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Electricity Guide

VOLUME 17 | DECEMBER 2010

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SMART METERS PROMISES AND PROBLEMS

THE MAINE COMMISSION HAS approved the requests of both CMP and Bangor Hydro to install a new metering system known as Advanced Metering Infrastructure (AMI). AMI is made up of smart meters, together with radio transmitters, data collectors and a central data management computer. Most of Bangor Hydro customers already have the meter portion of AMI and CMP has just begun the installation of its meters (a process that will take a year and a half).

What makes these meters different from the old electromechanical meters is their ability to transmit data from the meter to the collectors and on to the central computer without the need for a meter reader. Data can be transmitted frequently, like once every fifteen minutes, or less frequently, like once per day. Each transmission lasts less than a second. Also, unlike the old meters, utilities can “ping” or test the meters from the central office to see if the customer has power. According to the utilities’ promises, this should help with power restoration efforts following storms. Despite an AMI track record of several years in various places throughout

the world, neither CMP or Bangor Hydro presented any meaningful evidence that outages experienced by customers will be shorter.

TWO WAYS TO SAVE Another promise touted by CMP and Bangor Hydro is that customers will have the ability to save money in one of two ways. First, customers will be able to see their usage in real time (if they are willing and able to purchase a device known as an In Home Display, currently costing about \$150) or on the following day if the customer has a personal computer. In these cases, customers can begin to get a better sense of how they use power and may be able to adjust usage to save. Second, “dynamic pricing” rate plans may allow customers to save during peak usage times (hot summer days) by using less. (See *Smart Meters and Dynamic Pricing* on page 3.) If you are home during such days, and have electrical appliances you can turn down or off, you may be able to save under this type of plan. In the long run, we understand that new appliances will be able to communicate with the meters in ways that could lead to more efficient power use and lower bills.

ARE THE METERS A THREAT TO ONE’S HEALTH?

On September 28, 2010 in Portland, Central Maine Power installed the first of an expected 600,000 smart meters which will be placed on the buildings of every CMP customer. Within days a number of CMP customers began contacting the Office of Public Advocate, the Public Utilities Commission and CMP to express great concern about possible health consequences from the radio frequency radiation emanating from the devices. Many of the people who contacted our office were very passionate about the threat to their health and that of their children, and vowed to block CMP’s attempts to place a smart meter on their homes.

On October 25, 2010, twelve customers of CMP filed a “ten-person complaint” against the Company seeking, among other things, a moratorium on CMP’s deployment of the new meters so that the health implications can be studied. This Complaint specifically raised the RF health issue and cited numerous medical sources. CMP will respond to this complaint by mid-November after which the Commission will decide whether to open an investigation.

In the meantime, the Maine Center for Disease Control, under the leadership of Dr. Dora Mills, has produced a review of health issues associated with RF waves, examining “health studies and assessments by government agencies and some affiliated private and academic organizations.” The Maine CDC’s full report is available at its website www.maine.gov/dhhs/boh/smart_meters.shtml

The CDC’s conclusion reads as follows:

WE OPPOSED THE UTILITIES' REQUESTS

At this time, we are not convinced that the promises of AMI outweigh the risks and we remain concerned that the reality will be quite different from the predictions. This is a technology that is evolving, and we are concerned that the systems being installed now may soon become obsolete or suffer from debilitating "bugs" and other problems. Dynamic pricing rate plans will not work if customers are not motivated to use these features or can't cut back on usage at the peak time. Also, this technology is vulnerable to cyber-attacks. We are concerned about the possibility that someone might be able to figure out how to get into the utility's AMI central system and cause damage. Finally, the approved costs of these systems were based on utility estimates. In our experience, estimates are always lower than the actual final costs and we are very concerned that the final cost of CMP's and Bangor Hydro's AMI systems will add a significant burden to customers whose electric bills are already too high.

The Public Advocate presented these arguments to the Commission, but each request was approved over our

objections. Not only did the Commission approve the projects, but earlier in its case, when CMP sought to suspend its request for authority to invest in AMI, the Commission encouraged them not to. We sincerely hope our fears do not come true, and that AMI becomes the useful and cost-effective tool the utilities say it is. Because we know that not all customers are able or willing to participate, we will insist that any rate or usage application be strictly voluntary. Customers may simply not be interested or motivated to take the time to save what might turn out to be a very small amount of money. On the other hand, there are surely customers who look forward to the opportunity to save on their bills (and help reduce pollution from power plants) by using the additional information provided by the meters to cut back on their usage.

For more information, including what is happening in other areas, please visit the smart grid page on our website: www.state.me.us/meopa/smartgrid/index.shtml. You may also wish to view CMP's smart grid website: www.cmpco.com/smartmeter/smartmeter_smartgrid.html. CMP's smart meter hotline is 877-887-0356.

EDUCATION IS REQUIRED

While the meters may be "smart", none of the money savings promises will come true unless consumers know how to take advantage of the potential. This requires an educational effort. Based on our experience with educational efforts surrounding electric restructuring from ten years ago (there are still many customers who believe that CMP generates the power it delivers), customers, by and large, are not motivated to learn much about electricity; they are comfortable with paying a bill once a month and having power in the socket. Frequent educational efforts are clearly required. Unfortunately, CMP has so far been unwilling to adopt our suggestion to use its bill inserts, web page and high public profile to begin the educational process about savings opportunities for its customers.

In conclusion, our review of these agency assessments and studies do not indicate any consistent or convincing evidence to support a concern for health effects related to the use of radiofrequency in the range of frequencies and power used by smart meters. They also do not indicate an association of EMF exposure and symptoms that have been described as electro-magnetic sensitivity.

The report also stated the following:

We (Maine CDC) received information from opponents of smart meters starting the end of September. We received information from CMP about a week later. We are reviewing both sets of information as well as reviewing some peer-reviewed literature and other materials on the matter. We

have not had time yet to fully vet these materials, especially because of their volume.

However, thus far, it appears from the information we have collected and vetted, that smart meters emit non-ionizing radiation, and not the kind that is found in X-Rays (which over-exposure from can change the structure and function of cells).

It also appears that smart meters emit (non-ionizing) radiation that has a similar frequency and power as that of wireless routers, which many homes now have. And, that smart meters are used at the most about 10% of the time. So, smart meters appear to be similar to having a wireless router on the side of a house that

we understand operates about 10% of the time. The frequencies and power of smart meters are also in the range of those found in cordless phones and cell phones. Therefore, there does not seem to be an analogy to having a cell phone tower on the side of one's house, as is reported by some of the emails we have received.

Some of the same arguments we heard last winter in relation to cell phone use are similar to what we've seen presented with smart meters.

As of November, 2010, the Public Advocate has taken no position on whether smart meters pose health risks.

SMART METERS AND DYNAMIC PRICING

Because smart meters allow frequent remote readings of usage, they enable so-called dynamic pricing rates. Right now, most residential customers have flat rates – no matter when you turn on a light, the rate for the electricity is the same. From the point of view of making the electricity, it is cheaper at night because so few customers need it then and it is most expensive on hot summer afternoons when everyone in New England has their air conditioners on, and factories and businesses are open.

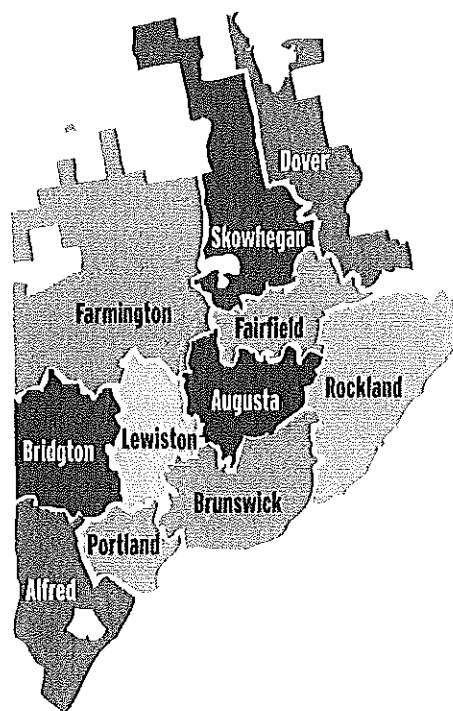
A dynamic pricing rate, depending on how it is structured, can allow a customer to take advantage of these facts and shift usage to the cheaper times of day. Under one type of rate, customers face a high rate during the system peak no matter what, forcing them to cut back during that time. Those who can't respond get a higher bill. A variant provides for rebates during these times but no rate penalty if you cannot cut back. (An extreme version would be "real time pricing" where a customer pays what-

ever the hourly rate is according to the New England wholesale electric price which fluctuates frequently throughout the day). These rates may make a lot of sense for residential customers who have air conditioning, pools with pool pumps and other high use appliances. There are, however, few such customers in Maine. Once CMP's or Bangor Hydro's meters are fully deployed, there should be dynamic pricing options available for those customers who seek the opportunity.

CMP METER DEPLOYMENT

CMP has begun the installation of the new meters. See the chart for its proposed schedule – which may be subject to change. CMP expects to have the entire process completed by March or April of 2012. A company called VSI is doing the work. Installers will have both a VSI and a CMP logo on their uniform for easy identification. Municipal officials will be notified in advance of when installers will be in a given town, but CMP has so far refused our request to provide more notice and information to customers. Currently, CMP plans to simply show up and knock on your door just before installing the meter. CMP predicts that the average installation will take about ten minutes and be aware that your power will be shut off for a short while.

CMP METER INSTALLATION SCHEDULE Please note that the towns listed on the left refer to CMP service areas. For example, Brunswick includes much of the midcoast. See the map.



SERVICE AREA	2010	Q1 2011	Q2 2011	Q3 2011	Q4 2011	Q1 2012
PORTLAND						
AUGUSTA						
DOVER						
ALFRED						
ROCKLAND						
FAIRFIELD						
FARMINGTON						
BRUNSWICK						
BRIDGTON						
LEWISTON						
SKOWHEGAN						

Source: Central Maine Power Company

CMP'S HUGE TRANSMISSION PROJECT: THE MPRP

This last June, after two years of litigation, the Commission approved an agreement reached between CMP, our office and others that will allow CMP to construct what it calls the Maine Power Reliability Program or MPRP. By far the largest utility infrastructure project in state history, and projected to cost \$1.4 billion, the MPRP will be made up of 350 miles of high voltage transmission lines running from the New Hampshire border in Elliot to Orrington (in Bangor Hydro's territory) and as far inland as Rumford. In addition to these new lines, there will be many miles of rebuilt lines, new substations and significant upgrades to existing substations.

This agreement concluded what had been a controversial and hotly contested case at the PUC. CMP had worked closely with transmission planners at ISO-New England (the regional grid operator) to develop the MPRP proposal. To get approval, CMP had to prove that all the lines and substations were needed in order for CMP (and ISO-NE) to keep the lights on for the next ten years. Looking into the future always requires assumptions, and the planners made many in this case. Once the case was filed, the Public Advocate hired expert engineering and economics consultants who presented testimony early in the case that the MPRP was not needed in its entirety because the planning standards and assumptions used by CMP and ISO-NE to develop the project were too stringent. Other parties, including a Maine company seeking to use solar energy as a substi-

tute for transmission lines, a consortium of Maine industrial electric customers, an environmental advocacy organization, and landowners who live near where the lines would be built, also presented testimony in the case. The Commission staff, with expert consulting help, was extremely active as well.

Over time, as CMP prepared studies using different, less stringent standards, we came to see that there was in fact a significant reliability need in Maine. Ultimately, we joined with other parties and reached an agreement with CMP that much of the MPRP should be built. This agreement, approved by the Commission, also provided significant other benefits for customers. CMP has agreed, for example, to pay for \$17 million of energy efficiency projects over the next nine years, including a contribution to the Governor's low-income weatherization program. This money will not be recovered in rates. Also, rather than build transmission in the Midcoast area, CMP has agreed to work with GridSolar to propose a solar pilot to test GridSolar's ideas in that area. A separate solar pilot will be proposed for the Portland area. These pilots may pave the way for new and better use of small scale renewable generation.

CMP started construction in September by clearing land in rights of way in the route from Benton to Detroit. CMP expects the entire project will be complete in five years.

MPRP IN RATES The cost of the MPRP will be recovered from all New England customers in the regional transmission rate. CMP customers pay about 8% of that rate, so will pay for about 8% of the MPRP.

CMP'S BONUS RETURN - AN UNNECESSARY "INCENTIVE" CMP will earn a "bonus" return on the MPRP. This bonus, available to many transmission utilities, was sanctioned by Congress and added to CMP's MPRP rates by the Federal Energy Regulatory Commission (FERC) over the objection of the Maine Commission and our office. The federal government calls it an incentive and it is there so utilities will build more transmission. Utilities are allowed to earn a return on their assets by both federal and state regulators. Transmission rates, regulated by the FERC, include such a return and it has been around 12.39% for several years. The bonus return will allow CMP to earn an additional .5% on the MPRP. This additional return will lead to over \$9 million in "earnings" in the first year following completion. CMP will earn this bonus even though its president, Sara Burns, testified that CMP would have sought approval to build the entire MPRP even without the federal "incentive." Utilities are already under an obligation to provide reliable service, so the incentive is entirely unnecessary.

MPRP OMBUDSMAN DISPUTE RESOLUTION PROCESS FOR ABUTTERS

The MPRP settlement agreement approved by the Commission contained some conditions. One called for creation of an "Ombudsman" to work with landowners whose properties are adjacent to the "right-of-way" in which the MPRP will be built, and who were not happy with the terms or conditions under which the project would interact with their property. The Ombudsman is a neutral party whose role is to mediate disputes between the landowner and CMP. The Ombudsman is to be hired, as an employee of the Public Utilities Commission, as soon as the State approves the necessary paperwork. In the interim, the Public Utilities Commission, the Office of Public Advocate, and CMP have jointly hired a retired judge, Leah Sprague, who is currently carrying out the Ombudsman's duties until the permanent Ombudsman is hired.

The Ombudsman is part of a dispute resolution process available to abutting landowners who are not satisfied with how their concerns have been addressed by CMP. If an abutter is

unable to negotiate a satisfactory resolution of issues with CMP even with the Ombudsman's assistance, he or she can next turn to a Landowner Dispute Resolution Process set up by the Commission. Under the LDRT, the PUC staff will have the authority to resolve disputes concerning CMP's construction activities, and to determine to what extent CMP's construction and design standards can safely and reasonably be accommodated or modified to address abutting landowners' issues and concerns where the amount in controversy does not exceed \$200,000. Finally, for those disputes referred to LDRT in excess of \$200,000, or for those issues not resolved at the LDRT, the issues will be referred directly to the three PUC Commissioners for decision. Under this process, we expect that only the most intractable disputes will reach the Commissioners for a decision. This process is designed to work quickly. It is possible that, from the first contact with CMP to a decision by the Commission, resolution of a dispute could take as little as one month, and probably not more than six weeks.

The PUC has ordered CMP (and if applicable, Bangor Hydro, for the portion of the MPRP to be built in their territory) not to take any actions that would have the effect of making the issue in controversy "moot". For example, CMP should not, without first going through the dispute resolution process, cut down trees between someone's house and the right of way when it knows that the landowner seeks to save those trees.

If you, or someone you know, is in a dispute with CMP (or Bangor Hydro) over issues growing out of the fact that the MPRP right-of-way passes adjacent to your land, and would like to know how you can use this three step dispute resolution process, please call the Ombudsman at (207) 287-1385 or email the Ombudsman at OmbudMPRP.PUC@maine.gov. The Ombudsman will be available throughout the length of the MPRP construction period, estimated to last about five years.

BANGOR HYDRO AND MAINE PUBLIC SERVICE MERGER APPROVED

Last month, the PUC approved an agreement negotiated by the Office of the Public Advocate allowing the acquisition of Maine Public Service Company by Emera, Inc., Bangor Hydro's Canadian parent. The agreement includes several direct customer benefits, including the provisions that MPS will not seek a rate increase until January of 2012 at the earliest and the cost of the acquisition will never be in rates. There are also various long-term protections in the agreement. A second agreement, also approved by the PUC, requires Emera to take certain steps aimed at protecting northern Maine ratepayers from price increases if MPS joins the ISO-New England area by building a transmission line that would connect the north to the south. This agreement was jointly negotiated by our office and the northern Maine consumer-owned utilities (all of whom are transmission customers of MPS): Houlton Water Company, Eastern Maine Electric Cooperative and Van Buren Light & Power District. Emera still needs approvals from federal regulators before it can close the transaction.

TREE TRIMMING PLANS FOR POLES AND WIRES

Electric utilities are required to maintain the reliability and safety of their systems. Vegetation management plans are used to manage the transmission and distribution right-of-way corridors in order to minimize power outages that can be caused by encroaching tree limbs or overgrown vegetation in those rights of way. The utilities are required to establish vegetation management procedures so that each right-of-way is maintained on a periodic basis.



TREE TRIMMING PLANS FOR POLES AND WIRES FAQ

Why must utilities maintain right-of-way corridors?

Reliable electric service depends upon proper maintenance of the distribution and transmission facilities. Many outages occur when trees and branches growing along the right of way fall onto power lines or when branches make contact with electrical equipment. These outages are most often related to storm events, including wind, rain, and snow.

Who performs the vegetation management and tree trimming work?

Utilities employ licensed arborists and they also contract with qualified contractors. In times of severe storms those contractors also work with utility crews to remove downed trees.

Are the state's utilities permitted to use herbicides within the right-of-way corridors for vegetation management?

Yes, so long as they use herbicides approved by the federal Environmental Protection Agency and the state Department of Environmental Protection. No herbicide

treatment may be applied within twenty-five feet of surface water or within one hundred feet of drinking water supplies.

Who do I call if I have a complaint with how the utility is conducting vegetation management work on my land or the land that the company owns?

If you would like the utility company to consult with you before pruning near your home or business, contact the company and fill out the required form letting them know that you wish to be contacted. If you make such a request the utility must contact you prior to any scheduled pruning or trimming. However, when the company is restoring service after a storm or in some other emergency situation, property owners are not required to be notified and therefore may not be consulted in advance. If you are unhappy with your utility, and its vegetation management in your area, you may contact the Maine Public Utilities Commission, Consumer Assistance Division at 1-800-452-4699.

Are there minimum height and width requirements for vegetation clearing near utility right-of-ways?

Yes. These requirements vary depending upon the individual utility's vegetation management practices, the periodic scheduling for trimming that they have in place, and the voltage class of the line. For specific questions on height and width requirements, contact your local utility.

Will the utility remove branches and wood from my property?

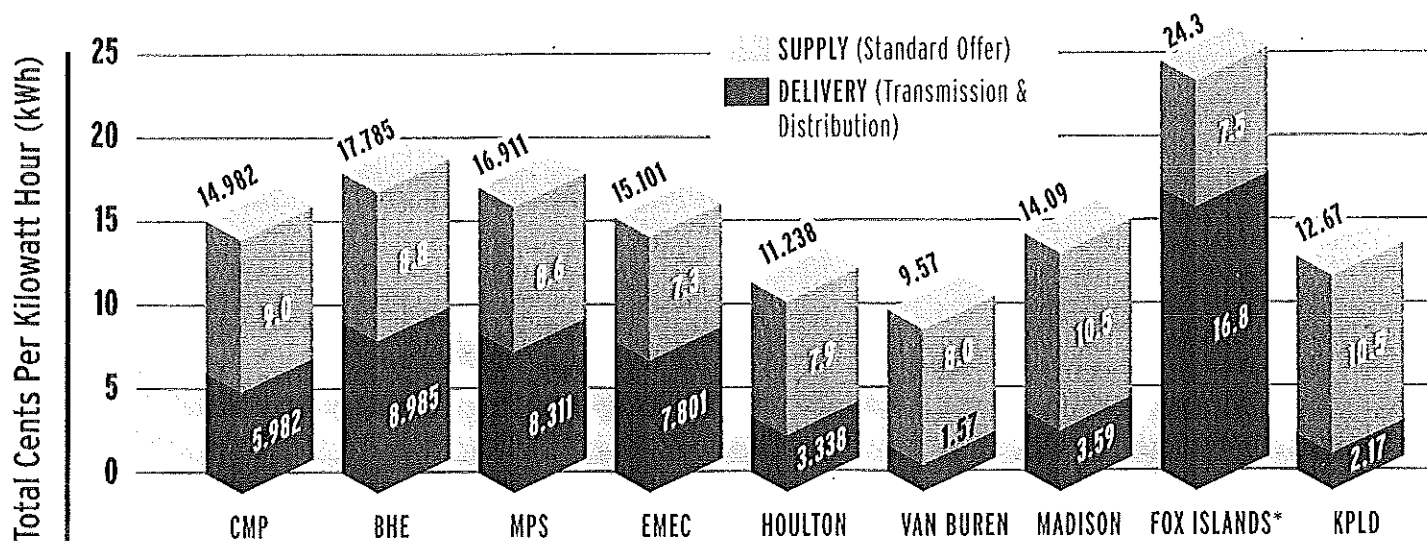
Once pruning is completed the utility must chip or remove the brush resulting from tree removal or trimming. The chips may be left on site or hauled off. Wood larger than 3 inches in diameter is left behind for the owner's personal use. During times when pruning or cutting is being done during a storm restoration time period, the utility does not chip or remove the brush.

Will the utility remove fallen or discarded utility poles?

Poles must be removed and taken to a licensed special waste landfill.

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RESIDENTIAL TOTAL kWh RATES FALL 2010



*Fox Islands has recently requested a rate decrease for its delivery rate.

Note: Some of these utilities charge a set amount for the first 100 kWhs used or include a flat customer fee. For example, CMP customers pay \$8.41 for the first 100 kWh and then the above rate for additional usage during a given month. Call your utility for details.