredith District building (Route 25) are accepting fluorescent tubes up to four feet in length, and compact fluorescent (limit six per household, per visit). Hours of Operation:

Plymouth: 8 a.m. - 4:30 p.m., M-F
Meredith: 7:30 a.m. - 2 p.m., M-F

New Hampshire Electric Cooperative
579 Tenney Mountain Highway
Plymouth, NH 03264

Featured Article:

Lights, Rebate... Tomatoes!

used to dread the arrival of the electric bill," recalls Dan Nelson, co-owner of Hobbit Hill Farm in Wentworth, NH. With an average bill over \$1,000 per month, Nelson had good reason to cringe. But thanks to a lighting retrofit and rebate from New Hampshire Electric Cooperative (NHEC), Nelson's greenhouse is back in the black.

Replacing high pressure sodium lights with state-of-the-art LED tri-band grow lights has maintained his yield of locally-grown tomatoes but cut his monthly electric usage in half. For a small business like Hobbit Hill Farm, that kind of savings has an immediate impact on the bottom line.

"I'm always looking at what I can do to control costs, but electricity is something I had no control over," Nelson said.

No longer. Now, Nelson says he's running more lights for more hours and paying half what he used to. That's good news for him and his customers, which include restaurants and stores all over New Hampshire that are grateful to stock and serve locally-grown produce in the dead of winter.

Businesses and residents are taking advantage of NHEC's energy efficiency programs to save energy and money. To see how you can too, visit www.nhec.com/energy_efficiency_programs, or call 1-800-698-2007.



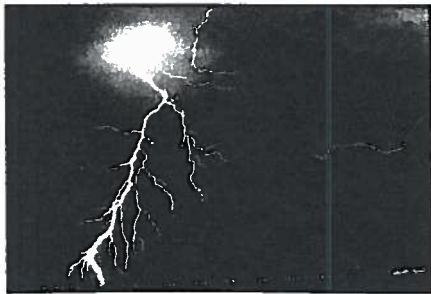
Tomatoes ripen in winter beneath LED grow lights at Hobbit Hill Farm in Wentworth

Take Cover With Whole House Surge Protection

Lightning and power surges can wreak havoc on your appliances and electronics. That's why the Co-op has made it easier and more affordable to safeguard your valuable possessions.

What Is Whole House Surge Protection?

Whole house surge protection provides your home with two levels of surge protection. First, the Kenick Surge Arrester blocks surges from entering your home with a special device installed by a Co-op technician at your electric meter. This device protects your home and major "white" appliances, such as your refrigerator, stove, dishwasher and washing machine/dryer.



Also, you'll receive four high-quality plug-in devices (HomeGuard Surge Protection kit) to provide a second level of protection for your television, computer and other sensitive electronic equipment. You'll get all this and a socket tester for just \$450, including delivery and installation.

Order Today

For more information or to order, call Co-op Member Solutions at 1-800-698-2007, or visit www.nhec.coop.

Advanced Metering Project Is A Cooperative Effort

There's a lot more to NHEC's Advanced Metering Infrastructure (AMI) project than swapping one meter for another.

Electric meters that report their own readings, inform members about their usage and balance electric supply with demand will rely on networks - both technical and human. At NHEC, we're building those networks to prepare for 2011 when the first AMI meters are deployed.

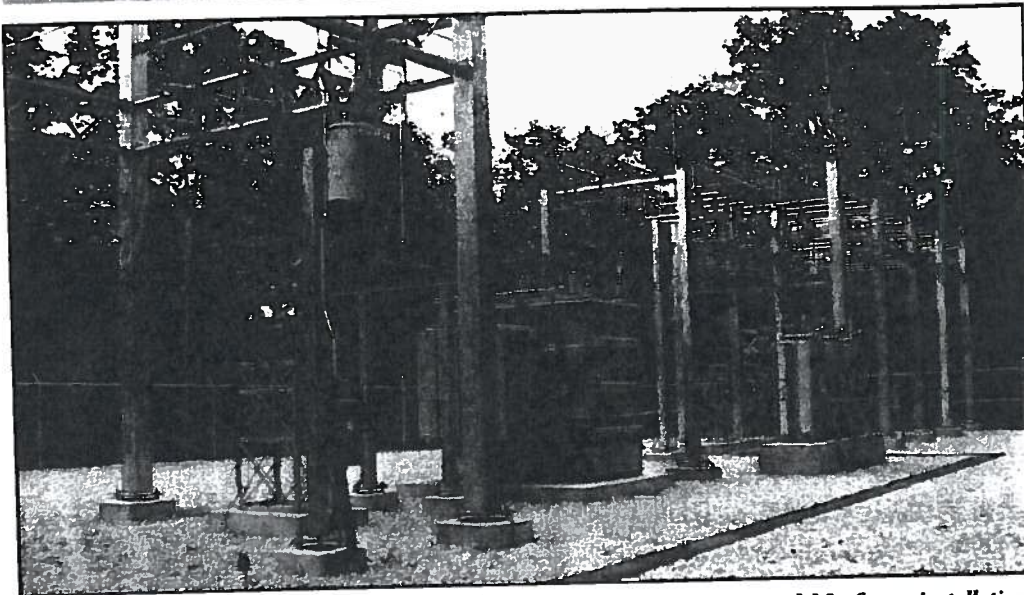
From mountaintop to conference room...

The technical backbone of the AMI project is a network of radio, microwave and fiber optic links that will allow for seamless communications between your AMI meter and our Plymouth headquarters. To that end, we've been to the tops of mountains and the deepest hollows securing locations for communications equipment. At the same time we've been poring over proposals from vendors seeking to be the Co-op's provider of AMI equipment, software and expertise.

Nearly half of the company's 190 employees have been involved in planning some part of the AMI project - a true cooperative effort involving no fewer than seven cross-functional teams.

This fall marks the transition from AMI planning to installation. To keep up on the project schedule, background information, Frequently Asked Questions and more, visit the AMI home on our website: www.nhec.coop.

New Substation Sharing Summer Load



The Moultonborough Neck substation is standard Co-op design and will be the model for future installations.

The new Moultonborough Neck Substation went online in June – just in time for another busy season in New Hampshire's summer playground.

The new facility is a welcome relief for the Co-op's Center Harbor substation, which had been operating at full capacity during the summer months. The new facility, which converts 34.5kv voltage to 12.5kv voltage, will also complete a redundant tie from the Tuftonboro substation to the Corliss Hill substation off Route 104 in Meredith. This tie gives the Co-op the capability to transfer loads between substations, which minimizes member outages associated with maintenance and/or system damage.

The new substation will feed all loads on Moultonborough Neck along with those members on Route 25 from the Center Harbor substation to the Moultonborough Neck Road intersection. These loads were all previously fed from the Center Harbor substation. In 2011 an additional circuit will be constructed from the new substation to feed the Shaker Jerry Road area, further improving service reliability.

Watts Happening

Covered Bridge 5K Suspended

NHEC is announcing the suspension of the Cooperative Covered Bridge 5K road race. Difficult economic times have contributed to a decline in donations to the race, which has been held for the past four years on Labor Day weekend in Plymouth. The decision to suspend the race was made when it became clear that the minimum fundraising threshold would not be met. The race relies solely on fundraising and race registrations. NHEC wishes to thank everyone who has supported the Cooperative Covered Bridge 5K road race.

A Cabin Cruiser, Cement Steps and a Table Saw...

They were all for sale last month in the online Co-op Classifieds. Buy, sell or swap at www.nhec.coop. Ads are free of charge to Co-op members and there's no limit to how many ads you can post. To get started, register online and follow the links to post your free ads.

Outage Management System: Make It Work for You

NHEC has a powerful tool to help you report a power outage and keep you updated on the status of repairs. It's completely automated, but it will only work if we have an up-to-date phone number for your account. Our Outage Management System (OMS) will automatically recognize your phone number and associate it with your service location and report your outage to the NHEC Control Center. To get your phone number on record with us, call Member Solutions during regular business hours at 1-800-698-2000. Or, update your information anytime online in the My Account section of our website nhec.coop.

Board of Directors Meetings

The NHEC Board of Directors regularly meets on the last Tuesday of each month. Please check the Board of Directors page on the Co-op website at nhec.coop, call Sharon Yeaton at (603) 536-8801 to confirm the current month's meeting time and location.

Co-op Member Discounts



**SQUAM LAKES
NATURAL SCIENCE CENTER**

\$5 Off Admission

New Hampshire Electric Co-op Members present this coupon to receive discount.
Limit four admissions per coupon.
Coupon expires 10/31/10.

Holderness, NH

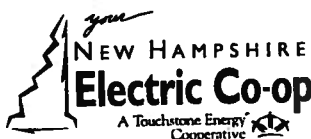
(603) 968-7194

**Whale's Tale
WATERPARK**
LINCOLN, NEW HAMPSHIRE

\$8 Off Admission

**August 23 - September 6,
2010 Only**
(coupon good for up to four people)

Check out Shipwreck Island...our biggest and best expansion yet!



For member service
please call
1-800-698-2007
Monday-Friday, 8-5:00
or visit us online at www.nhec.coop

To report an outage
please call
1-800-343-6432

New Hampshire Electric Cooperative
579 Tenney Mountain Highway
Plymouth, NH 03264

FreezeAlarm:

Peace of Mind Is a Phone Call Away

Old Man Winter can leave you with plenty of worries; the safety of your seasonal home shouldn't be one of them.

Available from your Co-op, the FreezeAlarm™ is a temperature alarm and power outage notification product that monitors your home's electricity and temperature. The FreezeAlarm will call up to three phone numbers if the power goes out, or the temperature drops below (or rises above) a preset point, so you can take action to protect your home and property against frozen pipes and water damage due to heat loss.

And because you buy the FreezeAlarm from your Co-op, check out all the extras we include at no additional charge: Phone Cord, Phone Splitter, 9V Long Life Battery, Surge Protector, Shipping. You'll pay an extra \$50 elsewhere for these items that are all included in the purchase price.



Choose from three models:

INTERMEDIATE

Calls up to three phone numbers and alerts you if: 1) the temperature gets too low (OR too high); 2) the power has been out for one hour or more; or 3) the back-up battery needs replacing. Call from any touchtone phone to find out what the temperature is and if the power is on. Easy to install out of the box.

Price: ~~\$249.95~~ **\$199.95** until November 30, 2010

DELUXE

Same features as Intermediate, plus with the addition of a second thermostat (purchased separately), you can remotely switch between a lower, "unoccupied" temperature and a higher, "occupied" temperature. Requires professional installation.

Price: ~~\$339.95~~ **\$289.95** until November 30, 2010

DELUXE W/WATER ALARM

This model adds protection against water leaks. When the sensor detects water at a designated location, an audible alarm sounds and the FreezeAlarm calls the three programmed telephone numbers. Requires professional installation.

Price: ~~\$369.95~~ **\$319.95** until November 30, 2010

For more information about the FreezeAlarm or to order, call Member Solutions at 1-800-698-2007, or visit www.nhec.coop.

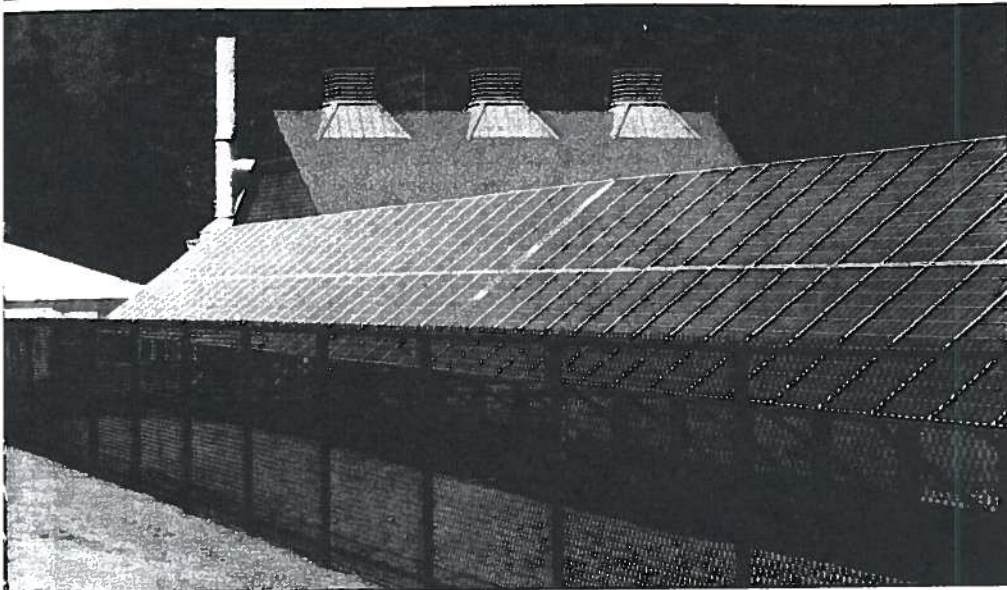
Right-of-Way Clearing Schedule Now Posted Online

In the battle against power outages, right-of-way clearing is the Co-op's most effective weapon. A right-of-way (ROW) refers to the strip of land underneath and around power lines that NHEC has the right to access for vegetation maintenance purposes. Property owners of land on which NHEC holds a ROW often have questions about how the land can be used and how NHEC goes about keeping its ROWs clear.

Now available on the NHEC website (www.nhec.coop) is a schedule that identifies which ROWs will be cleared and when. Each year, NHEC spends nearly \$2 million clearing approximately 340 miles of land beneath power lines. In addition, NHEC has a Danger Trees program that identifies trees outside of the 30 foot right-of way (15 feet on either side of the line) and removes them if they are deemed a threat to fall on power lines.

The ROW web page has complete details about the Co-op's ROW clearing program and practices.

Tapping the Sun & Earth for Energy



NHEC is purchasing the Renewable Energy Credits being generated at the North Conway Water Precinct.

The state's largest solar array is online and helping New Hampshire Electric Co-op (NHEC) meet its renewable energy goals.

Spread across three acres, 744 solar panels are generating about 15% of the electrical needs of the North Conway Water Precinct. The alternative energy project also includes a geothermal/HVAC system that will provide all the heating and cooling loads for the Precinct's administration and maintenance buildings.

NHEC will be purchasing 100% of the Renewable Energy Credits (RECs) generated by the solar electric system. The credits will be used to help meet NHEC's requirements under the NH Renewable Portfolio Standard, which is designed to promote increased generation of electricity from renewable sources of energy.

NHEC officials were on hand August 12 in North Conway to join U.S. Senator Jeanne Shaheen (D-NH) in flipping the switch that started power flowing from the solar panels to the water treatment facility nearby. The project, which was funded by the American Recovery and Reinvestment Act (ARRA) and the NH Revolving Loan Fund, will produce approximately 173,000 kWh of electricity annually and save approximately 6,000 gallons of fuel oil per year. To learn more about the project, visit www.ncwpmh.org.

Watts Happening

Board of Directors Meetings

The NHEC Board of Directors regularly meets on the last Tuesday of each month. Please check the Board of Directors page on the Co-op website at nhec.coop, or call Sharon Yeaton at (603) 536-8801 to confirm the current month's meeting time and location.

A Well Pump, a Dog Kennel and a '77 Corvette

They were all for sale last month in the online Co-op Classifieds. Buy, sell or swap at www.nhec.coop. Ads are free of charge to Co-op members and there's no limit to how many ads you can post. To get started, register online and follow the links to post your free ads.

October Golf Discounts Are Online

Choose from a number of golf courses offering Co-op members half-price rounds all over the state in October. To download your coupons, go to: www.nhec.coop/community_events

Scholarship Winners Announced

Congratulations to the winners of six \$1,500 scholarships awarded by the NHEC Chapter of Dollars for Scholars.

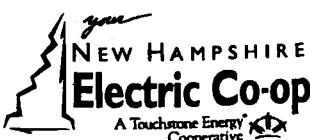
Molly Harper, Gilmanton
Emily Bird, Moultonborough
Emily Davis, Tuftonboro
Shannon O'Connor, Lincoln
Shelby Howard, Gilford
Bradly Cook, Langdon

Outage Prevention Is Another Benefit of Advanced Metering Infrastructure (AMI)

When NHEC begins installing new digital electric meters next year as part of its Advanced Metering Infrastructure (AMI) project, the most visible improvement will be the ability to see your electric usage hour by hour in near-real time. Another benefit will be less visible but no less valuable – outage prevention and management.

Using the same communications network that will be relaying usage data from meters to NHEC, embedded sensors and automated controls will anticipate, detect, and respond to problems on the electrical system itself. A traditional power grid is reactive. For example, when demand for power in a particular area is overloading a transformer, the electric utility usually knows about it only after the transformer has failed and caused an outage. In an AMI environment, utilities can capture data that indicates a problem and can correct imbalances between electrical demand and the ability of equipment in the field to meet it.

However, this is New England and no amount of technology can prevent the wind from blowing trees down on wires. When this does happen, AMI technology will be able to pinpoint what meters are out of power, how to re-route power around the affected area and where to send lineworkers to make repairs. That all adds up to better member service. Learn more at www.nhec.coop/AMI.



For member service
please call
1-800-698-2007
Monday-Friday, 8-5:00
or visit us online at www.nhec.coop

To report an outage
please call
1-800-343-6432

New Hampshire Electric Cooperative
579 Tenney Mountain Highway
Plymouth, NH 03264

Feature Story:

Technologies That Will Drive a Smarter NHEC Grid

The Co-op's creation of an Advanced Metering Infrastructure (AMI) will be one of New Hampshire's largest deployments of two-way meter technology. When the project is complete in 2013, nearly every Co-op electric meter will be sending and receiving information that helps members better manage their energy use and direct the efficient flow of energy around the NHEC distribution system. Making that happen requires an array of enabling technologies—such as integrated communications, sensors, and energy management devices.

Advanced Metering

Key components of any AMI system are advanced electric meters that send information back to the utility, making it possible for utilities to read meters remotely and pinpoint the location of power outages more precisely. They also allow consumers to see how much power they are using, what it is costing, and—if they have distributed power sources such as wind turbines or solar panels—provide power back to the grid.

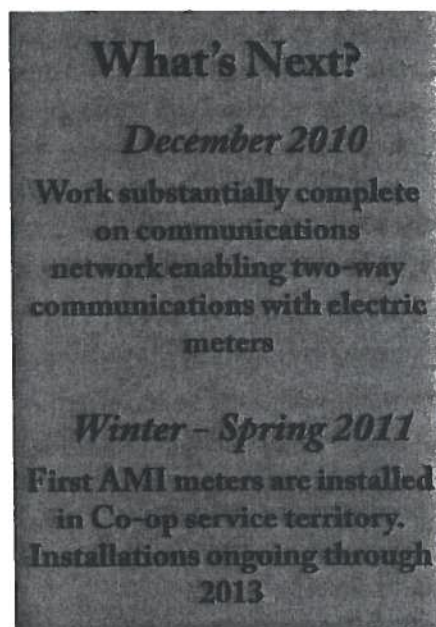
Appliance Switches and In-Home Displays

Using signals from an AMI meter, appliances can be programmed to operate in accordance with peak demand and/or time-of-use pricing. In-home displays will provide homeowners with usage and price information. NHEC will be launching pilot programs using both these technologies.

Sensors

Special sensors and relay units will be positioned along transmission and distribution lines to sample voltage and current many times per second. Taken together, these measurements offer a wide area situational awareness of the NHEC distribution system - working to efficiently meet demand and prevent power disturbances.

More details about NHEC's AMI Project: www.nhec.coop/AMI



Save up to \$50 on FreezeAlarm

Now through November 30, 2010, Co-op members can save up to \$50 on a FreezeAlarm, the temperature and power outage notification product that monitors your home's temperature and electricity. More details: nhec.coop/products

Intermediate (save \$20): Calls up to three numbers in the event of power loss or temperature drop. Price: \$199.95 until November 30, 2010

Deluxe (save \$50): Same features, but allows for remote adjustment of temperature. Price: \$289.95 until November 30, 2010

Deluxe w/Water Alarm (save \$50): Same features as Deluxe, but sounds audible alarm when water leak is detected. Price: \$319.95 until November 30, 2010



Should have had a FreezeAlarm!

NOTICE: Disposal of Fleet & Equipment

New Hampshire Electric Cooperative (NHEC) is preparing to offer for bid, vehicles and equipment that are ready for disposition. This bid offering is being made available to the membership, Co-op employees and retirees with the disposal process and listing of vehicles as follows.

Member Solutions representatives cannot answer questions regarding vehicles and equipment being disposed. All questions will be answered during the two vehicle and equipment viewing dates listed.

Bid sheets for submitting bids can be picked up at the viewings. A separate sheet for each vehicle bid must be submitted. Sealed bids are due by the end of the workday (4:30 p.m.) Thursday, November 11, 2010. Bid openings and awarding of bids will take place Friday, November 12, 2010. Vehicles are sold "As is" and "Where Is" without warranties of any kind whatsoever. NHEC reserves the right to reject any and all bids.

Payment must be made and vehicle(s) removed by Tuesday, November 23, 2010.

Payment will only be accepted in the form of cash, certified check, or bank draft.

Viewing dates and times:

Tuesday, November 2, 2010,
9 a.m. to 6 p.m.

Wednesday, November 3, 2010,
9 a.m. to 6 p.m.

Bids due:

Thursday, November 11, 2010, 4:30 p.m.

Bid openings and awards:

Friday, November 12, 2010

Vehicle/Equipment removal:

No later than November 23, 2010,
4:30 p.m.

Vehicle viewing location:

NHEC Vehicle Maintenance facility
533 Tenney Mountain Highway
Plymouth, NH

Information on the vehicles and equipment will be provided only at the scheduled viewing dates listed. Please do not contact the Co-op about vehicle and equipment conditions.

Tentative list of vehicles and equipment for November disposal includes:

- (1) 2004 Chevy Express Van
- (2) 2002 Chevy K 1500 4x4 pickups
- (1) 2001 Ford E-250 Cargo Van
- (1) 2003 Ford E-150 Cargo Van
- (1) 2002 Dodge Dakota 4x4 pickup
- (1) 2003 Dodge Dakota 4x4 x-cab pickup
- (1) 2004 Dodge Dakota 4x4 x-cab pickup
- (1) 1997 IHC 4900, 50 ft. material handling boom
- (1) 1997 Ford F 450 4x2, 35 ft. boom.
- (1) 1994 Summit Equipment trailer (14,600 GVW)
- (1) 1974 Kellogg utility wire trailer

LIST IS SUBJECT TO
CHANGE

Watts Happening

Board of Directors Meetings

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An Antique Sewing Machine, Golf Balls and a Grand Piano

They were all for sale last month in the online Co-op Classifieds. Buy, sell or swap at www.nhec.coop. Ads are free of charge to Co-op members and there's no limit to how many ads you can post. To get started, register online and follow the links to post your free ads.

Understanding Your Bill

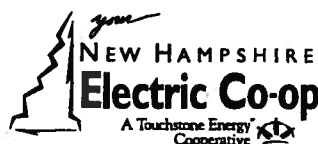
NHEC has an online resource that summarizes electric rates to better help you understand the charges on your bill. Just visit nhec.coop and click on *Member Service*, then *Understanding Your Bill*.

School Electrical Safety Presentations

Attention elementary school teachers – make electrical safety a part of your classroom curriculum with a free presentation by the Co-op.

Designed for students in grades 3-5, this free presentation combines fun and learning while stressing the importance of playing it safe around electricity.

To schedule a visit, please contact Seth Wheeler at (603) 536-8685; wheelers@nhec.com.



For member service
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or visit us online at www.nhec.coop

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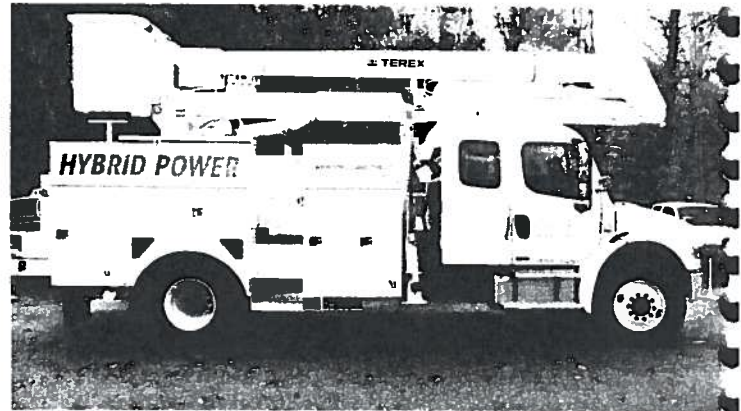
Feature Story:

Co-op Hybrid Hits the Road...Quietly

The newest addition to the Co-op fleet is pulling double duty – working in the field and promoting the diverse applications of hybrid power.

The 2010 Freightliner bucket truck features a diesel-electric hybrid motor that reduces the overall carbon footprint of the vehicle by an estimated 83%. But the difference most people notice is the noise, or lack thereof.

On a traditional bucket truck, the aerial boom is powered by the truck's diesel engine, which is left idling while work is performed. On a hybrid truck, the engine can remain off for long periods while the aerial unit operates on power supplied by lithium-ion batteries. When the batteries run low, the diesel engine kicks on just long enough to recharge them. The result – fewer emissions and less noise at work sites. The batteries also supply power to the diesel engine at low speeds, improving fuel economy by an estimated 45%. Fuel savings alone over the life of the vehicle are expected to be in excess of \$43,000.



The truck chassis was supplied by Freightliner of NH, which also oversaw the hybrid conversion process. The James A. Kiley Company mounted the aerial boom. The purchase of the vehicle was subsidized by a grant from the Granite State Clean Cities Coalition and New Hampshire Department of Transportation's federal Congestion Mitigation and Air Quality program. The truck will be garaged in the Co-op's Raymond operating district and will be serving members in that area.

Candidates Wanted for Board, Nominating Committee

The Co-op is governed by a Board of Directors, which is elected by the members themselves. Each year, a Nominating Committee recommends candidates to run for the Board of Directors. This year, NHEC is seeking members interested in serving on both panels.

Board of Directors

Three seats on the 11-member Board of Directors will be up for election to three-year terms in 2011. Voting takes place by mail ballot in May 2011 with Board members installed at the June annual meeting. The Co-op seeks broad representation from a diverse group of individuals and encourages all qualified members to consider running for one of the open seats. You must be a Co-op member in order to run for a position on the Board. For more information about how to get your name on next year's ballot, contact Sharon Yeaton at 603-536-8801, or yeatons@nhec.com.

Nominating Committee

Any Co-op member interested in being part of the candidate selection process for the NHEC Board of Directors is encouraged to apply for a position on the Nominating Committee by December 14, 2010. The Nominating Committee reviews the qualifications of potential candidates seeking election to the Board of Directors and nominates a slate of candidates to run for open seats on the Board. Time commitments typically include three to four all-day meetings between mid-January and mid-March, as well as a substantial amount of time reviewing candidate material. To submit your name for consideration, please provide a summary of your background and why you'd make a good member of the Nominating Committee and send it to Sharon Yeaton at yeatons@nhec.com, or by mail c/o NHEC, 579 Tenney Mountain Highway, Plymouth, NH 03264.

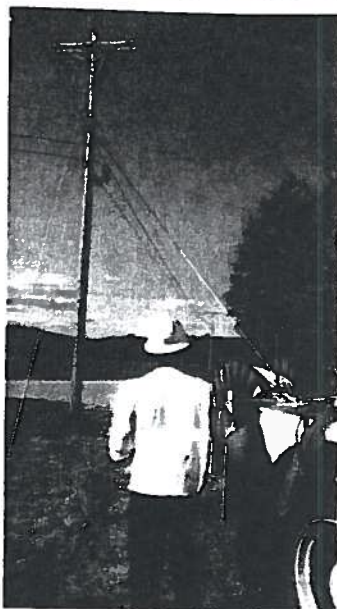
New Cable to Link Plymouth, Meredith

fiber optic cable being installed this month will stretch from Plymouth to Meredith to help meet the communications needs of the Co-op's Advanced Metering Infrastructure (AMI) project.

Along the way, the cable will make direct connections at four NHEC facilities and provide a redundant communications link in the event that communications are lost between microwave receivers on Tenney Mountain in Plymouth and Indian Hill in Meredith. The new line is part of a larger communications infrastructure project that, when completed, will allow NHEC to carry not only AMI data but all voice, data and Land Mobile Radio (LMR) communications entirely on its own network.

When the AMI project is fully deployed in 2013, nearly every electric meter in the NHEC system will be reporting its own reading via radio frequency and microwave transmissions. That information will be transmitted to local collectors, which will gather the data and move it on to larger collectors, which will eventually communicate with the "master station" based in Plymouth. Getting that information from the far corners of New Hampshire to Plymouth is the job of the communications infrastructure that is being built, in many cases, from scratch. The fiber optic cable will also allow the NHEC Meredith District office to serve as a back-up center for operations in the event that Plymouth is taken offline. The project is funded in part by a grant from the Department of Energy.

Deployment of the fiber optic cable is expected to be completed before the end of November.



Secured to a tow rope, fiber optic cable is winched into place during installation last month on Yeaton Road in Plymouth.

Watts Happening

Board of Directors Meetings

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A Clarinet, Stove Pipe and a '94 Corvette Coupe

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2011 Lighting Catalog Now Available

New Hampshire Electric Co-op is pleased to present the 2011 nhsaves catalog. Our new issue features a great selection of ENERGY STAR qualified lighting and other energy-efficient products that save you money, energy and help protect the environment.



Every ENERGY STAR lighting product in the catalog is offered at instantly-rebated prices - \$2 off all compact fluorescent light bulbs and \$10 off all efficient interior and exterior light fixtures.

Co-op members can shop the 2011 ENERGY STAR Lighting catalog online via the NHEC website. Just click the link under the 'Residential' menu. Or, if you prefer, we will send you a copy of the catalog free of charge. To request a catalog, call Co-op Member Solutions at 1-800-698-2007.

Get Whole House Comfort with Convectair

The Co-op is pleased to offer its members a safe, affordable alternative to portable space heaters. Convectair electric heaters are the ideal solution for cold rooms and for heating in any part of your home or business.

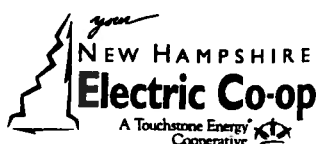
Comfort Convection

Convectair heating units naturally draw in the cool air along the floor and reheat using a highly efficient patented heating element. The heated air rises in the unit and is gently diffused through the grilles at the top. This natural acceleration pushes the hot air to the front of the unit rather than towards the wall, and helps the heat to spread evenly throughout the entire room.

Safety First

Convectair heaters mount on your wall so there's no need to worry about a portable heater tipping over. Its slim profile means it's out of the way, not exposed to flammable material in your home.

Buy Direct from Your Co-op...nhec.coop or Call 1-800-698-2007



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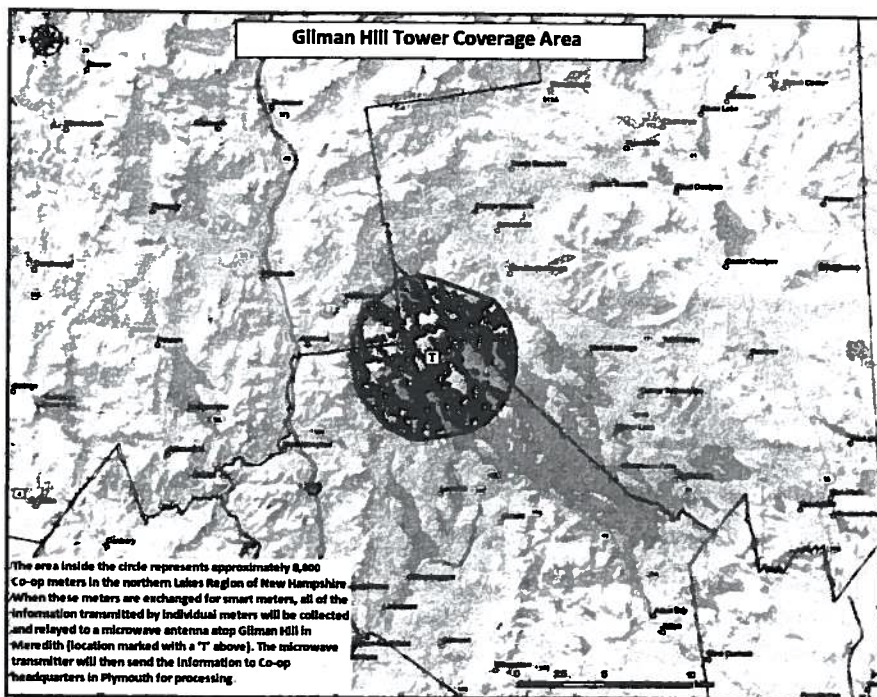
Feature Story:

Smart Grid Communications Backbone Taking Shape

New Hampshire Electric Cooperative (NHEC) has contracted with Green Mountain Communications (GMC) of Pembroke, NH to furnish and deploy the microwave communications infrastructure that will support the Cooperative's smart grid project.

GMC is presently working on the detailed design for the network of microwave antennae, radios and appurtenances to be deployed at 25 tower sites that will enable two-way communications with all 83,000 NHEC electric meters across New Hampshire.

Over the next two years, NHEC will be installing meters that are capable of reporting readings and receiving pricing and usage signals. This will allow for new programs that offer NHEC members the opportunity to better understand and manage their energy use. The company expects to begin meter installations this summer.



More Information, Project Updates Online:
WWW.NHEC.COOP/AMI

From Derry to Pittsburg

GMC delivers premier technology and wireless solutions to clients across many sectors. GMC will be responsible for purchasing, installing, and testing a microwave backbone system that connects NHEC members from as far south as Derry, to Pittsburg on the northern border with Canada. The majority of this equipment will be installed at existing tower-site locations.

The Advanced Metering Infrastructure (AMI) being installed by NHEC over the next three years will create a "mesh network," whereby electric meters communicate with one another via radio frequency, gathering usage data and sending it to NHEC headquarters in Plymouth via microwave transmission and fiber optic cable from the 25 locations across New Hampshire. The entire project is being funded, in part, by a grant from the U.S. Department of Energy.

"We are very pleased to be partnering with Green Mountain Communications," remarked Fred Anderson, President/CEO of NHEC. "They have an excellent reputation as a technology and microwave systems provider, and we are confident that they will design and execute a technology plan that meets and exceeds our expectations."

If you're considering making improvements to your home to lower energy bills or fix comfort problems, you should learn about Home Performance with ENERGY STAR.

NHEC is now accepting program applications from members. If you qualify, you can receive rebates of 50%, up to \$4,000, towards the installation of recommended energy efficiency improvements. And thanks to NHEC's on-bill financing program, you may also qualify for a no-interest loan to cover your co-pay.

Rather than focusing on a single problem, like an old heating system or leaky windows, Home Performance with ENERGY STAR takes a 'whole house' approach to energy improvements. The program includes a comprehensive home energy evaluation by a certified Building Performance Institute auditor, who will recommend improvements that work together to give you the best results.

Each home's problems are different, but here are some recommendations that Home Performance auditors frequently make:

- Sealing air leaks and adding insulation
- Improving heating and cooling systems
- Sealing ductwork
- Upgrading lighting, appliances and water heating equipment
- Installing renewable energy systems

Home Performance with ENERGY STAR will make your home more comfortable and energy efficient. Depending on the improvements you choose, you may be able to save 20% or more on your annual utility bill.

Go Green With Co-op Renewable Choice

Enroll in Co-op Renewable Choice and purchase blocks of homegrown renewable energy for a small monthly fee. The amount collected will be used by NHEC to purchase Renewable Energy Certificates (RECs), which support the production of renewable energy at facilities such as the Lempster Wind Power Project, Beaver Ridge Wind Farm and the Colebrook Municipal Landfill - all of which generate renewable energy that is purchased by NHEC for use by its members.

The fee for each 'block' is three dollars (\$3). Each block represents 100 kilowatt hours worth of renewable energy attributes. You can purchase as many blocks as you wish. The number of blocks purchased will be billed monthly and appear as "CO-OP RENEW CHOICE" on your electric service bill.

How to Apply...

Program Description:
nhsaves.com/residential/retrofit

See if You Qualify:
nhsaves.com/homeheating

No-interest Loan Details:
nhec.coop/residential_homeperformanceloans

Or Call 1-800-698-2007

Board of Directors Meetings

The NHEC Board of Directors regularly meets on the last Tuesday of each month in Plymouth. Please check the Board of Directors page of the Co-op website at www.nhec.coop or call Sharon Yeaton at (603) 536-8801 to confirm the current month's meeting time and location.

A Woodstove, Snowmobile Helmet and '98 Dodge Neon

They were all for sale last month in the online Co-op Classifieds. Buy, sell or swap at www.nhec.coop. Ads are free of charge to Co-op members and there's no limit to how many ads you can post. To get started, register online and follow the links to post your free ads.

Check Twitter for Outages

NHEC is live on Twitter.com.

NHEC_OUTAGE is activated during extended outage events and provides frequent updates during the restoration effort. Go online to Twitter.com and become a follower!

I would like to purchase the following number of blocks:

Please specify # of blocks _____

Dollars per month (\$3 per block) _____

First Name _____ Last Name _____

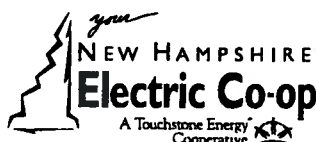
NHEC Acct # (10 digits) _____

Daytime Phone _____

Your signature below authorizes NHEC to add the amount indicated above to your monthly electric service bill. This fee will be applied each month until you notify NHEC otherwise.

Signature: _____ Date: _____

Please clip and return with your bill payment, or mail to:
NHEC, 579 Tenney Mountain Highway, Plymouth, NH 03264



For member service
please call
1-800-698-2007
Monday-Friday, 8-5:00
or visit us online at www.nhec.coop

To report an outage
please call
1-800-343-6432

New Hampshire Electric Cooperative
579 Tenney Mountain Highway
Plymouth, NH 03264

Feature Story:

The Switch Is On: New Meters, New Possibilities

Later this summer, NHEC will begin deploying an Advanced Metering Infrastructure (AMI) that will enable your electric meter to send and receive usage information on a wireless network that covers the length and breadth of NHEC service territory. The biggest change you'll notice at first – no more meter readers. AMI meters report their readings via brief radio frequency transmissions, greatly reducing the need for contract meter readers. Not only will your new meter automate the reading process, it will provide you with a wealth of information that, if you choose, can help you better understand and manage your electricity usage.

Information When You Want It

Instead of seeing your previous month's electricity usage only when you get a new bill, you'll be able to view your usage anytime in weekly, daily, even hourly increments. Using a web portal conveniently located on your account homepage on the NHEC website (www.nhec.coop), you'll find charts, graphs and other data that show how much power you're using and when you're using it. If you take steps to reduce your usage, you can track their effectiveness by setting an "energy marker" that notes the steps you took and when you took them. The conversion to AMI meters will not affect your regular reading and billing schedule. You will continue receiving your monthly bill at the usual time.

Security, Accuracy

The automation of meter reading will virtually eliminate mis-reads and estimated readings. As meter data is collected and sent to NHEC headquarters for processing, it will be traveling on a network that employs state-of-the-art security. NHEC has developed a Cyber Security Plan specifically for the AMI project, which has been reviewed and approved by the Department of Energy (DOE). From a practical standpoint, the only information being transmitted by your AMI meter will be voltage and wattage data and a unique identifying number that associates that data with a particular meter. No personal or financial information will be sent or received by your AMI meter.

What's Next?

All members will be getting new meters. NHEC and its project partners will begin installing new AMI meters as early as June of this year. Approximately 35,000 meters, located largely in the Lakes region, are scheduled to be installed by the end of 2011. Installations will be complete by the end of 2012. NHEC will be notifying members by mail when their meter is scheduled for installation during that month. We'll also be updating the installation schedule on our website: www.nhec.coop. Check the page often for project updates, FAQs and information that will help put the power of a smarter grid to work for you.

Smart Grid: before and after

"Smart grid" isn't easily defined: it means many things to many people. Electric co-ops advocate smart grid technology that benefits consumers by making electricity move more efficiently and affordably. Data exchange and two-way communications are key.



Without "smarts," the electric grid does a great job of getting electricity from a power plant to your home, although information is limited. Electric co-ops must get electricity use data by manually reading meters. That information is then passed back to consumers in a monthly bill. All system upkeep is done manually, meaning co-op staff must travel to maintain all parts of the grid.



With smart grid technology, information and communications are wide open. You can monitor electric use information from your home, and your co-op can do the same remotely. The grid itself can be monitored electronically, making outages easier to pinpoint and repair. Smart grid encompasses information exchange, automation, system visibility, control, and (most importantly) the ability to save consumers money.

Source: National Rural Electric Cooperative Association
Graphics by Funnelinc.com

Elster Group Hired for AMI Project

NHEC has contracted with the Elster Group to provide equipment and expertise during the Cooperative's installation of an Advanced Metering Infrastructure (AMI).

One of the world's largest electricity, gas and water measurement and control providers, Elster has deployed more than 200 million metering devices in more than 130 countries over the last 10 years. Elster's products and solutions are widely used by utilities in traditional and emerging Smart Grid markets.

As prime contractor, Elster will work with NHEC to provide meters, communications equipment, software and technology solutions during the two-year project. One of the first orders of business will be a detailed propagation study that identifies the precise location of communications equipment that will enable nearly all 84,000 NHEC electric meters to send and receive information. Learn more about the Elster Group and its EnergyAxis Smart Grid solutions at www.energyaxis.com.

Over the Road, Under the Line, Over the Tracks...



NHEC recently completed work on a line construction project in Charlestown with more than its share of obstacles.

Approximately 2,500 feet of 12,000 volt overhead and underground power line was built in order to move 217 Co-op members off the far reaches of the electric distribution system served by the Charlestown Substation and onto the system fed by the Calavant Metering Point.

Along the way, the line needed to pass over State Route 11, under an existing Central Vermont Public Service transmission line, over an active railroad track and under a new subdivision served by Public Service of New Hampshire. The result – a lot of permits and paperwork, but also improved reliability and power quality for the 217 members that are now being fed by the Calavant metering point and the 932 members still being fed from NHEC's Charlestown Substation.

2011 Energy Efficiency & Renewable Energy Programs

NHEC is again providing programs and incentives for residential and commercial members to invest in renewable energy systems and energy efficiency improvements that save energy and reduce carbon emissions. Below are highlights of the 2011 programs; complete details are available online at nhec.coop, or by calling Member Solutions at 1-800-698-2007. Rebates and program eligibility are available on a first-come-first served basis.

Home Performance with ENERGY STAR

Rebates up to \$4,000 towards installation of recommended energy efficiency measures. On-bill financing available for qualified members.

ENERGY STAR Homes New Construction

Rebates up to \$4,000 for construction of homes that meet or exceed the ENERGY STAR standard for energy efficiency.

Heat Pump and Geothermal Rebates

Rebates up to \$4,000 on the installation of Low Temperature, Hybrid, or Geothermal Heat Pumps for new construction; up to \$10,000 for conversions.

Solar Hot Water Rebates

Rebates up to \$750 on the installation of qualified solar hot water systems.

Commercial & Industrial Fossil Fuel Savings

Rebates up to \$5,000 on measures that save fossil fuel.

Watts Happening

Board of Directors Meetings

The NHEC board of directors regularly meets on the last Tuesday of each month at the cooperative's headquarters in Plymouth. Please check the Board Directors page on the Co-op website at www.nhec.coop, or call Sharon Yeaton at (603) 536-8801 to confirm the current month's meeting time and location.

72nd Annual Meeting Is June

All Co-op members are welcome to attend the 2011 Annual Meeting, which will be held Wednesday, June 8 at the Plymouth Senior Center, 8 Depot Street, Plymouth, NH. A spaghetti dinner with all the fixings starts at 5 p.m. Special thanks to our friends at the Italian Farmhouse Restaurant in Plymouth, a member of the Common Man family of restaurants, which is donating the meal for the third year in a row. A suggested donation of \$5 will benefit the Senior Center and its programs. If you plan to join for dinner, please RSVP to Member Solutions at 1-800-698-2007. Thank you!

Co-op Classifieds – Free Ads for Members Only

Cleaning out the basement or garage? Get a jump on spring cleaning and post that stuff up for sale in the online Co-op Classifieds. Ads are free of charge for members and there's no limit to how many ads you can post. To get started register online for free at www.nhec.coop and follow the link from your account homepage.

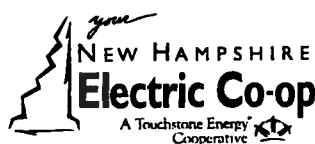
Free CFL Bulb Recycling

Members can recycle fluorescent light bulbs for free at two NHEC locations. Our Plymouth headquarters (Tenney Mountain Hwy) and Meredith District building (Route 25) are accepting tubes up to four feet in length, compact fluorescents, U-shaped and circular tubes (limit six per household, per visit). Hours of Operation:

Plymouth: 8 a.m. – 4:30 p.m., M-F

Meredith: 7:30 a.m. – 2 p.m., M-F

New Hampshire Electric Cooperative
579 Tenney Mountain Highway
Plymouth, NH 03264



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Monday-Friday, 8-5:00
or visit us online at www.nhec.coop

To report an outage
please call
1-800-343-6432

Feature Story:

First Smart Meters Being Installed This Month

NHEC's Advanced Metering Infrastructure (AMI) has begun to take shape with the installation this month of new smart meters in Meredith and Plymouth.

Approximately 3,000 members will be receiving the new meters during the first phase of installations. NHEC plans to install approximately 55,000 smart meters this year, primarily in the Lakes Region and greater Plymouth areas where the communications infrastructure needed to transmit meter data is in place and functioning. (Learn more about the technology at www.nhec.coop.)

As the communications infrastructure is built out statewide over the coming months, meter installations will follow in those areas. When your neighborhood is scheduled to receive new meters, you'll receive notification by mail from the Co-op about a month before a meter installer visits your property. The installation will require a brief interruption of power, but you do not need to be home when the installer arrives to exchange your meter. By the end of October 2012, every Co-op member will have a new smart meter.

What does that mean for you?

In the short term, very little will change. Power rates will not change (except for regular seasonal adjustments for the cost of power) and you'll still be billed once a month by the Co-op. NHEC will not be controlling your electric usage in any way. Simply installing a smart meter does not give NHEC the ability or the right to control how or when you use energy in your home or business. One thing you will notice after the communications infrastructure is complete – no meter reader visiting your property. That's because your meter will be reporting its own readings several times a day via a "mesh network" of radio communications.

What's a mesh network?

Think of your smart meter as one link in a big chain. Your meter will be automatically reporting usage data several times per day via a small, 1/4-watt radio in the device itself. Each transmission, approximately 1.5 seconds in duration, will be sending readings to the next closest meter, which relays that data, as well as its own readings and moves it along to the next meter in the chain. Eventually, that bundle of data reaches a "gatekeeper", which sends it to NHEC headquarters in Plymouth for processing.

Down the road...

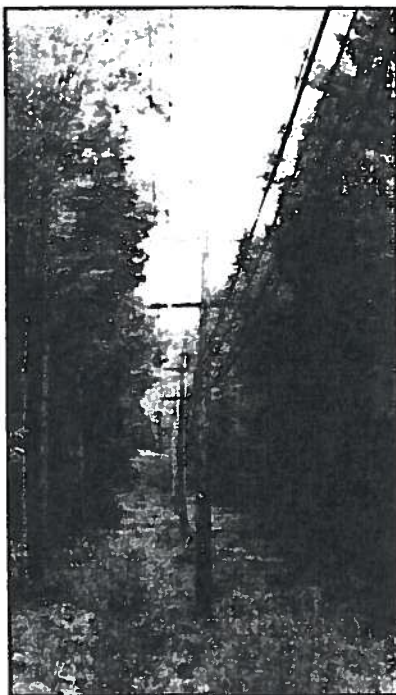
While the focus now is on meter installations, in a few months you'll be able to use the technology to better understand and manage your energy use. The data compiled by your smart meter will be available for viewing 24/7 via a free web portal located on your account homepage at www.nhec.coop. With a few clicks, you'll be able to see your electric usage in weekly, daily, even hourly increments. With detailed information about how and when you're using electricity, you can take steps to save energy and see the results online the next day.

Keep checking your monthly newsletter and the NHEC website for updates!



AMI meters look similar to the older electromechanical meters in use across Co-op service territory. Instead of gears and dials, AMI meters use a digital display to measure electric usage. A small transmitter in each meter sends usage data several times a day.

Right of Way Clearing



In the battle against power outages, right-of-way clearing is the Co-op's most effective weapon. A right-of-way (ROW) refers to the strip of land underneath and around power lines that NHEC has the right to access for vegetation maintenance purposes. Property owners of land on which NHEC maintains a ROW often have questions about how the land can be used and how NHEC goes about keeping its ROWs clear.

Each year, NHEC spends nearly \$2 million clearing approximately 340 miles of land beneath power lines. The NHEC website (www.nhec.coop) has a schedule that identifies where ROW clearing is occurring or will be occurring. This schedule is updated periodically to reflect the most recent work being done.

Also online, see our guide to ROW clearing (Clearing the Way), which details the Co-op's right of way clearing policies and practices.

Heating Season? Already!? Plan Now with 2011 Rebates

NHEC is offering financial incentives up to \$10,000 for home and business owners to install efficient heating solutions.

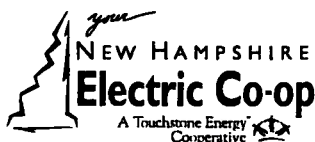
For Businesses...

Rebates up to \$5,000 are available for Commercial & Industrial members that take steps to reduce their fossil fuel usage. Typical installations will include, but are not limited to, energy-efficient boilers, boiler controls, insulation and weatherization. Rebates are available up to 50% of the installed cost up to \$5,000 annually. For program details and applications, click 'Fossil Fuel Savings' under the Business menu at www.nhec.coop, or call 1-800-698-2007.

Heat Pumps for Homes...

NHEC is offering rebates for the installation of various heat pump technologies in new construction and existing homes. These heating and cooling systems operate at efficiencies much higher than standard fossil fuel equipment. They generate no onsite emissions, improve indoor air quality and create a healthier home environment (no on site combustion equipment or fuel storage).

For new homes to be built in NHEC service territory, rebates are available up to \$4,500 for the installation of Geothermal Heat Pumps and Hybrid Heat Pumps. For existing homes in NHEC service territory, rebates up to \$10,000 are available for conversion of existing heating systems to Geothermal or Hybrid heat pumps. For program details and applications, click 'Heat Pumps' under the Residential - Energy Efficiency Programs menu at www.nhec.coop; or call 1-800-698-2007.



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nhsaves Catalog



The nhsaves catalog is online and better than ever, thanks to a redesign that makes it easier to use...and save!

Browse the nhsaves catalog at <http://catalog.nhsaves.com> to see a wide variety of stylish, energy-efficient lighting solutions as well as new features, including:

- Instant access from any web browser
- View pages in thumbnails to preview catalog quickly
- Ability to print pages from the catalog
- High quality image display, including enlargements of all product images
- Ability to add notes and/or bookmarks to the catalog

The nhsaves catalog is produced by collaboration of New Hampshire's electric utilities to provide New Hampshire residents with information, programs and support designed to reduce energy use, save money and protect our environment.



**SQUAM LAKES
NATURAL SCIENCE CENTER**

\$5 Off Admission

New Hampshire Electric Co-op Members
present this coupon to receive discount.

Limit four admissions per coupon.

Coupon expires 11/1/11.

Holderness, NH

(603) 968-7194

New Hampshire Electric Cooperative
579 Tenney Mountain Highway
Plymouth, NH 03264

Feature Story:

The Great Light Bulb Debate

Like the bulbs themselves, there's been a lot of heat and not much light about the provisions of a 2007 law that require traditional incandescent light bulbs to become more energy efficient.

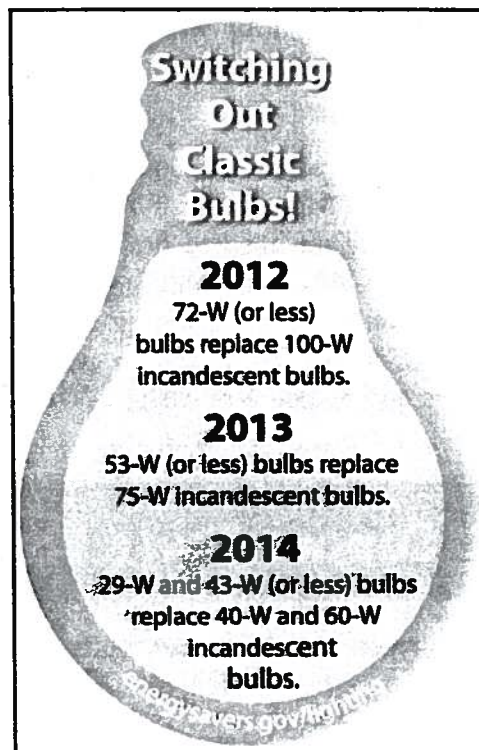
Late in his second term, George W. Bush signed into law the Energy Independence and Security Act of 2007, which requires light bulb makers to improve the efficiency of incandescent bulbs by 25 percent. The details of the law require a phase-out of the manufacture of certain bulbs in their current form, starting with 100-watt bulbs next January. As the deadline for the first phase of the legislation approaches, light bulb confusion is everywhere.

The fact is, the law does not ban the use or manufacture of incandescent bulbs, nor does it mandate the use of Compact Fluorescent Lights (CFLs) or other technologies. It simply requires that companies make some of their incandescent bulbs work a bit better, meeting a series of rolling deadlines between 2012 and 2014.

Incandescent bulbs, which convert about 90 percent of the electricity they consume into heat and only 10 percent into light, have remained essentially unchanged since they were invented by Thomas Edison 130 years ago. Since then, newer lighting technologies like CFLs and Light Emitting Diodes (LEDs) have emerged that offer the same light output using much less energy. These newer lights also last anywhere from five to 10 years longer than incandescents.

So fear not if you're a fan of incandescent bulbs, you'll still find them on store shelves...just be ready to pay up to 85% more in operating costs over an LED bulb.

UPDATE: House Republicans on July 12 failed to advance a measure that would repeal the provisions of the 2007 law that requires an increase in efficiency standards for incandescent light bulbs.



Land-Ho! Smart Meters Hit the Islands

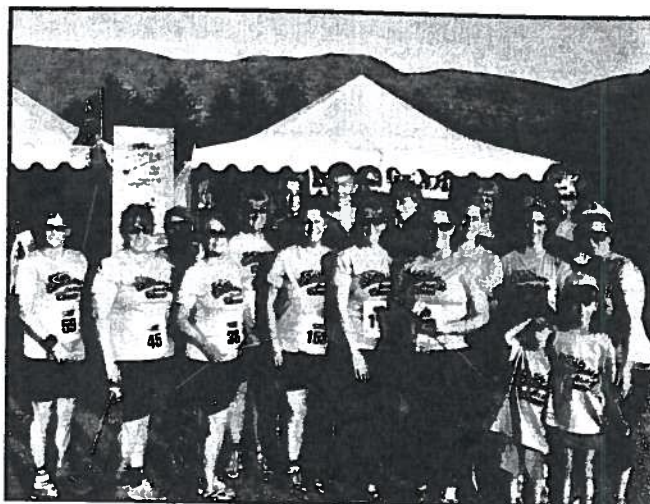
Meter installers are swapping trucks for boats this month as they head for more than 900 properties located on islands throughout Co-op service territory. For island dwellers, the arrival of new smart meters that wirelessly report their readings will offer conveniences that were once available only on the mainland. Instead of being billed twice a year, island residents will receive a monthly bill and, when available, have internet access to a record of their electric usage in weekly, daily, or even hourly increments.

For seasonal residents, the ability to remotely monitor electric consumption can be a money saver. On occasion, seasonal residents have closed up their summer houses and headed home, only to find out a month or more later that an electronic device was left on or malfunctioning. This can result in an unpleasant surprise when the next bill arrives. Soon, those members will be able to see right away when something's wrong.

Between now and the end of 2012, every Co-op member will be receiving a new smart meter as part of NHEC's Advanced Metering Infrastructure (AMI) project. We encourage you to learn more about the project and how you can use it to better manage your energy use at www.nhec.coop/ami.

NHEC Team Is Top Fundraiser

The 23-member NHEC Team, 'Calamity for a Cause,' raised over \$5,300 at last month's Firefly 5K race as the New Hampshire Make-a-Wish Foundation continued the push to grant its 1000th wish to children with life-threatening medical conditions.



With last year's Co-op sponsored Make-a-Wish child Bella on hand to fire up the team, NHEC employees took to the 5K course in Waterville Valley with friends and family in tow. Fireworks and a barbecue brought a sparkling end to the festivities as the final donations were tallied. A big 'Thank You' to everyone who contributed to the success of the event and helped NH Make-a-Wish continue its important mission!

Copper Theft: Illegal and Dangerous

Two recent break-ins and thefts of copper cables at NHEC substations have brought a national problem into our own backyard.

With the price of scrap metal on the increase, thieves are increasingly targeting electrical substations. Needless to say, it's a crime that could have a far greater penalty than prison time.

Two would-be copper thieves in Kentucky and Ohio were electrocuted just last month as they attempted to strip wire from substations. Aside from the threat of death, substation vandalism causes power outages and equipment damage, the cost of which is borne by the entire membership.

NHEC has posted a \$10,000 reward for information that leads to the arrest and conviction of those responsible for the substation thefts that occurred on June 5 and July 9 in Bridgewater and Meredith. We hope that the case has been solved by the time you read this story, but anyone with information is encouraged to call their local police department or New Hampshire State Police Troop 1 at (603) 846-3333.

If you see suspicious activity or evidence of a break-in at any electrical substation, please contact police immediately. Thank you!



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Watts Happening

Board of Directors Meetings

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Take Cover With Whole House Surge Protection

The Co-op has made it easier and more affordable to protect your electronic devices against damaging power surges. Whole house surge protection starts with a visit from a Co-op electrician to test and analyze your home's electrical grounding. If it's up to code, we'll install the Kenick surge arrestor, which blocks surges from entering your home. This device installs at your electric meter and protects your home and major "white" appliances, such as your refrigerator, air conditioner, dishwasher and washing machine/dryer. You'll get this surge protection package for just \$380 including delivery and installation. For more information or to order, call Co-op Member Solutions at 1-800-698-2007, or visit nhec.coop.

Whale's Tale
WATERPARK
LINCOLN, NEW HAMPSHIRE

\$8 Off Admission

**August 22 - September 5,
2011 Only**

(coupon good for up to four people)

NHEC Member Discount

New Hampshire Electric Cooperative
579 Tenney Mountain Highway
Plymouth, NH 03264

Building a Better Grid from the Ground Up

The communications system that supports NHEC's Advanced Metering Infrastructure (AMI) is taking shape.

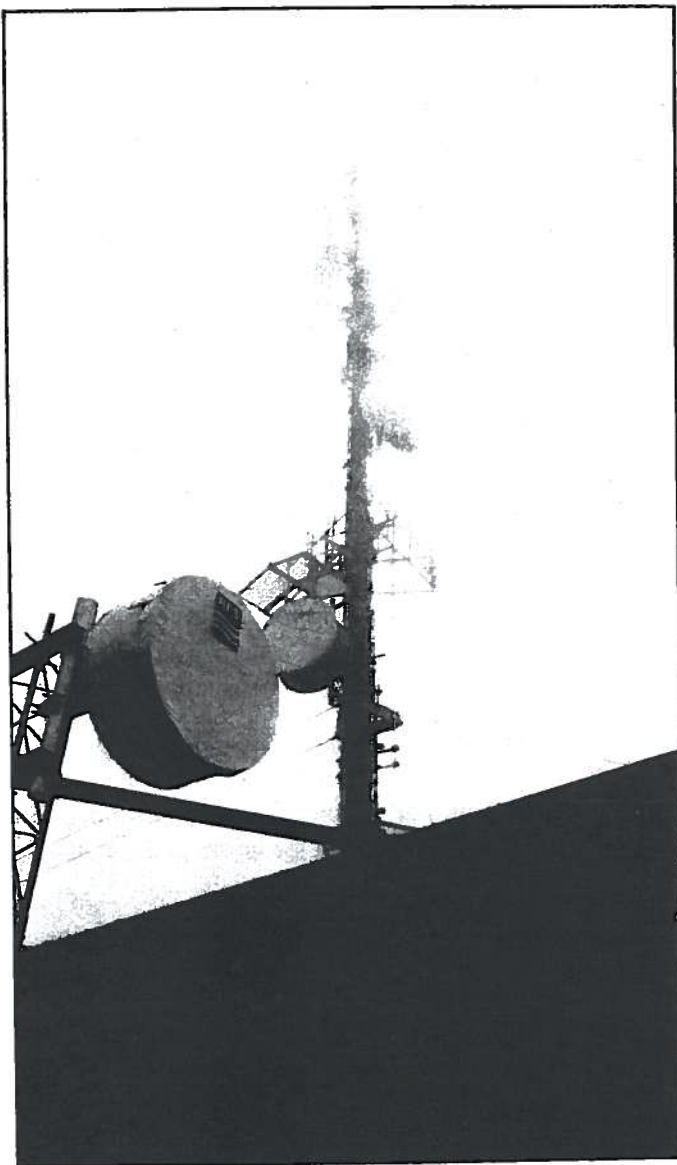
Last month in a shelter atop Prospect Mountain in Alton, crews from Green Mountain Communications were busy connecting microwave radio equipment that will receive and transmit meter usage data beamed up to it from NHEC's Alton District facility two and half miles away. The site is one of 20 or so mountaintop locations around the state that will be receiving and transmitting Co-op communications and meter data when the AMI project is fully built out.

Deployment of communications links is one of the important milestones in the project, needed to allow members to view a detailed record of their energy usage on a web portal located on NHEC's website (nhec.coop). NHEC will notify members in 2012 when the web portal is available for use.

The communications and data received at the Prospect Mountain site will be processed through microwave radios and transmitted to the next closest mountaintop site where NHEC has microwave equipment, in this case Mount Belknap in Gilford. The communications and data are received and transmitted in this way around the state. The meter data from around the state will ultimately arrive at facilities in one of two locations - Gilman Hill in Meredith or Tenney Mountain in Plymouth. Both sites are connected by a new fiber optic cable that will deliver the meter data to NHEC facilities in Plymouth for processing.

15,000 Meters and Counting...

While work continues among the clouds, things are also busy with the AMI project in lower elevations. As of mid-October, more than 15,000 members had received new meters. When the installations are complete in late 2012, the AMI meters will be reporting daily readings to the next closest meter. Groups of readings will be received at a nearby gatekeeper, which transmits the data to a takeout point and on to the microwave communications system.



In all but one location, NHEC is installing communications equipment in places that are already home to existing towers. In the photo above, the dish in the foreground is owned by NHEC, but shares space atop Prospect Mountain with a tower that is used by cell phone providers and other organizations.

Learn more at www.nhec.coop/AMI

Be Prepared for Winter Outages

A home emergency kit can be invaluable in the event of a prolonged power outage. Here are some ideas for your kit:

The Essentials

- Portable radio
- Flashlight(s)
- Spare batteries
- Candles
- Matches or a lighter
- Wind up or battery alarm clock
- Cell phone – fully charged if you know bad weather is coming
- Moist towelettes (baby wipes)
- Freezer ice packs - keep them in the freezer all the time so they're ready to use
- Large cooler or ice chest
- Sleeping bags or blankets
- First Aid Kit
- Personal hygiene supplies and 3-5 day supply of prescription medicines
- Baby supplies, including diapers
- Disposable plates, cups, and eating utensils

Water - If you know a storm with the potential to cause outages is coming, fill containers with water, including your bathtub(s). Store drinking water separately. Flush toilets sparingly with a bucket of water. Also, remember to fully charge your cell phone - portable phones without battery back-up will not work without power.

Prepare a Safe Source of Heat - Have a safe alternative way to heat your home in case of a power failure. Never use a barbecue, camp stove or any other unvented heater because of the danger of carbon monoxide poisoning. If you do not have a way to keep your home warm enough, go to the home of a friend or relative, or check into a shelter until the power comes back on.

**To Report an Outage:
1-800-343-6432**

**Update your phone
number with NHEC
to make outage
reporting easier**

How Are We Doing?

It's a question we ask about 200 Co-op members every month via a customer satisfaction survey conducted by Touchstone Energy (TSE) Services.

Each month, a random selection of Co-op members are asked to participate in a telephone survey. The survey grades NHEC on everything from providing reliable service to being polite and courteous. Those results are used to tabulate NHEC's score on the American Customer Satisfaction Index (ACSI). The ACSI provides a uniform and independent measure of customer satisfaction, allowing us to see how we stack up against local service providers (banks, cable, phone, etc.) and similar companies across the country. It also helps us better understand what we're doing well and what needs improvement. So if you've participated in a survey recently - thank you!



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Watts Happening

Board Candidates Wanted

The Co-op is governed by a Board of Directors, which is elected by the members themselves. In 2012, four seats will be up for election to three-year terms. The Co-op seeks broad representation from a diverse group of individuals and encourages all qualified members to consider running for one of the open seats. You must be a Co-op member in order to run for a position on the Board. For more information about how to get your name on next year's ballot, contact Sharon Yeaton at 603-536-8801, or yeatons@nhec.com. Voting takes place by mail ballot in May 2012 with Board members installed at the June Annual Meeting. For more information about the Board of Directors election process, visit www.nhec.coop/about_electionprocess.

Lighting & Appliance Rebates

In-store rebates are available to Co-op members on a variety of energy efficient Compact Fluorescent Lights (CFL) and ENERGY STAR appliances. Coupons are available and redeemable at participating retailers or by ordering from our 2011 nhsaves mail order or online catalog (<http://catalog.nhsaves.com>). Appliance rebates up to \$30 are available on a variety of products, including refrigerators, clothes washers and air conditioners. For a list of participating retailers in New Hampshire, please visit the Residential Energy Efficiency page on the Co-op's website - www.nhec.coop.

Board of Directors Meetings

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New Hampshire Electric Cooperative
579 Tenney Mountain Highway
Plymouth, NH 03264

NEW YEAR, LOWER RATES

A combination of rate changes effective January 1 will result in a net decrease of 3.2% for most NHEC members. The typical residential member using 500 kWh per month will see their bill go down \$3.14.

Stranded Cost Charge Ends!

Since 2000, members have paid for stranded costs related to NHEC's outstanding Seabrook nuclear power plant debt and the termination of a power contract with PSNH as required by the New Hampshire Public Utilities Commission. The charge has decreased annually to reflect the change in debt obligation and 2012 marks the retirement

of that debt and the charge itself.

Other Rate Changes

In 2008, NHEC embarked on a project to implement telecommunications infrastructure improvements/CSI (Communication System Infrastructure) and an AMI (Automated Metering Infrastructure) system. As the stranded cost debt was paid down, the Stranded Cost Charge was reduced while a corresponding increase in the Delivery kWh charge was made in order to fund the project.

NHEC will continue to collect funds in the Delivery kWh charge for the CSI/AMI project. A Department of Ener-

gy Smart Grid Grant was received by NHEC in 2010, which pays 45% of the project costs. For more information on the project, visit www.nhec.com/AMI

Member Charge Increase

As of January 1, 2012, the Member Service Charge will go from \$22.35 to \$23.24. This is a 4% increase and reflects a continued effort to bring the Member Service Charge closer to the actual cost to serve each meter. This increase is offset by a reduction in the Delivery kWh charge that takes effect January 1, 2012.

Overall, members will see a net decrease of 3.2% in the new year. *A*

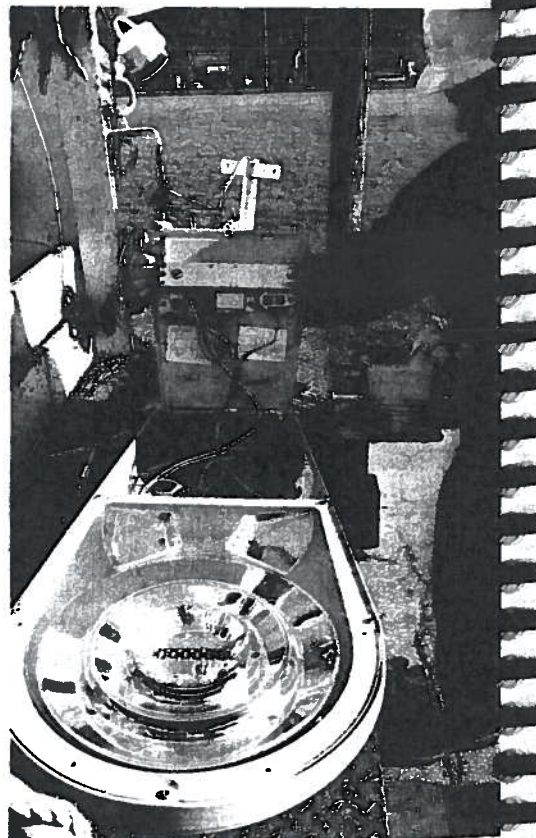
NHEC GOES ALL IN ON LED OUTDOOR LIGHTING

Embracing a technology that has come of age, New Hampshire Electric Co-op is the first utility in New Hampshire to offer only LED outdoor lighting solutions.

A light-emitting diode (LED) is a semiconductor light source that is used as indicator lamps in many devices and is increasingly used for other lighting. While LED technology has been in use since the 1960's, it has only recently been adopted as the technology of choice for outdoor area lighting. LED streetlights last five times as long as traditional High Pressure Sodium (HPS) lights (23-25 years) and use less than half the energy. LEDs also provide more even lighting and a truer rendering of colors, which means no more orange hues at night!

NHEC owns approximately 4,600 outdoor area lights in its service territory. NHEC will be phasing out existing HPS lighting fixtures when they fail by replacing them with LEDs. LED fixtures have a higher upfront cost, but more than make up for it with a 25-year life and reduced operating costs.

Effective January 1, 2012, monthly charges will change to reflect the transition to LED technology. NHEC will be providing a choice of three lights – two cobrahead roadway fixtures and a floodlight fixture. Charges for the roadway fixtures will be 90 cents less per month or \$2.70 less per month, depending on the fixture. The monthly charge for floodlight fixtures will be \$1.95 more per month. *A*



An LED street light is prepped for installation in North Conway.

NEW METERS OFFER GREATER MEMBER CHOICE AND OPTIONS

Pilot Program Will Offer New 'Dynamic Rate'

As NHEC installs its Advanced Metering Infrastructure, members will see several benefits over the long term. One benefit will include the opportunity to volunteer as part of a pilot program for new pricing options that allow members more choice and options. By harnessing technology, members will have access to information that allows them to actively control usage. This choice and control has several member benefits:

- ✓ Provides access to real-time usage information, which increases member choice and the ability to use power at lower cost times.
- ✓ Enhances member control and creates the potential to save money if actions are taken based on information received.
- ✓ Helps the environment by providing information on usage that may incentivize energy conservation and support emerging technology such as electric vehicles.

As part of the Advanced Metering Infrastructure, NHEC will be exploring time-

based pricing, the price members pay for service depends on the time that the service is provided. Most people are familiar with time-based pricing from their cell phone plans, which offer free calls at certain times, such as weekends. Because the cost of delivering electricity varies throughout the day, time-based pricing provides a lower price for electricity at night when it is less expensive and a higher price in the evening when demand is highest.

Starting later this month, some residential members in the Plymouth and Meredith areas will be invited to participate in this program to help us understand the value of time-based pricing. This time-based pricing pilot program is strictly voluntary and will be conducted in the Plymouth and Meredith areas. If you are eligible to participate in this pilot, you will be receiving additional information and an invitation to participate. Results of this pilot will be made available to the membership at large (from a general perspective – no member specific data will be provided other than to the member themselves) and utilized to determine if the program should continue and/or be expanded for all members.

If you are in the Plymouth or Meredith areas, look for your invitation soon.

HAPPENING

Board of Directors Meetings

The NHEC board of directors regularly meets on the last Tuesday of each month at the cooperative's headquarters in Plymouth. Please check the Board of Directors page on the Co-op website at www.nhec.coop, or call Sharon Yeaton at (603) 536-8801 to confirm the current month's meeting time and location.

Win a \$1,500 Scholarship

The NHEC Chapter of Dollars for Scholars is now accepting applications for six \$1,500 scholarships that will be awarded in 2012. Applicants must be at least a senior in high school at the time application is made; and must be a Co-op member, the child of a Co-op member, or attend school served by the Co-op. College and non-traditional students are eligible and welcome to apply. The deadline for applications to be received at the Co-op is **March 30, 2012**. Complete requirements and application are available online at nhec.coop/community_nhecdollarsforscholars.

Board Candidates Wanted

The Co-op is governed by a Board of directors, which is elected by the members themselves. In 2012, four seats will up for election to three-year terms. The Co-op seeks broad representation from a diverse group of individuals and encourages all qualified members to consider running for one of the open seats. You must be a Co-op member in order to run for a position on the Board. For more information about how to get your name on next year's ballot, contact Sharon Yeaton at 603-536-8801, or yeatons@nhec.com. Voting takes place by mail ballot in May 2012 with Board members installed at the June annual meeting. For more information about the Board of Directors election process, visit www.nhec.coop/about_electionprocess.

NHEC FOUNDATION TAKES A BITE OUT OF HUNGER

The NHEC Foundation recently granted \$30,000 to the New Hampshire Food Bank to help stock the shelves of food pantries within NHEC's service territory. Included in the grant was a commitment to host three Mobile Food Pantries in underserved areas of the state, the first of which was held on Dec. 3rd in Colebrook. With the help of volunteers from the NH Food Bank, NHEC and the St. Brendan's Church food pantry, nearly 300 people from the greater Colebrook area filled their bags with enough food to make for a happy holiday.

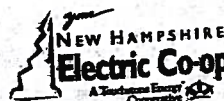


NHEC Colebrook District Representative Ernie Covey had his hands full distributing bagged onions to participants at the Mobile Food Pantry in Colebrook.

For member service
please call

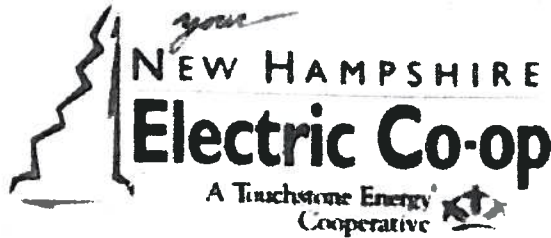
1-800-698-2007

Monday-Friday, 8-5:00
or visit us online at www.nhec.coop



To report an outage please call 1-800-343-6432

New Hampshire Electric Cooperative
579 Tenney Mountain Highway
Plymouth, NH 03264



New Hampshire Electric Cooperative's Smart Grid Project

Frequently Asked Questions (FAQ)

What is the project overview?

Between now and March 2013, NHEC will be replacing all of its existing electric meters with "smart meters" that are capable of sending and receiving usage data.

NHEC's Smart Grid project is actually two projects in one – the creation of a Communications Systems Infrastructure (CSI) and an Advanced Metering Infrastructure (AMI). When complete, the two projects will work together to allow your electric meter to report its readings, receive signals from NHEC and provide a wealth of usage data that you can use to control costs and manage your energy use.

Why is NHEC installing a Smart Grid system?

There are a number of benefits to both the membership and the Co-op, but first, some background...

For much of the past century, the relationship between an electric utility and its customers has been a one-way street. The utility sells electricity at a set price, sends out a meter reader once a month to record monthly usage, then sends the customer a bill. With a Smart Grid system in place, meters report their readings wirelessly several times per day. With a free web portal or in-home display that communicates with the meter, members are able to see their electric usage in daily, hourly, or even five-minute increments. Having the ability to review energy usage patterns can help members determine ways to save on energy costs and identify problems that increase energy use, such as a failing well pump. And because smart meters can send and receive data, the utility is able to provide innovative new rate structures and programs that can help consumers better understand when and how to use electricity.

Smart Grid means a number of operational efficiencies for the Co-op, including the elimination of manual meter reading and big improvements in outage reporting and management. For the first time, NHEC will not have to rely upon the member calling in to report an outage. Each smart meter is equipped with a capacitor that issues a "last gasp" signal when it loses power.

This means that NHEC will know down to the individual meter where outages are occurring and will be able to respond more efficiently.

What is the Communications Systems Infrastructure (CSI) part of the project ?

NHEC's CSI project is the communications backbone of the Smart Grid project. It is a microwave and fiber optic network connecting 20 tower sites that provide seamless communications to and from all 83,000 NHEC electric meters, from Derry in the south to Pittsburg in the far northern part of the state. The CSI is designed to work in concert with the wireless "mesh network" of meters that form the Advanced Metering Infrastructure (AMI), which will be reporting electric usage data several times a day via brief Radio Frequency (RF) transmissions.

What is a mesh network?

Think of your smart meter as one link in a big chain. Your meter will be automatically reporting readings and interval data seven times per day. Each transmission, approximately 1.5 seconds in duration, can travel up to 1,600 feet. In most cases, your meter will be reporting readings to the next closest meter, which gathers that data, adds its own readings and moves it along to the next meter in the chain. Eventually, that bundle of data reaches a gatekeeper. (Repeaters will be installed on existing poles to relay the readings of those meters that are located more than 1,600 feet away from the closest meter). Each night, the gatekeepers will transmit their bundles of readings via a mid-tier radio system to the nearest "takeout point," where the data will be sent back to Co-op headquarters in Plymouth for processing via one or more of the 20 microwave tower sites that form the Communications System Infrastructure (CSI). To assure the robustness and security of the system that carries all this data, NHEC has also installed a 30-mile stretch of fiber optic cable that connects our Plymouth headquarters to our facility in Meredith, which will provide a back-up operations center in the event that Plymouth is unavailable.

When will smart meters be installed?

The first smart meters will be installed as early as summer 2011. Installations will occur first in the Lakes Region and Plymouth areas, as the Communications System Infrastructure (CSI) is up and running in these locations. All meter installations are scheduled to be complete by March 2013. Members that are scheduled for meter replacement will be notified approximately one month ahead of the scheduled installation.

What will happen to the old meters?

Meters coming out of the field will be disassembled and recycled. NHEC investigated the possibility of donating functioning meters to developing countries through the National Rural Electric Cooperative Association's International Program, but found little demand for the meters. With electric utilities across the country installing millions of smart meters, there is more than enough supply to meet demand overseas.

Will I be paying a different rate for electricity once my smart meter is installed?

No. NHEC members will continue to be billed under their current rate structure once smart meters are installed. If NHEC decides to implement new "dynamic pricing" rate structures or programs, information will be made available and enrollment will be purely voluntary. Members will continue to receive a monthly bill after receiving a smart meter. After 30 days with a new smart meter, members will be able to access a free web portal (located on your Account homepage at www.nhec.coop) that will display detailed usage and cost information associated with your meter.

Will my smart meter affect the operation of my generator?

No. Your generator will continue to function as it always has. Regardless of the electric meter or generator, NHEC's terms of service require that any generator operating in NHEC service territory be equipped with a transfer switch. NHEC reserves the right to inspect generators for the safety of members and NHEC line crews that may be working nearby. NHEC offers a free generator safety inspection. To schedule an inspection, please contact Member Solutions at 1-800-698-2007.

I don't want a smart meter. Can I opt out?

All NHEC members – residential and commercial – will receive smart meters. This is a mandatory meter upgrade. All electric meters in NHEC service territory are owned by NHEC and our terms and conditions allow us to remove or replace any and all meters. For practical purposes, there will be no more meter readers to read traditional meters once the Smart Grid conversion is complete. Also, the effectiveness of the mesh network is degraded with the removal of each meter from the network.

Will NHEC be making new rates or programs available to take advantage of Smart Grid technology?

As part of its initial rollout of Smart Grid technology, NHEC will be providing up to 2,000 in-home displays to members who volunteer to be part of a pilot program starting in 2012. Members eligible to receive an in-home display will be chosen from among the first 30,000 members to receive smart meters. These in-home displays can be used to show, among other things, your current electric use, the cost of the power you are using and historical usage data. NHEC will be assessing the impact of in-home displays on members' usage before deciding whether or not to make them available to the entire membership. Similarly, NHEC will be conducting other pilot programs beginning in 2012 that may include new time-of-use rates and the installation of load control switches in the home. Ultimately, the goal of NHEC's Smart Grid project is to make available those tools and resources that will help its members better understand their electric usage and take steps to reduce their costs. Participation in any programs offered by NHEC will be strictly voluntary.

Will Smart Grid allow NHEC to control my electric usage?

No. Simply installing a smart meter at your home or business does not give NHEC the ability to remotely adjust your energy usage. This feature can only work with the installation of load control devices that will not be installed unless 1) NHEC makes them available, 2) you want

them, and 3) you expressly allow NHEC to install them. Members will be receiving information at a later date if and when NHEC decides to make this feature available to all members.

How much will the NHEC Smart Grid project cost and what will be the impact on my electric rates?

The total cost of the Smart Grid project is approximately \$36 million. NHEC was able to qualify for \$15.8 million in federal grants to help pay for the conversion. The funding for the remainder of the project costs is already included in your monthly bill as represented by the Delivery Charge component.

In order to fund the project without raising members' rates (for these specific projects), NHEC has re-purposed current funding toward this project. Those funds were used to pay for other projects such as the installation of equipment in our substations throughout our system to improve reliability. In addition, as NHEC continues to pay down its debt, the funds from this debt repayment will also be repurposed to pay for the Smart Grid conversion.

Over the course of the next several years, NHEC will utilize short-term borrowing through an existing line of credit to fund these projects; be reimbursed from the Federal government under the grants and pay the remainder off with funds already collected from the membership. We are also actively seeking partnerships to use and pay for the system, which will further reduce the cost to our membership.

What is NHEC doing to ensure the security of the data coming to and from my smart meter?

Transmissions sent and received by Smart meters will not contain members' personal information, such as bank/debit/credit account numbers, name, phone number or address. It is physically impossible for personal financial information to be acquired through hacking of or tampering with data being sent and received by Smart meters. The only information transmitted by a smart meter will be voltage and wattage data, and an identifying number that associates that data with a particular meter.

In the interest of safeguarding members' information, NHEC employs a full-time Information Systems Security Executive with the responsibility of overseeing the organization's Information Systems Security Program. This program is audited annually by an independent information technology security auditing organization. NHEC has developed a Cyber Security Plan specifically for this Smart Grid project which, has been reviewed and approved by the Department of Energy (DOE). Additionally, NHEC will be working diligently with the selected Smart Grid vendor to ensure that the system incorporates the highest possible levels of security to prevent unauthorized access.

What about the health effects of Radio Frequency transmissions?

NHEC understands that our members want to be well informed about new technologies. Electric Smart meters are digital meters that have been widely used since the 1980s, including several dozen currently in use in NHEC service territory. The generation of smart meters being installed across Co-op service territory is equipped with a small 1/4-watt radio that allows two-way communication between the member and NHEC, which enables the member to review their daily energy use.

In everyday use, your Smart meter will be transmitting usage data approximately seven to 10 times a day. Each transmission is approximately 1.5 seconds in duration and broadcasts in the 900 MHz spectrum at a power output of 250 milliwatts. Smart meters transmit relatively weak radio signals, resembling those of many other products most people use every day, like cell phones, baby monitors and microwave ovens. However, given the Smart meter's location outside the home or business, the infrequency of transmissions and the relative weakness of the signal, its radio waves are much less powerful than even the devices listed above. In fact, radio waves from a Smart meter, at a distance of 10 feet, are only about one one-thousandth as much as a typical cell phone.

Based on years of studying whether radio waves cause health effects, the Federal Communications Commission (FCC) has adopted Maximum Permissible Exposure (MPE) limits for radio transmitters of all types, including Smart meters. It includes a margin of safety just in case some health effects are too subtle to have been detected. Even so, Smart meters operate far below the limit—typically only about one-seventieth as much.

Learn more...

In January, 2011, the California Council on Science and Technology (CCST) released a preliminary study entitled "Health Impacts of Radio Frequency from Smart meters".

Quoting from the study, there are two primary conclusions:

1. The Federal Communications Commission (FCC) standard for Maximum Exposure provides a currently accepted factor of safety against known thermally induced health impacts of smart meters and other electronic devices in the same range of RF emissions. Exposure levels from Smart meters are well below the thresholds for such effects.
2. There is no evidence that additional standards are needed to protect the public from smart meters.

