December 2013 Ice Storm: An Unprecedented Outcome Event

Monday, Dec. 16, 2013, was as peaceful and typical as any day could get in Vermont, at least three days before Christmas. As part of VEC’s standard operating procedures, Jeff Wright, Vermont Electric Cooperative’s (VEC) Chief Operating Officer, checked in with Meteorologist Roger Hill, of Weathering Heights Consulting, in Worcester.

Hill was notifying utilities about a pending ice storm; its location and severity were still uncertain, but as the weekend approached, all forecasts aligned with earlier predictions that the hardest hit areas would be Chittenden County and the Champlain Islands, with a lesser threat to Orleans County.

The storm could be catastrophic, Hill warned. It was. Today, VEC members and employees are finally recovering from what is now the biggest storm in the history of the company. VEC responded to nearly 60,000 power outages that cost about $7 million to restore. Up to that point, VEC’s most expensive storm cost $1.8 million.

“Ice storms are one of a utility’s greatest nightmares,” Wright said. “They can cause a tremendous amount of damage to power lines and equipment while posing significant safety hazards. We remember the 1998 ice storm well, and we knew we had to prepare for a serious outage event.”

Calm before the storm
VEC’s 105 employees were put on call and they knew what that meant: all hands on deck, 24/7. From line workers to office staff, everyone has a role to play in a major outage event.

Then, VEC started contracting outside resources that were positioned in Burlington and Newport. Mutual aid crews on Dec. 21, the night before the most damaging part of the ice storm hit, totaled nearly 100 line workers and more than 125 tree workers—each one ready to work well into Christmas, if necessary. Within 24 hours, the number of utility crews swelled to nearly 600.

Knowing that one of the signatures of an ice storm is a high level of trees falling on power lines, Sara Packer, VEC’s Forestry Manager, knew she needed more than the three contracted companies she relies on-year-round to keep VEC’s lines clean. By Thursday, she lined up additional crews from as far away as Jersey, Baltimore, Pennsylvania, and New Hampshire.

“It’s nice when we have that level of warning,” Packer said. “It sometimes can be tricky to bring in the right amount of resources at the right time.”

VEC’s employee who participated in statewide utility calls with Vermont Emergency Management in the days leading up to the storm—a standard practice when facing serious weather conditions. VEC then used the company’s Web site, along with traditional and social media, to disseminate early messages to members about possible power outages.

Employees lined up to ensure the utility had adequate staffing for the storm. For example, the VEC Call Center normally has seven employees, but during the December 2013 ice storm, it ballooned to three or four times its size, with everyone working in rotating shifts. VEC employees who normally work in other areas were trained and ready for call center duty.

“When there’s a storm, you’re ready to go into storm mode,” said Kathy Thompson, a VEC Member Services Representative for 16 years. “Everyone just drops everything and gets ready. It’s impressive.”

VEC’s Chief Financial Officer, Mike Bursell, and his team of employees mobilized quickly to prepare for the storm. Their first priority: increase short-term credit capacity with VEC vendors, such as credit card companies, gas cards, hotels, and restaurants. Many VEC employees and contracted workers would be all over northern Vermont roads for the next several days, eating and buying gas while responding to the storm.

Normally, Vickie Brown is VEC’s General Counsel. She oversees all legal matters and supervises the Human Resources Department, but to prepare for this storm, she took responsibility for the logistics of arranging food and lodging for VEC employees and contract crews that fixed and restored the system.

“This is important,” Brown said, “we

CEO Update: For VEC, the December Ice Storm Packed a Wallop

By David Hallquist, CEO

2013 literally ended with a bang, b a n g, b a n g, and bang—the sound of trees snapping under the weight of ice. A serious winter ice storm bore down on the Vermont Electric Cooperative’s territory on December 21, which resulted in the most expensive storm in VEC’s history. What made this storm unique was that previous ice storms were limited to specific areas, this one impacted 60 of the 74 towns that our co-op serves. To make matters worse, there was no warm-up after the storm, so rather than melting away, heavy ice continued to coat the trees and electric wires, resulting in repeated outages for 10 straight days. It was extremely frustrating for both members and VEC employees. Large crews of line workers and right-of-way clearing personnel would spend days clearing and repairing a circuit, would succeed in restoring power for VEC members, and within munites another large tree would uproot from outside the right of way and take down more sections of line. On a typical single-phase power line, VEC follows the industry standard, clearing 15 feet each side of the line. But trees 50 and 60 feet tall were falling from outside the cleared rights-of-way and taking down our lines. More than 18,000 of VEC’s 32,000 members experienced at least one outage. There were nearly 60,000 separate outages during the storm and the difficult days that followed.

Our co-op had 600 people working in the field during the storm. Normally VEC has a field staff of about 50. This was an incredible logistics challenge. VEC has been investing in technology for many years, to bring the best resources possible to the task of identifying the location, cause, and scope of outages. We have also refined our response protocols. As a result, we were able to effectively handle the large number of crews and keep our members and the public informed. We are extremely grateful to our members for their patience and support, and to those who provided much-needed food and hot beverages. We are also thankful to the other utilities, contractors, state agencies, and Vermont Emergency Management personnel who lent us invaluable assistance.

Storm cost estimates were a staggering $7 million. This was mainly driven by the volume of field personnel, lodging, food, materials, and vehicles. Prior to this event, our most expensive storm was $1.8 million and the result of the December 2010 wind storm. As a cooperative, VEC qualifies for Federal Emergency Management Agency (FEMA) funds. We are expecting about 65 percent of the storm costs to be covered. While the remaining $2 million will need to be paid by our membership, we have an agreement with the Department of Public Service that will allow us to defer resolving these expenses until 2015. While this would equate to a 3-percent increase if it had to be paid back in one year, VEC will work to mitigate the cost through other budgetary means. A good year, with few storms and favorable power sales, could wipe out the variance. If the costs need to be recovered through rates, our plan would be to minimize the impact by collecting it over a few years.

Net Metering and VEC’s innovative solar project
VEC has been working closely with the Vermont Legislature, as well as the Vermont Department of Public Service, to craft legislation that will enable more VEC members to participate in the state’s net metering program. Enrollment in that program was suspended at VEC after we reached the mandatory cap set by the Legislature. We are supportive of the bill that in February was making its way through the Legislature, which will raise that cap. The bill also requires that the Public Service Board come up with a long-term solution that could eliminate the cross-subsidization.

Continued on page 2
President’s Message

2014 Annual Election

There has never been a time when energy decisions have been as important, complicated, and controversial to make as they are today. For better or for worse, today’s choices will be a part of the legacy we’ll leave for future generations. At VEC, the board of directors plays an important role in making policy-level decisions for the organization. Meeting monthly throughout the year, the board takes a leadership role on a variety of items ranging from budget and operations oversight to setting policy on key energy issues such as the adoption of renewable energy sources.

For me, it’s been an honor and privilege to serve on VEC’s board of directors for the past ten years. VEC is stronger than ever and this is a reflection of the leadership of dedicated board members who work closely with VEC’s management team to ensure that we are able to deliver safe, reliable electricity in a cost-effective manner. I am pleased to say that the financial health of the Co-op is great and operations have improved significantly in recent years.

In just the past year, VEC’s twelve-member board of directors approved the Co-op’s first-ever patronage capital distributions; made important decisions about the composition of VEC’s power supply portfolio; and weathered the largest outage event in VEC history brought on by the December 2013 ice storm. While it’s easy to take electricity for granted, there is a lot that takes place behind the scenes to make sure it’s there when we need it, and VEC’s board of directors sets the stage for this to happen.

One of the co-op advantages is that VEC is a democracy. Our members elect directors to represent their interests every year. Directors come from diverse backgrounds. Some have experience in the industry, while others bring perspectives from other walks of life. Environmental concerns motivate some to become involved, while economic concerns motivate others. In the end, much of the work done by VEC’s board seeks to balance these interests.

VEC’s annual election process is underway and we are seeking candidates to run for three seats that have terms expiring in May. If you’ve ever thought about getting more involved in energy decisions, serving as a VEC director is a great way to do this.

To learn more, please see the accompanying article about the upcoming election. If running for office is not up your alley, your participation in VEC’s annual election is still needed. Keep an eye open for election materials that will arrive in your mailbox in April, and please be sure to cast your vote!

Cover story continued from page 1

CEO Update: December Storm Wallop

that occurs today. The current 362 VEC net metering installations are costing members who do not participate in the program some $580,000 annually.

This bill will also enable VEC to offer community net metering through our innovative SUNDIVA solar project. VEC is participating with 15 other cooperatives across the country to demonstrate that solar generating systems can be constructed efficiently at utility scale for a below-market price, without the need for subsidies or tax breaks. VEC is planning to build a 5-megawatt (MW) solar array in its service territory, and offer half of the project to members who are interested in participating in group net metering. It’s a concept we’re calling Co-op Community Solar. Community solar is defined as a solar-electric system that provides power and/or financial benefit to multiple community members. VEC recognizes that the on-site (rooftop) solar market comprises only one part of the total market for solar energy. A 2008 study by the National Renewable Energy Laboratory (NREL) found that only 22 percent to 27 percent of residential rooftop area in the U.S. is suitable for hosting an on-site photovoltaic (PV) system. Community solar is much more efficient at taking advantage of economies of scale. VEC projects that it can build community solar for half the cost of comparable on-site residential systems.

Community solar will allow a member from any part of the VEC system to participate in a centrally located project. Members will be able to purchase or lease panels on this system and participate in the net metering program; the output of the community solar panels will reduce the member’s bill just as it would if the panels were on the member’s roof. The advantage is that members will not have to worry about installation and maintenance, and they will get a better return for their investment.

We’ll be writing more about Co-op Community Solar and the benefits it will provide to VEC members as the project is sized and construction begins in the months ahead.

Seeking Director Candidates in 2014

Three VEC Director Positions Open

Vermont Electric Cooperative will host its 76th Annual Meeting of the Membership on May 17, 2014, at Smugglers’ Notch Resort. An important component of the annual meeting is to give members an opportunity to exercise their voice as member/owners, which is demonstrated in the election of new directors for expiring positions on our Board of Directors. As a cooperative, members democratically elect local representatives to serve on the board. These directors participate in setting policies and making decisions, and are expected to represent the interests of these members.

VEC is seeking petitions from qualifying candidates for three positions on the Board of Directors that will become open in May of 2014. Each position will be for a four-year term.

Below is a list of the seats that are up for election and the towns they represent:

District #3

District #4
Bakersfield, Belvidere, Cambridge, Eden, Fairfax, Fairfield, Fletcher, Hyde Park, Johnson, Morristown, Stowe, and Waterville.

District #5

Persons seeking these board positions must be VEC members, may not be employed by the Cooperative, and may not in any way be employed by or have financial interests in a business selling electric energy or supplies to the Cooperative. Candidates must have a principal residence within VEC territory and in the district or zone in which they are running for election.

VEC is seeking candidates who have the ability and time to fulfill the responsibilities of the board, which include participating in all monthly board meetings and committee activities. The Board of Directors meets in the afternoon on the last Tuesday of each month at VEC’s main office in Johnson. Directors receive a stipend and mileage reimbursement for attending meetings, and have training opportunities to learn more about today’s energy issues and the cooperative model.

Please contact the administrative office at 802-730-1172 to request application materials.

Completed applications, including a petition signed by VEC members, are due by 4:30 p.m. on April 1, 2014. The election will take place from April 22 through May 17 by mail and online, and in person at VEC’s annual meeting on Saturday, May 17, 2014.

VEC to hold 76th Annual Meeting of the Membership

When: Saturday, May 17, 2013 @ 10:00 a.m.

Where: Smugglers Notch Resort, Jeffersonville, VT

Why: It’s an opportunity for you to exercise your voice as a member-owner of this cooperative!

Join us and hear about today’s energy issues or share your thoughts with one of VEC’s directors or staff. Keep an eye out for your official Notice of Annual Meeting and voting ballot, which will be mailed on April 22. Hope to see you there!
December 2013 Ice Storm

know that the crews would be working incredibly long hours in very cold temperatures. With nearly every restaurant and store closed due to the Christmas holiday, we had to make sure that they were well nourished and fed. For example, we provided bag lunches to all field workers, so that they could eat when it’s convenient, out in the field, and we made arrangements for hot meals at breakfast and dinner.

John Varney, VEC’s Safety Manager, spent the days before the storm ensuring that an effective safety orientation was conducted with all contracted workers; they were already trained and certified to national standards, but they also had to work according to VEC requirements that go above and beyond minimum compliance.

“It was a challenge to determine who, when, and where these crews would be in position for an initial meeting and briefing,” he said. “The schedule during the first 36 hours was hectic, but we were able to communicate our safety requirements to all of the crews.”

Mike Allard, VEC Systems Operations Manager, and his team of employees run VEC’s Control Center overseeing distribution lines and substations said, “Everybody had a good heads up.” He felt prepared. VEC was ready.

The storm arrives – VEC is ground zero

The forecasters named the storm “Gemini.” Aptly. It was a balanced paradox: beautiful but dangerous – pretty, yet poisonous. Gemini pounded northern Vermont but dangerous – pretty, yet poisonous. “Gemini.” Aptly. It was a balanced paradox.

The storm arrives – VEC is ground zero

The forecasters named the storm “Gemini.” Aptly. It was a balanced paradox: beautiful but dangerous – pretty, yet poisonous. Gemini pounded northern Vermont with rain, sleet, ice, snow, and delayed Christmas plans. The first outage was reported just before 5 p.m. on Dec. 21, in Richmond.

During the morning of Sunday, Dec. 22, VEC monitored icing conditions via local observations from employee and substation cameras. After consulting with Hill at 4 a.m., VEC braced for the worst. Three hours later, VEC was rapidly losing transmission and distribution feeders. By 8 a.m., more than 18,000 VEC members had no power.

Continuously building ice slowed restoration efforts into Monday, especially in Chittenden and Franklin counties. Despite restoring more than 18,500 outages on Sunday, there were more than 10,000 outages when crews returned to work Monday morning. On Monday, workers restored more than 12,500 outages when crews returned to work Monday morning. On Monday, 10,000 outages when crews returned to work Monday morning. On Monday, 10,000 outages when crews returned to work Monday morning. On Monday, 10,000 outages when crews returned to work Monday morning.

By 8 a.m., more than 18,000 VEC members had no power and by New Year’s Eve the last of the outages was restored. The longest outage was 113.3 hours and affected 20 VEC members on Hardwood Hill, in Richmond.

“About 30 peop...
Electricity 101: Generating Your Electric Power
Mankind’s Multiple Methods for Converting Energy

In the “New World” many of us think of Benjamin Franklin as the discoverer of electricity. Franklin’s famous electricity experiment in 1752, flying a kite during a thunderstorm, did prove that lightning is electricity; Franklin had attached a pointed wire to the kite, and when a bolt of lightning struck the charge traveled down a wet string and caused sparks when it struck a metal object (a key) at the bottom end. But people had noticed phenomena caused by electricity since the days of the early Greeks and theorized about the invisible source of this energy.

Franklin’s experiment was not particularly important in the development of purposeful and controlled uses of electricity. Progress in that area took another century, during which physicists learned how to generate and transport electricity and identified the existence of electrons. In 1878 Thomas Edison marketed a system for providing electricity for heating and lighting purposes, and in 1881 Godalming, a village some 30 miles south of London, England, became the first town with a publicly owned electric system for illuminating its (formerly gas) streetlights. By the early 20th century electricity became common in population centers in much of the world, and by the end of the 1930s rural Americans were finally getting connected thanks to the electric cooperative movement.

If electricity is a “commodity,” the system for providing it to its users (by now the vast majority of people in world) may be unique. Almost everything else that we purchase comes in a container of some sort—a box or a can or a tanker truck or a pipeline; it exists before we purchase it. That’s not the case with electricity. The watts of power that come sliding through your VEC power lines—and which are measured, for billing purposes, in groups of 1,000 or “kilowatts” are being generated and transported to you pretty much as your electric system—your lights, boiler ignition, refrigerator, the video screen pumping out your kid’s new version of “Grand Theft Auto”—demands them.

What’s more, while this vast electricity infrastructure is generating and providing power for you, it’s simultaneously serving every home you can see out your window, and millions more besides. It’s a pretty phenomenal system.

And it’s all based on the various means for producing the electric power that you and millions of your fellow citizens are constantly demanding.

In this regard, the first thing to point out is that electricity is a form of energy, and energy is not—it cannot be—created. Electricity is energy that is converted from other forms of energy, and that’s what our various generating systems are doing, continuously: they’re converting mechanical energy and energy contained in the rays of the sun, to electric energy. Even nuclear energy (derived from splitting the uranium atom) and the energy provided by the wind are chiefly employed at transforming mechanical energy into electricity, because their job is to mobilize turbines that, in turn, drive generators, which are the machines that produce electricity.

(Obviously, electricity occurs naturally in the environment. But we have to produce our own for driving the engines, tiny and large, of civilization.)

Your sources, and how they happen

In 2014 Vermont Electric Cooperative expects to receive 41.8 percent of the electricity it provides from hydroelectric sources (39.6 percent from large hydro facilities in Quebec and New York State, and 2.2 percent from small producers in Vermont). Water descending, or flowing, from a high point to a lower point contains energy, a word that scientists often define as the ability to do work. (Work itself is often defined as moving objects; if you pick up a pencil and put it down again, you’ve done work.)

In Vermont, the water’s power causes the turbine’s blades to spin, and that in turn spins a shaft that in turn connects to a generator. Back in 1831 two physicists discovered that they could produce electricity by moving wire coils repeatedly past a magnet (spinning the magnet past the coils also works), and that’s basically what generators of any size do. Small currents produced within individual sections of wire coil are collected together to create the tremendous volume of electricity that is then dispatched to the utility customers who demand it.

Large hydro stations create impoundments and dams for dropping the water into penstocks and past the turbine blades. Small hydro stations generally use “run of river” systems that divert water past the turbines but do not substantially interfere with the river’s flow.

The second-largest source of power in VEC’s portfolio comes through the regional New England grid, which predominantly provides power generated by natural gas and oil. This source accounts for 38.2 percent of VEC’s electricity, while electricity generated at the Ryegate woodchip-burning facility provides 3 percent. Combined, their total contribution is 41.2 percent of VEC’s power. The reason it makes sense to focus on these two sources, other, even though fossil fuels (natural gas and oil) are non-renewable while wood is often considered to be a renewable source, is that they generate power in the same basic way: their heat energy is used to make steam—in other words, they boil water—and the expansive qualities of steam are harnessed to generate power in the same basic way: their heat energy is used to make steam—in other words, they boil water and the expansive qualities of steam are harnessed to generate power in the same basic way: their heat energy is used to make steam—in other words, they boil water and the expansive qualities of steam are harnessed to generate power in the same basic way: their heat energy is used to make steam—in other words, they boil water—steam past the turbine blades. Small hydro stations generally use “run of river” systems that divert water past the turbines but do not substantially interfere with the river’s flow.

The third-largest source of VEC power (15.3 percent) is wind, generated at two Vermont facilities: Kingdom Community Wind in Lowell, and Sheffield Wind in Sheffield. Wind, like hydro power, uses a natural force to turn the turbines that mobilize a generator. The huge blades on a wind tower are, in fact, the front part of the turbine assembly, and the generator is located farther back in the tubular-shaped housing at the top of the tower’s long vertical shaft.

The final 1.7 percent of VEC power comes from farm methane, small wind, and solar installations. Methane “digesters” break down the bacteria in animal manure to create a biogas (the methane) that is then used as a fuel to power electric generators. Methane is a very potent greenhouse gas, so employing it to produce electricity has the double advantage of providing power for VEC members and preventing it from escaping to the environment.

With solar electricity no turbines or mechanical generators are needed. Photovoltaic cells, whether on a net metering Co-op member’s rooftop or in a large array in a field, convert photons (particles of sunlight) into electrons, the basic unit of electricity. This conversion is the result of a chemical reaction that begins when the sunlight hits the solar cell’s thin film of silicon (or other substances) that we now use as solar cells. Solar power will contribute a greater portion of VEC’s energy supply with the development of Co-op Community Solar over the next few years.

Interestingly, many of the other sources of energy used to make electricity can also be thought of as solar. The winds that turn our turbines are created by the sun’s uneven heating of the earth’s surface and atmosphere; the energy stored in wood originated as sunlight, and the same is true for coal, oil, and gas, though these latter sources can hardly be considered renewable, as scientists estimate that it took some 40 million years for the forces of heat and pressure to convert huge quantities of buried plant material into the solids, liquids, and gaseous fossil fuels. VEC members are a part of that energy chain.

Finally, geothermal energy (not a part of VEC’s electricity portfolio, but used by some members through heat exchangers to warm their homes and businesses) taps into the heat stored in subterranean rocks and water supplies by the sun’s rays millions of years ago. It wasn’t for nothing that the Beatles celebrated its daily arrival with their joyous tribute, “Here Comes The Sun.”

Next: The Transmission System. Now that your electric power has been generated, it starts its journey to you.

Clean Energy Collective Launches Community Solar in Spring 2014
VEC’s Co-op Community Solar targeted for 2015

A relatively new distributed generation model called community solar allows any customer in a participating utility territory—renters, those with shaded roofs, people on low incomes—the opportunity to own panels in a shared, medium-scale solar facility without having to build a stand-alone facility on their home or business. VEC’s Co-op Community Solar project is currently in development and targeted to become available to VEC members in 2015. Contingent upon final approval by VEC’s board of directors and new, enabling net metering legislation, VEC’s five-megawatt, utility-scale project is expected to deliver renewable energy to VEC members at highly competitive prices. As more details become available, we’ll share them in future editions of Co-op Life.

In the meantime, community solar garden pioneer, Clean Energy Collective (CEC), will begin construction of a shared utility-scale solar PV facility in the city of Alburgh to serve VEC members. A Colorado-based business, Clean Energy Collective is a developer of community-owned renewable energy facilities and a national leader in community power generation.

The new 155-kW Grand Isle Community Solar Array, to be located off of Route 2 in Grand Isle County, will provide affordable access to renewable energy for any residential or business customer that pays an electric bill in the VEC service area. Individual 250-Watt panels are expected to cost $938, or $3.75 per Watt. Members can purchase as few as one panel or enough to completely offset their energy needs. Because CEC’s community solar project was approved last June before VEC reached the current net metering program limit, VEC members do not need to wait for the net metering program to reopen to participate in CEC’s project. Community solar customers receive all of the same rebates and incentives as rooftop system owners as well as credit for any power produced directly on their monthly utility bills.

CEC’s array is expected to sell out quickly. VEC members may contact CEC with questions at (800) 646-0323 or info@vtscogardens.com.
A couple years ago, Efficiency Vermont’s customer support team got a call from a customer looking to reduce his electric bills, which had spiked up the previous autumn and continued to be abnormally high right through the early summer. We talked through his situation in great detail, but simply could not get to the source of the problem over the phone. To get a better understanding of what was causing his high electric bills we sent him a free meter to connect to his appliances and track their energy consumption, and followed up to discuss his findings.

The issue, as it turned out, was heat tape he had used to keep the pipes in his mobile home from freezing over the winter. It had continued to run, even when the weather warmed – and had continued to drive up his electric bills.

As a VEC member myself, I am always happy to help find and solve these types of problems for my neighbors. As an engineer at Efficiency Vermont, I can tell you that they are pretty commonplace. Our homes are much more complex than we realize, and small changes in our systems, appliances, and even our habits can have a major impact on energy costs.

Information is the key to finding these issues early, and addressing them. A monthly electric bill did not provide enough detail to discover the heat tape problem; the free meter from Efficiency Vermont uncovered the problem, but it took a lot of time and energy to do so. With 15 minute energy consumption data, tracked through VEC’s advanced meters, it is simple and quick to find the root cause of that increased electric usage.

Not only can detailed energy data help diagnose problems, it can also help us make better decisions to begin with. It gives us the ability to look before we leap: By analyzing current usage patterns, Efficiency Vermont can help homeowners make informed decisions about the energy efficiency investments that make the most sense for them. For some people, the payoff on replacing a refrigerator may be very quick; for others it might make more sense to upgrade a water heater, or install new lighting. Perhaps you are wondering how much of a difference it really makes to conserve energy by turning off the lights when you leave a room, or unplugging your DVD player when it is not in use. The fact is that these changes will all reduce electric usage, but energy data helps set priorities and determine the real impact that each change will have on monthly bills.

When we make our homes more efficient, and make efforts to conserve energy by using less, we see immediate results on our own bills. On a larger level there are big opportunities for energy savings. Log on today at www.vermontelectric.coop/vec-watt-watchers.

Get Energy Smart with wattWATCHERS

VEC offers an online tool called wattWATCHERS to help you keep track of your electric usage. It can be especially useful this time of year as you transition from summer’s dehumidifiers and air conditioners to winter’s heaters, humidifiers, and increased lighting needs. If you’ve ever wondered how much each of your appliance impacts your monthly bill, wattWATCHERS can help you figure it out and identify opportunities for energy savings. Log on today at www.vermontelectric.coop/vec-watt-watchers.

Does it take less energy to use a dishwasher or wash dishes by hand?

Q: You can settle a bet in my household. What uses less energy: A dishwasher or washing dishes by hand?

A: A dishwasher, typically. An exception might be if you have an aging dishwasher, because older models use more water (and, so, cost more in water heating) than today’s dishwashers. The most efficient dishwashers, however, use less than 3 gallons per load. I can’t imagine being able to wash the amount of dishes, glasses, etc. in a full dishwasher with less than three gallons of water.

Here are some energy-saving tips for those of us who use dishwashers:

• When it’s time to buy, look for an ENERGY STAR® qualified dishwasher, which uses less water and less electricity.
• Run only full loads.
• Instead of paying to have the dishwasher dry your dishes, turn off the drying feature and open the washer after it finishes cleaning. Then, let the air dry your dishes for free.
• Scrape, don’t rinse. Whether you have a new or old dishwasher, you can get your dishes ready to load with little or no water. A rubber scraper usually does the job.

Does turning a CFL on and off consume more energy than just leaving it on?

Q: I’ve heard that it takes more energy to turn on a CFL than to keep it on. So, isn’t it true that it’s wasteful to turn off the lights every time you leave a room if you’ll only be gone for a few minutes?

A: That’s a great question. It’s true that, when you turn on a CFL (compact fluorescent light), it demands a small amount of extra power. But that surge lasts for 1/120th of a second and equals the amount of electricity to power the light for a few seconds at most. According to the U.S. Department of Energy, turning off a CFL for more than 5 seconds will save more energy than will be consumed in turning the light back on again. So, rest assured that you’ll save energy, rather than waste it, by turning off CFLs as you leave a room.

What’s the difference between the ENERGY STAR label and the yellow Energy Guide on appliances?

Q: We’re going to be buying some major appliances this spring. We’re looking for energy-saving models, so we could use your help. We know that you recommend ENERGY STAR® labeled appliances, but what about machines that have the yellow Energy Guide labels? What’s the difference between them?

A: Both of those labels are there to help you save energy. The ENERGY STAR label indicates that a product significantly exceeds federal standards for energy efficiency. Just about every major manufacturer makes products that have earned the ENERGY STAR label. As for the yellow Energy Guide, it appears on almost everything that uses any kind of energy, to give you an idea of how much it will cost to operate that product.

The first label to look for is the ENERGY STAR, to ensure that you’re looking at the most energy-efficient models available. Then, you can compare these models’ individual energy uses by reading the yellow Energy Guide. This will show you the national average cost of an appliance’s energy in a year. To estimate your own costs, multiply the fuel units (gallons, therms, or kilowatt-hours) by the rate on your utility bill that you’re charged per unit. With this information, you’ll be able to compare models and make an informed purchasing decision. While you’re at the store, don’t forget to ask about Efficiency Vermont’s rebates for select ENERGY STAR qualified appliances.
**VEC’s Variable Peak Pricing Program**

– Study tests new type of rate structure

For most consumers, electricity costs the same amount no matter what time of day they use it. The same is not true for electric utilities. How much we pay for power changes from hour to hour and day to day. For example, on hot summer days and cold winter evenings, demand for electricity rises. With that rise in demand, the cost of purchasing and distributing power to members also rises. Those higher and lower costs are averaged into the 24-hour rate structure that could give members more control over their electric bill and encourage conservation when power is most expensive.

This study, funded by the US Department of Energy, is called the Variable Peak Pricing (VPP) Program. It began in June of 2013 with about 1,200 members. These participants are charged three different rates, depending on the time of day and the week: off-peak, on-peak, and variable. The off-peak and on-peak rates are both lower than VEC’s standard residential rate; the variable rate is higher and has a minimum but no maximum. On days when power is in high demand, the variable rate will rise with the wholesale cost of power.

The objective of the VPP Program is to encourage members to shift electric usage from on-peak and variable hours when power is more expensive to off-peak hours when power costs less. Instead of running items such as dishwashers, clothes washers, electric dryers, and programmable dehumidifiers at 3pm when demand for power in the winter is at its highest, VPP participants can choose to wait until after 8pm or run them in the morning or early afternoon in order to save money on their electric bill. If all VEC members shifted their load a little bit during these peak times, VEC and all its members would benefit. It could shave our power peaks and reduce the costs of purchasing and delivering power to members.

Halfway through the study, many participants are finding that these small changes can lead to savings. Participants have access to an enhanced version of wattWATCHERS called wattWATCHERS Plus where they can track their electric usage, identify opportunities to shift load, and see how they are doing on the VPP rates compared to the standard residential rate. When the study ends in July, VEC will analyze the results and determine whether to develop a similar program that would be available to all of our members.

<table>
<thead>
<tr>
<th>Winter Schedule</th>
<th>Off-Peak Rate: $0.1264</th>
<th>On-Peak Rate: $0.1573</th>
<th>Variable Rate: $0.2634 Minimum</th>
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<tbody>
<tr>
<td>October–March</td>
<td>Weekdays</td>
<td>Weekends and Holidays</td>
<td></td>
</tr>
<tr>
<td></td>
<td>02:00 - 07:00</td>
<td>02:00 - 07:00</td>
<td>02:00 - 07:00</td>
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<tr>
<td></td>
<td>08:00 - 17:00</td>
<td>08:00 - 17:00</td>
<td>08:00 - 17:00</td>
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<tr>
<td></td>
<td>18:00 - 23:59</td>
<td>18:00 - 23:59</td>
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</tr>
</tbody>
</table>

**Vermont Electric Cooperative Sounds Alert on Scam**

Vermont Electric Cooperative (VEC) is warning members to beware of a telephone scam that preys on utility customers. Like other cooperatives across the country, VEC has received reports from consumers who are being contacted by scammers asking for credit card information.

The scam involves a phone call to a member by a perpetrator posing as a VEC employee seeking immediate payment for service. The caller then threatens the member with having service disconnected within thirty minutes unless they make a credit card payment by phone.

VEC does not make calls to members seeking personal data like credit card account numbers, and it is reminding our members to be suspicious of calls asking for any type of payment information. If you receive a suspicious call, please hang up and contact your local law enforcement agency.

“If you have any doubts, we ask that you call VEC directly at: 1-800-832-2667 to verify if the call is legitimate,” said CEO Dave Hallquist. “We’ve received reports of criminals taking advantage of utility customers in other states. Unfortunately, we’re learning that Vermont is being targeted, as well.”

**Generator Safety Tips**

The reasonable cost and availability of portable generators has resulted in an increase in home generator use. Members who use portable generators to deal with power outages must be sure they are installed properly and used safely. Otherwise, injury or death to you, a utility line worker or someone else could occur. Generators that are installed improperly can cause deadly exhaust fumes, damage your generator and/or appliances, and backfeed electricity onto utility lines posing danger to line workers.

The safest way to connect a portable generator to your existing wiring is to have a licensed electrician install a special transfer switch. The switch will ensure that electricity from the generator won’t backfeed onto utility electric lines causing serious injury or electrocution to a line worker.

VEC encourages the safe use of generators and requests that members adhere to the following tips regarding safe generator use:

- Never plug the generator(s) directly into a household outlet. This can energize “dead” power lines and pose harm to neighbors and/or utility workers.
- Always operate the generator outdoors. Never run a generator in a barn, shed or garage.
- Plug individual appliances directly into a portable generator using heavy-duty, outdoor rated cords with a wire gauge adequate for the appliance load.
- Turn off all equipment powered by the generator before shutting it down.
- Follow proper refueling practices. Always let the generator cool down before refueling and only use the type of fuel recommended by the manufacturer.
- Install carbon monoxide detectors in your home as they will warn you of any CO gas entering your home as a result of improper installation of the generator.

Your electrician or a dealer in generators should be able to assist you with properly sizing your generator and the type of transfer switch that will be most suitable for your needs.
Winter Storm

Federal assistance for storm damage. The threshold to qualify for assistance is $1 million in Vermont, state-wide, and the PDA for Gemini initially showed a minimum of $3 million in damage, and this number grew to $7 million as receipts and invoices were tallied.

Shumlin made his formal request to the president on January 17th. Obama responded quickly with a disaster declaration on January 29th, meaning VEC could be reimbursed for about 65 percent of the cost of all eligible work.

“Obtaining FEMA reimbursement is very important for VEC’s membership,” commented VEC CEO Dave Hallquist. “Every dollar of assistance from FEMA is a dollar that we don’t have to recover elsewhere. We will do everything possible to minimize the impact of this storm on electric rates.”

VEC employees glean valuable lessons from every storm. Changing weather patterns in recent years have led to an increase in the number of storms causing significant damage in VEC’s service territory, and Gemini is certainly not an exception.

“Although the storm is now over, it will certainly not be forgotten” said Hallquist. “We hope that it will be quite a while before we face another storm like Gemini, but we’re always ready to jump to action the next time we’re needed.”

PUBLIC NOTICE

HERBICIDE USE NOTIFICATION

Vermont utilities maintain electric line rights-of-way with several methods, including the selective use of herbicides on trees and brush. They also encourage low-growing shrubs and trees which will crowd tall-growing species and, thus, minimize the use of herbicides. The application of herbicides may start as early as April 1. Requests to utilities for notice by mail, however, must be made by February 15.

The Public Service Board requires Vermont utilities to carry out vegetation management techniques which allow maintenance of electrical systems in a cost-efficient manner.

The types of herbicide treatment used to maintain vegetation on utility rights-of-way include the following applications: stump, injection, basal, soil, and foliar. These are the commonly used methods; your local utility may use other methods. Landowners have the option of requesting a utility to apply herbicide treatment on cut stumps only or that a utility refrain from applying herbicide. In the latter case, the landowner has to pay the utility an administrative fee. Only electric utility rights-of-way that have tall-growing tree species with the potential of threatening the electric utility system are treated.

Utilities advertise by radio and newspaper prior to herbicide applications on all lines. Utilities typically treat rights of way once every four-to-six years, depending on the utility’s specific vegetation management cycle. Please check with your utility regarding the vegetation management cycle of a particular line.

Some utilities identify their poles with metal letters and numbers, e.g., V.E.C. (Vermont Electric Co-operative), or V.E.L.C.O. (Vermont Electric Power Company). These markings are not found on every utility pole. However, by checking of several poles on a line, you should be able to find a marked pole and determine which utility owns it.

Persons owning or occupying land within 1,000 feet of a utility right-of-way may request in writing that the utility notify them individually by mail at least 30 days prior to treatment of the line with herbicides. The landowner or resident is responsible for contacting the utility, in writing, to request placement on the mailing list. The utility should be provided with sufficient information as to the exact location of the residence and land. It is the duty of each landowner or resident to make the utility aware of the location of any potentially affected water supply, and any environmentally sensitive areas where herbicide application ought to be avoided.

CONTACT YOUR ELECTRIC UTILITY WITH QUESTIONS OR SUBMIT THE COUPON PROVIDED

If you have further questions or concerns contact:

Agency of Agriculture
James Leland
116 State St., Montpelier, VT 05602
1-800-828-2431

Consumer Affairs & Public Information
Dept. of Public Service
112 State St., Montpelier, VT 05620
1-800-622-4496 or 1-802-828-2332

LANDOWNER REQUEST TO BE ADDED TO HERBICIDE TREATMENT NOTIFICATION MAILING LIST

<table>
<thead>
<tr>
<th>Name</th>
<th>Town/City of Affected Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Address</td>
<td>Telephone Number (Home)</td>
</tr>
<tr>
<td>Town</td>
<td>(Work)</td>
</tr>
<tr>
<td>State</td>
<td>Zip Code</td>
</tr>
<tr>
<td>Electric Account Number</td>
<td>O.K. to use Work Number: Yes □ No □</td>
</tr>
<tr>
<td>Best Time to Call</td>
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<tr>
<td>Property of Concern:</td>
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<tr>
<td>Year Round Residence</td>
<td>Summer Residence □ Commercial Property</td>
</tr>
<tr>
<td>Water Supply</td>
<td>Land □ Other</td>
</tr>
<tr>
<td>Line and Pole Identification: Utility Initials □ Numbers</td>
<td></td>
</tr>
</tbody>
</table>

We need all of this information in order to determine if you qualify for personal notification. If information is unobtainable, please state why. Use an extra sheet of paper if you need more space.

RETURN TO YOUR LOCAL UTILITY