While the weather has been quite unsettled over the past few months, VEC has been largely spared from major outages. However, that does not mean that our members have been untouched. In some areas, such as Hinesburg, Huntington, and Underhill, flooding has been a problem. In Guildhall, severe weather damaged roadways and brought down power lines and ten utility poles. Members in those areas have experienced outages as a result.

I’d also like to let our members in Norton know that despite some frequent Hydro Quebec-caused outages this spring that affected you, we expect things to improve. We have finished installing automatic transfer technology to enable remote switching in your area; this improvement to our system will enable us to restore power to you from Canaan when Hydro Quebec has problems in Norton.

VEC successfully closed out the $11.1 million grant that it received through the American Recovery and Reinvestment Act of 2009 (ARRA) to promote smart grid development. The Department of Energy had great praise for VEC for how much of the funds went to infrastructure improvements along with our excellence in meeting our reporting requirements to DOE. This funding has contributed to our ability to automate all of our substations, which helps us to restore power much more quickly, along with creating greater levels of safety and security.

Over the past several months VEC has been involved in discussions related to the grid integration of wind and solar power. In relation to wind, the Kingdom Community Wind Project has not yet meeting its projected generation goals due to curtailments—temporary, but frequent, orders to suspend power production—from ISO-NE, which operates the New England grid. Green Mountain Power has responded to this problem with a concentrated effort to obtain a permit and begin installation of a synchronous condenser. This will provide the electrical stability needed to allow the output to be fully utilized. VEC expects to see much greater production from KCW toward the end of 2013.

Despite these issues early in its life cycle, Kingdom Community Wind still projects to be VEC’s lowest-cost resource for meeting our renewable-power obligations set by the Vermont Legislature. Meanwhile, however, VEC has come out strongly opposed to any additional projects, such as the Seneca Mountain Wind project in Brighton, Fertileland, and Newark, because the grid in the Northeast Kingdom has reach its limits, according to analysis done by VELCO. Additional generation in the same region would cause more curtailments, resulting in price increases for power from existing projects.

According to a June, 28, 2013, letter from ISO-NE, “Many wind resources choose to connect to the weaker parts of the New England bulk power system that were not originally designed to integrate large amounts of additional power supply.” The letter further states that, “Often, wind resources interconnect with a bare minimum of voltage support capability, thus providing no additional strength or improved reliability margins to the transmission system.” This basically confirms and supports the two-year effort VEC has been doing to educate its members and the public on the limited ability of today’s grid to support intermittent generation (wind and solar) without significant upgrades.

EVT’s Energy Efficiency Charge

“When you go to the store to buy them, EVT has, in essence, ‘already bought’ the efficient appliances,” says Ingrid.

Appliances, lighting fixtures, the heating system…

When Ingrid and Matt Malmgren decided to build a house in Jericho seven years ago, they knew nothing about Efficiency Vermont, the Burlington-based organization founded by the state Legislature in 1999 and christened “Vermont’s energy-efficiency utility.” It was a new and counterintuitive concept: a “utility” which not only doesn’t sell electricity, but actually works to reduce the amount of electricity that conventional utilities sell.

However, it all makes sense with the addition of another concept: that “buying” efficiency (which is basically what EVT does) is like adding power to the grid, because it makes the electricity go farther.

These conceptual gymnastics were the furthest thing from Matt and Ingrid’s minds as they embarked on their home-construction adventure.

“It turns out that building a new home is largely about picking things out,” says Ingrid, looking back. “Appliances, lighting fixtures, the heating system… There were a lot of opportunities to be more energy efficient or less energy efficient. As we looked into these things we heard about Efficiency Vermont, so we called.”

It was the beginning of a very productive relationship. The Malmgrens embarked on the Residential New Construction program, and built their home to meet its specifications, with energy efficient windows, added insulation, and tight construction. On the electricity side, their EVT contact person said that if they purchased an ENERGY STAR-rated refrigerator, washing machine, and dish washer, and installed at least six light fixtures built for CFLs (compact fluorescent bulbs), they would qualify for a $1,000 award.

A benefit they might not have realized was that EVT had already interceded on their behalf (and everyone else’s) by establishing a rebate program with the appliance dealer that reduced the purchase price of ENERGY STAR-rated appliances.

“For those incentives we could buy the more-efficient products, whereas we might have balked at the added up-front expense,” says Ingrid. “But I think the big benefit was that EVT was like one-stop shopping. They provided information and technical expertise that otherwise we would have had to track down, if we could.”

Their reward, when their completed home passed the inspection with flying colors, was a plaque (Ingrid laughs about the plaque) officially designating their Five-Star ENERGY STAR home, and the $1,000 award for the electrical efficiency measures they had taken.

Plus, they were now members of Vermont Electric Cooperative. And as ratepayers they began paying the energy efficiency charge (EEC) added to every Vermont electric bill. For some people, the EEC is an annoyance—seemingly just another tax, and no one much likes taxes. But Ingrid and Matt had seen what EVT’s services could do for an average residential electricity customer, if that customer initiated the process by getting in touch with the energy efficient utility.

Ingrid was so impressed that five years after they had moved into their Jericho home she took a job at EVT, where she is presently a research and policy analyst.

Electricity and beyond

There is some degree of controversy about Efficiency Vermont and the monthly EEC charge. Unless people have directly benefited from EVT’s programs, they might feel that the extra charge is unwarranted. What they may not know is that nearly everyone who pays an electric bill in Vermont—homeowners, businesses, factory owners, and renters—has benefited. Not many new technologies are cheap, but in Vermont, energy-efficient light bulbs are, because when you go to the store to buy them, EVT has, in essence, already been there and paid most of the cost for you.

As a result, that bulb will cost you about a dollar; it will also shrink your electricity use, and will last about seven years, saving you money every day.

Unfortunately, though, EVT’s high-profile success with CFLs overshadows the other work it does—a multitude of programs that have a significant impact whether we’re aware of them or not.

In 2012, residential members of Vermont Electric Cooperative paid a total of $2.026 million in energy efficiency charges. As calculated by EVT (which, like all utilities, is regulated by the Vermont Public Service Board and must meet data-reporting requirements and customer-service targets), VEC’s residential members that year received $4.405 million in Total Resource Benefits (TRB) from Efficiency Vermont.
EVT’s Energy Efficiency Charge

What does that mean?

“Total Resource Benefits reflects the lifetime energy savings generated by each efficiency measure that’s been installed in a given year,” EVT spokesperson Kelly Lucci explains. “It includes CFLs and other energy efficient products that are sold [not just placed] in retail settings during the year, plus services – people who have gotten whole-house energy audits and followed up with measures for increased ef-
ficiency, whether from their heating system, their electricity usage, or reductions in these areas too. We apply the lifetime energy savings from those improvements to the Total Resource Benefits for the year they were undertaken.” The benefit calculations for residential VEC accounts seem pretty consistent. In 2010, residential VEC members paid $1.756 million in energy efficiency charg-
es; the benefits that residential VEC members received that year reached $4.434 million. In 2011, the numbers were $2.107 million in EEC charges, and $4.532 million in TRB.

What’s not included in those calculations is the costs that all Vermonters, includ-
ing VEC members, avoid in electric-generation projects that are not built and trans-
mission lines not constructed, because they aren’t needed. Not to mention waste – be it particular matter, greenhouse gases, or spent nuclear fuel rods – not generated.

Nevertheless, some people believe that EVT has outlived its usefulness. In their view, EVT got “the low-hanging fruit” of energy savings in its early years by popu-
larizing energy efficient light bulbs and helping Vermont’s municipalities identify and correct wasteful practices, like using outdated, inefficient motors for the pumps at their water-supply and waste-treatment facilities. Job done: city managers and engineers have wised up to those improvements, so propping up EVT through the energy efficiency charge is no longer money well-spent.

That argument is bolstered, some say, by the fact that Vermont’s CO2 emis-
sion level in the electricity sector (roughly 4 percent of the total) are dwarfed by the emissions from transportation and housing.

Kelly Lucci has heard this argument. In response, she points out that “we’re an all-fuels utility,” and that EVT works within those other energy sectors as well, with financial resources from a separate funding stream. On the thermal side (funding to perform home-efficiency audits, and the guidance on insulation, windows, and other non-electricity matters that Ingrid and Matt Malmgren received when they were building in Jericho) EVT relies on money Vermont receives from RGGI (the Regional Greenhouse Gas Initiative) and what Lucci describes as a “hodgepodge” of other sources.

EVT’s capacity to address housing (thermal) issues, and even transportation, is why Vermont Electric Co-op’s key accounts manager, Dave Lahar, often refers Co-op members who call with concerns about their energy bills to Efficiency Ver-
mont for further assistance.

“We can work very well with our members on the electrical side, particularly now that we have our wattWATCHERS program which helps identify their usage patterns,” says Lahar. “But when it comes to questions like what type of fuel would be best for their heating system or what hot-water system should they use, EVT is really their go-to provider for those issues, so we send them there.”

Lahar also points out that there are moments of opportunity, when real effi-
ciency savings can be realized, but people often miss the boat.

“Like when your water heater has sprung a leak and your basement is flooded,” he says. “You call your plumbing and heating contractor, and he quotes you a price for a new water heater. His role is to help you get up and running again. He’s likely to use equipment he’s familiar with and a provider he knows. The wiring is there, and it’s a quick fix. But it’s not necessarily going to be the most efficient unit, nor the most efficient fuel for you.”

In this very common situation, the homeowner will make a decision that will lock him or her into another 15 or 20 years of high, and expensive, energy usage. It would have been a great time to call EVT, and if Lahar has one suggestion for the company it’s that, “I’d like to see them increase their public outreach to make more Vermonters aware of their programs.” The energy efficiency charge is particularly noticeable to one, unique group of people: those who own multiple rental units and (depending on their rental agree-
ments) pay the EEC on every one of them. The monthly amount can run into the thousands of dollars.

Which is why at least on multiple-unit landlord in VEC’s territory says he has been aggressive in using the energy efficiency utility’s services (for lighting, weather-
ization, and energy-efficient appliances). People who pay much less – perhaps $4 on an 85 cents electric bill, might find the charges annoying, he says, but what they should do about it is utilize the services they’re paying for.

The consensus seems to be that EVT’s personnel are excellent people to deal with: responsive, polite, and knowledgeable. Their reporting requirements demon-
strate that they have saved Vermonters millions and millions of dollars — not to mention helping Vermont “bend the curve” by keeping the growth of electricity demand here flat for 10 years.

Helping industries, and why it’s done

Here’s another benefit EVT provides: it supports companies that provide jobs in our region. An example is Newport Furniture Parts Corp., a 50-year-old compa-
ny on Main Street that employs 67 people. It makes high-end dining room chairs, tables, and accent tables among other products. And it embarrasses on projects with EVT almost annually. Six months ago, with EVT’s technical and financial assis-
tance, Newport purchased and installed a storage unit for compressed air.

“Air compressors are one of the most notorious power-hungry machines out there,” says Facility Manager Steve Daigneault, a VEC member from Jay who has worked at Newport Furniture for 20 years. “Our plant requires a lot of air to func-
tion. You need to build up a certain amount of compressed air, but then the com-
pressor is still running. Think of running your well pump the whole time you’re taking a shower. We figured out that by putting in this storage we could have our compressors come off line at times, rather than being on twenty-four/seven.”

The air storage tank, which Daigneault says looks like a submarine, has saved the company $1,000 a month on its electric bill. What’s more, in many situations EVT covers 30 percent of the project’s costs.

“Businesses pay the bulk of the energy efficiency charge,” says Lucci, at EVT, who also emphasizes that one customer class (residents, for example) does not subsidy the improvements enjoyed by another (say, a woodworking company install air compressors). EVT goes to such lengths, like helping companies purchase expensive equipment, to avoid the steep costs all Vermonters would pay if addi-
tional electric generation and transmission infrastructure were needed.

While VEC’s Dave Lahar wishes that Efficiency Vermont would continue to expand its outreach to residential ratepayers, he also says it’s two-way street: Those ratepayers can reach out to EVT, too.

“When people want low electric rates, period,” says Lahar. “They see EVT as just another tax.”

“I may take it on to is to turn that around: all members are paying into it, so my ad-
vice is to jump in take advantage of the programs you qualify for.”

Where is your electricity going?

Are you curious about the amount of electricity different devices in your home are using?

You can measure how much electricity your appliances use with the Watts Up electric meter.

With this information, you’ll be better able to identify the connection between your appliance use and the amount of your electric bills.

Efficiency Vermont offers these meters free of charge for a period of three weeks to Vermont electric utility ratepayers.

Examples of items that can be tested:

- Refrigerators
- Dehumidifiers
- Electric space heaters
- Freezers
- Home entertainment systems
- Air conditioners

To borrow a Watts Up Meter from Efficiency Vermont, call a Customer Service Specialist at 1-888-921-5990 or visit http://efficiencyvermont.com/MeterLoan.

Visit wattWATCHERS at www.vermontelectric.coop to view your hourly and daily usage data.
On Solid Financial Ground, VEC Ponders the Challenges of Renewables

There’s never a shortage of opinion when you get a bunch of Vermont Electric Cooperative members together—and that’s a trait that happens every year when VEC holds its Annual Meeting of the Membership in early spring.

This year’s meeting came on Saturday, May 18, starting with breakfast at 8 a.m., at Smugglers’ Notch Resort, just up Route 108 from Jeffersonville. It was VEC’s 75th annual meeting, marking three-fourths of a century since a group of Lamoille County pioneers hatched an ambitious plan to bring electric power to farms and rural residents in northern Vermont. And it’s been quite a ride, from building that early electric grid to a sustained period of growth, to overreaching with investments in nuclear generation and other plans later in the century, through the resulting bankruptcy and reorganization, and then the acquisition of Citizens Utilities’ Vermont assets in 2004. Much of this history was captured in a 10-minute video shown at the start of the meeting.

Today, Vermont Electric Cooperative is the second-largest electric utility in the state. It was the first in Vermont, and one of the earliest nationally, to adopt advanced metering infrastructure (AMI).

It is among the leaders in incorporating power from renewable resources—biomass (farm methane), wind (Kingslon Community Wind in Lowell, and First Wind in Sheffield), and solar (net metering installations at a growing number of member homes and businesses).

In 2013, for the first time in its history, VEC will begin returning “patronage capital” to the membership. The details have not yet been finalized, but the principle is that, in much the same way an investor-owned utility (IOU) divides profits among its shareholders, VEC, as a nonprofit utility, will share “margins” among its members.

All of this is a reflection of Vermont Electric Cooperative’s hard-won financial stability. Treasurer John Ward, of Newport, reported, “Our financial rating at Standard & Poor’s is an A-minus rating with a stable outlook, VEC’s highest financial rating ever.” Ward explained that those solid ratings benefit the Co-op when it negotiates power supply contracts, and sometimes enable VEC to borrow funds at lower interest rates.

In his remarks, CEO Dave Hallquist put that achievement in context. Tainted by the bankruptcies of 1995, Hallquist said, “Coming from junk bond status in 2006 to an A-minus rating… People tell me that’s unheard of.”

Therefore, it was a stronger and certainly more confident Vermont Electric Cooperative whose members, staff, and guests—about 250 people attended the event—came together at Smugglers’ Notch. And here was another healthy sign: 18 candidates were competing for just three open seats on VEC’s Board of Directors.

The ballots cast that morning were added to those that had already been submitted, and the results were announced near the end of the meeting. The winning candidates were: incumbent and current treasurer John O. Ward, Jr., of Newport (District 2, four-year term); incumbent and current president Tom Bailey of Derby (Eastern Zone At-Large Director, four-year term); and Richard A. Westman, a state senator from Cambridge (Western Zone At-Large Director, four-year term). Westman, a lifelong VEC member, is new to the board.

Members also voted on a proposed bylaw change, which would prohibit a director found to be in violation of VEC policies regarding duties and standards of conduct from voting on a motion to remove that director. It passed easily: 3,195 to 158.

This was a particularly notable election for VEC, because 2013 was the first year members were permitted to vote on-line. That was the result of a progressive bylaw change at last year’s (2012) annual meeting.

Electronic participation is likely to increase; in its maiden voyage, just 284 members voted on-line, contrasting with 3,647 paper ballots submitted by mail or at the May 18 meeting.

Dollars and sense

Opening the meeting, VEC President Bailey provided a brief overview of the Cooperative and the northern Vermont economy in which it operates. He recalled his assessment last year, that the regional economy was improving. In the following year, however, megawatt-hour sales—a key indicator for VEC—showed no increase, leading Bailey to conclude that our northern Vermont economy was “flat, but holding our own.”

He was more optimistic about the future, however, because of a bundle of major development projects seeking funding under the federal EB-5 program, which stimulates investments by foreign nationals. Jay Peak Chairman Bill Stenger has accomplished much under the program, both at Jay and Burke Mountain. Bailey said, “The Jay management group now has plans to invest up to $600 million more on projects that include an airport upgrade [in Coventry], ski and waterfront resort hotels, condominiums, a new city block in Newport, and two new manufacturing facilities.”

VEC would serve all of those entities.

“The prospects for revitalization over the next five years are very encouraging,” Bailey concluded.

His remarks also included a tribute to former VEC director and president Robert Nordmark, who provided vision and leadership over 24 years, guiding the Co-op through its tumultuous period to its emergence as a stable, growing company providing vastly improved service to its membership.

“Bob will not be forgotten,” the president concluded.

The high points of John Ward’s Treasurer’s Report included reference to the superior Standard & Poor’s rating, and the announcement that 2013 will be VEC’s second consecutive year without an electric rate increase. Although revenues in 2012 ($72.8 million) were essentially the same as in 2011, net income after expenses had increased by 25 percent.

“We have been able to achieve these results by paying attention to our largest cost driver, which is power supply,” Ward explained. He also noted that capital spending in 2012 had decreased by 11 percent.

“However, with growth expected to result in increased electric rates for 2014,” Ward said. “The major drivers are our cost of power and the per-megawatt cost of transmission. But if we can improve control of our peak power demands we can moderate our transmission costs.”

Reckoning with renewables

During 2012, VEC’s position on renewable energy as in 2011, net income after expenses had increased by 25 percent. "We have been able to achieve these results by paying attention to our largest cost driver, which is power supply," Ward explained. He also noted that capital spending in 2012 had decreased by 11 percent. "However, with growth expected to result in increased electric rates for 2014," Ward said. "The major drivers are our cost of power and the per-megawatt cost of transmission. But if we can improve control of our peak power demands we can moderate our transmission costs."
Emerald Ash Borer is Coming to Vermont: What is VEC Doing About It?

Emerald ash borer (EAB), Agrilus planipennis, is an exotic beetle that was discovered in southeastern Michigan near Detroit in the summer of 2002. Many of us are familiar with EAB and have, at the very least, seen the purple panel traps designed to assist in detection and/or heard about the significant impacts this invasive pest has had on the urban and rural forests of the Midwest. A non-native, metallic green beetle, EAB feeds on ash trees (Fraxinus spp.) and has caused the decline and death of tens of millions of ash trees in the Great Lakes and Mid-Atlantic regions. Emerald ash borer has spread rapidly in the United States, and is expected to reach Vermont.

White ash is one of the ten most common tree species in Vermont, so this insect will have a major impact if it becomes established in the state. The closest infestations are in Concord, N.H., Dalton, MA, New York’s Hudson Valley, and just 30 miles north of the Vermont border in Carignan, Quebec. In 2012, infestations were detected for the first time in Massachusetts and Connecticut; the New Hampshire location was found in spring of 2013. EAB is capable of killing healthy ash trees larger than 1 inch in diameter. Ash mortality is not related to tree size, site or stand characteristics. Left untreated, infested ash trees decline rapidly and can die in 3-5 years depending on tree vigor and infestation level. Once EAB has reached Vermont, VEC can expect elevated levels of Ash hazard/danger trees along our utility corridors. If left unchecked, EAB has a remarkable capacity for population growth and infestations can expand rapidly. While natural dispersal of EAB is usually fairly localized with beetles dispersing only short distances when ash trees are present, rates of spread increase dramatically when people inadvertently move infested material such as pruned branches, firewood, timber or nursery stock long distances to areas previously free of EAB.

While there is no hope of eradication of this pest, early detection and a rapid response are key factors in treating and successfully managing EAB. Public education, outreach and visual surveys are an important part of Vermont’s EAB detection program.

First Detects - volunteers who are on the front line of defense against high risk forest pest infestations. Vermont’s Forest Pest First Detector program prepares these volunteers to meet, work with and educate the public about exotic tree pests.

In 2010 VEC brought in the VT Agency of Agriculture to train all line clearance contractors working on VEC’s system in the identification of EAB, and other several other non-native, exotic forest pests. Refresher trainings will be periodically repeated, moving forward.

In May of 2013, VEC’s Utility Arborist Jeremy Tinkem became a volunteer with Vermont’s Forest Pest First Detector Program. Future plans for proactive involvement include additional training for VEC Line Clearance Contractors and VEC Field Personnel, continued communication and cooperation with the VT Department of Forests, Parks and Recreation, VT Agency of Agriculture and other state agencies as well as, communications and public outreach to VEC members. Key messages will be around the critical importance of calling your utility before attempting to remove any tree in close proximity to power lines and the imperative nature of not moving round wood and/or woody debris from Ash trees that are cut along utility corridors.

Photo source: Howard Russell, Bugwood.org
From Cyber Security to Employee Benefits: How VEC Helps and is Helped by the NRECA

The National Rural Electric Coopera-
tive Association (NRECA) is a trade as-
sociation based in Arlington, Virginia, that advances and represents the inter-
est of 840 distribution cooperatives all
across the United States. “Distribution”
coops are those, like VEC, that direct-
ly provide electric power through their
poles-and-wires infrastructure to their
customers, or members.

The NRECA also represents 65 G&T
coop’s. The initiators stand for “gen-
eration and transmission”; in places
where there are lots of distribution co-
operatives the G&Ts provide most or all
of the wholesale power that the distribu-
tion co-ops need.

In all, then, the NRECA serves 905 electric cooperatives. People unfamiliar with co-ops might think that’s just a drop in the bucket in a utility world dominated by large and well-known investor-owned utilities (IOUs). But in fact, the service territories of America’s rural electric co-ops cover 75 per-
cent of the U.S. land mass. There are electric co-ops in 47 of the 50 states – all but Massa-
chusetts, Connecticut, and Rhode Island – and they serve some 42 mil-
lion people along 2.5 million miles of electric distribution lines.

Clearly, VEC is a part of something much larger than itself. And in some very important ways, that’s a good thing.

“The primary function of this trade asso-
ciation is to represent the interests
of the RICs [rural electric co-ops] at the federal government level, both legis-
latively and in respect to rule making in
various government departments, such as the EPA (Environmental Protection Agency),” says Michelle DaVia.

DaVia is an elected member of VEC’s
Board of Directors from Westford (she
is the board’s secretary). However, she
also represents Vermont on the NRECA
board. Each state – whether it has just
one electric co-op or dozens (Vermont
has two) – sends a “regional director” to
the NRECA Board. DaVia has served as
Vermont’s regional director for four years; she attends four quarterly meetings of the
NRECA board each year, which can last the better part of a workweek.

“It’s a substantial obligation,” she says.

“There can be several thousand pages of material to become familiar with. The board functions primarily in com-
mittees, and the issues we deal with are highly
technical.”

That doesn’t neces-
sarily mean they are electricity-related is-
ues. They also relate to other common areas of concern among the co-
ops, such as operating a well-functioning work-
place and being good, very professional, em-
ployers. The NRECA has lifted the burden
from co-ops of having to design their own
pension funds and 401(k) retire-
ment plans. Vermont Electric Co-op has availed itself of these services, so that’s
one, major administrative piece VEC
does not have to create and manage on
its own – and VEC employees can feel
secure, knowing that these benefits are
provided by a large, national entity that
is perhaps less vulnerable to economic
uncertainties.

As for the “business” of a co-op – distribu-
ting electricity – DaVia says the NRECA encourages co-ops to develop some degree of uniformity in the equip-
ment and practices they use for building,
maintaining, and repairing their power
systems. Almost everywhere, electric util-
ities develop mutual-aid agreements to
assist each other in times of emergency.
Last October, for example, 14 VEC line
workers traveled to New Hampshire and
Connecticut to assist utilities hard-hit by
Hurricane Sandy. These agreements will
often mix co-ops, IOUs, and municipally
owned utilities. But to the extent that the
NRECA can develop similarity among co-
ops in their practices, materials, and
equipment, it can make those exercises
more efficient. Another service provided by the NRECA is an educational program for people newly elected to the boards of their local co-ops.

“An IOU (Investor Owned Utility) will go out and find well-trained direc-
tors for their boards, with specific kinds of expertise,” DaVia points out. “With
cooperatives, it’s the members them-
selves running for the board, and there are very few newly elected directors who have strong, direct knowledge of how
an electric utility is run. They may have
been on the board of food co-op or a
home association. That’s very different
from what you face as a utility that is of-
ten overseen by a state regulatory agency,
like the Vermont Department of Public
Service.

“lt’s not specified in our VEC policies that a new director is required to attend training classes, nor that those would necessarily be trainings by the NRECA,” DaVia continues. “But you can really see the difference in how directors function who have had the training. They tend to be better-informed and more participa-
tory.”

Lending expertise
To Vermont Electric’s CEO, Dave Hallquist, the NRECA is an expression of Co-op Principle No 6: “Cooperation Among Cooperatives – Cooperatives serve their members most effectively and strengthen the cooperative move-
ment by working together.”

(Seven Cooperative Principles serve as foundation for the modern co-
operatives movement.)

“That’s what the NRECA is all about,” says Hallquist; “sharing the best prac-
tices of all the cooperatives. We use the national organization to find out what’s doing the best work, so we can go see what they do or be in communication with them. It’s something that we do a lot.

An example is the relationship VEC has established with Great River Energy, which is a G&T that serves 28 distribu-
tion co-ops in Minnesota. To Hallquist,
this connection has been a source of
excellent ideas and guidance in a num-
ber of ways. Great River, like VEC, is a lead-
er in smart grid deployment. VEC
stays in close contact with Great River

Continued on page 7

Patronage Capital – It Pays to be a Vermont Electric Co-op Member

Approximately two years ago, Vermont Electric Co-op began reporting a new item on member bills called Patronage Capital. Ever since, VEC’s member services department has fielded numerous inquiries from members seeking to better under-
stand this important topic. In the next few months, VEC anticipates that we could receive even more inquiries because the Board of Directors has decided to proceed with the program and return portions of Patronage Capital funds by the end of 2015. Here are a few explanations about Patronage Capital, provided to help you understand why Patronage Capital matters to you as a member-owner of this cooperative and what you can expect to see by the end of this year.

Defining Patronage Capital
Patronage Capital is each member’s share of Co-op revenues that are left over after VEC pays its operating expenses at the end of the year. Unlike an investor owned utility (IOU) that pays dividends to shareholders, all of VEC’s earnings are allocated to its members in proportion to the dollar amount each member was billed for electric service during that year. It’s a distinct advantage of cooperative membership. Your Patronage Capital information is located at the top, right corner of your monthly electric bill. It includes the amount of Patronage Capital allocated to you for the previous fiscal year, and your accumulated Patronage Capital balance. In July, we updated bills so that members would see their Patronage Capital information to include allocations for the 2012 fiscal year and updated their total balance to reflect these new allocations. We update this information annually.

How Patronage Capital is used
Each year, the VEC Board of Directors analyzes the cooperative’s financial cir-
cumstances to determine how to use Patronage Capital funds. The Board may de-
cide to use Patronage Capital funds to support upgrades to our electrical system, secure stable power-supply contracts, or make other beneficial investments. Invest-
ments in our infrastructure enable VEC to provide all members with safe and reli-
able electric service. Alternatively, the Board may decide to return portions of Patronage Capital funds to VEC members for a particular year or percentage of a year if VEC’s financial condition is sufficiently strong and an appropriate balance of patronage capital is maintained to meet Bylaw requirements.

Returning Patronage Capital to Members
Vermont Electric strives to build a healthy and strong Co-
op by balancing service, reliability, and rates. As a result, VEC has achieved a stable financial position, which is reflected in our improved financial ratings, because of our well-planned power-supply portfolio and effective use of technology. In the end, it is the members who benefit, both from improvements to their electric service and from their share in Patronage Cap-
ital dividends. In 2013, the VEC Board decided to return por-
tions of Patronage Capital funds for the years 1997 and 2012, which will be the first time since 1938 that Vermont Electric Cooperative will return Patronage Capital funds to members!

The Board authorized a return of a total of $830,000 of Patronage Capital funds, to be split between the two years ($425,000 for 1997 and $425,000 for 2012). Keep in mind that this amount is a portion of the total Patronage Capital funds allocated to members’ accounts in 1997 and 2012, so members could see additional Patronage Capital funds returned in the future for those same two years. Active members, in good account standing, with Patronage Capital bal-
ances from these years, can expect to receive a credit on their bills before the end of the year.
Solar Is On The Rise
– continued success calls for review of policies
to ensure fairness and sustainability

by Dave Hallquist, CEO Vermont Electric Cooperative

Vermont loves solar. As you drive around the state, solar installations – large and small– are popping up everywhere. Tourists comment on the proliferation of panels, an advertisement to Vermont’s commitment to the environment. A recent report from Environment America shows Vermont to be ninth in the nation for installed capacity (21st in terms of actual production).

Like other states that are experiencing high levels of solar adoption, Vermont is in the unique position of having policies that can establish effective programs and policies that help us to reduce our carbon footprint. At the same time, we recognize that solar installations are required to interconnect net metering projects until their combined load is 4% of the utility’s peak load. Today, many utilities, including Vermont Electric Cooperative (VEC), have hit the cap or are nearing it, but there is no legislative or regulatory provision for utilities to accept additional net metering without putting rate payers at risk.

In Vermont, the legislature has established a cap for net metering. Utilities are required to interconnect net metering projects until their combined load is 4% of the utility’s peak load. Today, many utilities, including Vermont Electric Cooperative (VEC), have hit the cap or are nearing it, but there is no legislative or regulatory provision for utilities to accept additional net metering without putting rate payers at risk. At first glance, it might seem that the solution is simple – just raise the cap. But, to do so without fairly evaluating the benefits and costs, would do a dis-service to many Vermonter’s. The reason is that a utility’s net metering customers are being cross-subsidized by their non-net metering customers.

Net metering operates under rules in which utilities must pay generators high, incentivized credits for the power they produce. Under the current rules, generators are able to use these credits to offset the service charge on their bills which is used to offset the fixed costs of operating the grid. In other words, they enjoy the benefit of being connected with the grid, but do not always have to pay for it.

To put it in perspective, on average a net metering solar customer produces electricity 4.1 hours per day. The other 19.9 hours they are receiving power from their utility. They are also using the grid for the entire 24 hours as they push power back onto the grid during the production hours.

While this is a question of fairness and equity for all ratepayers, VEC serves a territory that has a high percentage of low income residents; some who are giving up basic needs in order to pay their electric bill. For those members that have to pay extra to support net metering, it is an unfair burden. While incentives and subsidies have played an important role in promoting the adoption of solar in Vermont, it is time to evaluate how much longer they will be needed.

Net metering enables utility customers to generate renewable energy electricity (rooftop solar, for example) while remaining connected to the electric grid. Net metering systems, representing approximately 3.5 MW of generation, are required to purchase all excess electricity at premium rates.

While this is a question of fairness, one must ask, what are the costs associated with net metering? Are those costs borne by everyone or are they paid by ratepayers at risk? Should any state allow for net metering without putting ratepayers at risk.

In July 2013, VEC reached the limit established by the legislature for the adoption of net metering projects. In Vermont, utilities are required to accept net metering projects until their combined capacity reaches 4 percent of the utility’s peak load. Presently, regulatory approval by the Public Service Board is required to move beyond the 4 percent cap without putting ratepayers at risk.

Recognizing that interest in net metering will continue, a Business Solutions Pilot, has been approved. VEC is working to find a solution that will enable us to resume the program as soon as possible. However, until we reach that point, we have placed a freeze on all new net metering projects.

“VEC members have adopted net metering at a much faster rate than most other utilities in the state,” commented Dave Hallquist, CEO. “The state’s net metering rules are not sustainable at higher levels of adoption, but we believe that with adjustments to the current program, VEC and VEC can continue to lead in this area.

As an early adopter of renewable energy, our power supply portfolio has been successful in meeting Vermont’s requirements for 2017. VEC is experiencing first-hand some of the challenges that come with integrating renewable energy. This doesn’t mean that we should stop renewables. To the contrary, it is imperative that we find solutions to enable their continued adoption. The freeze will not affect net metering projects already installed or approved, but it will affect applications received after the cap was reached. These new applications will be accepted and logged on a first-come, first-served basis, but will not be approved for interconnection with the VEC electric grid until a new set of rules is in place.

Should any projects that are within the 4 percent cap fall out of the program (for example, because their permit expires or the project is withdrawn), we will move those projects into the program in the order received. Likewise, projects added to the queue during the freeze period will have access to any new tariff, once approved.

VEC has been seeking feedback from the Public Service Department in order to develop an approach that would allow us to accept net metering systems above the 4 percent cap. Moving forward will require regulatory approval, and we hope to be able to file a new tariff for the Public Service Board to review within the coming weeks.

One of the issues we will address is cross-subsidization from non-net metering to net metering members (see Dave Hallquist’s article). Under current rules, net metering customers can offer their share of the costs of operating and maintaining the grid, while non-net metering members must make up the difference.

We are seeking a solution in which net metering members would contribute to these fixed costs. We also challenge whether the current incentive level for net metering projects is simply not sufficient to encourage their adoption. In the end, we hope to arrive at a equitable solution that fairly values both the benefits and costs associated with net metering.

VEC currently has approximately 360 members with pending or installed net metering systems, representing approximately 3.5 MW of generation.
Annual Meeting

evolved, with a December 28 Board Resolution recommending that the state adopt a two-year moratorium on additional renewable energy mandates. It was somewhat surprising, considering VEC’s incorporation of wind power, particularly, but also farm methane and solar energy from a growing number of net-metering members with home-generating systems. Yes, Vermonters are divided on renewables, CEO Hallquist has emphasized that the Resolution was not so much about policy as technology. He continued with that theme in his presentation, “Adopting Renewable Energy – The VEC Experience.”

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Gaining state policy that will require all energy sectors to obtain 90 percent of their supplies from renewable resources by 2050, Hallquist said, “A goal without a plan is a wish, and a hope.” Drawing on VEC’s very mixed experience with renewables, Hallquist said the Co-op’s role now must be to “ask the right questions,” even if it must do that by itself.

Primarily, Hallquist cited VEC’s experience with Kingdom Community Wind (KCW), the 21-turbine, 63-MW project in Lowell that commenced operation in December. VEC supports the project, and Hallquist said that despite problems that have arisen, it is still an economically beneficial source of wholesale power. However, production there and at First Wind in Sheffield has been less than expected, and interrupted by frequent “curtailments” (when the turbines are ordered to shut down because the grid has no room for their power).

“Then there were times when the wind was howling and we couldn’t connect to KCW;” Hallquist said.

Other problems include grid interconnection, and the lack of affordable energy-storage solutions that would enable wind-generated power to be held in reserve.

Importantly, these are not problems isolated to KCW and First Wind. Curtailments are all too common in VEC’s installations using intermittent, renewable, technologies – including wind in Texas and solar in Hawaii.

Hallquist warned that the cumulative effect of curtailments and intermittency is to destabilize the electric grid if power from these sources exceeds 20 percent of the mix. Above that level, he said, “the impact on electric rates will be significant and reliability may be threatened.”

Rather than solely look to solutions for curtailing wind, VEC is contributing to solutions for curtailing wind by participating in a project to retrofit KCW with a “synchronous condenser,” a device that smooths out fluctuations in the power provided to the transmission grid, improving its stability.

Hallquist also cited the growth of solar net metering in VEC’s territory. Besides introducing another intermittent source, it creates inequities among members in terms of benefits from, and shortfalls to, members.

These are growing pains of the industry – and that’s essentially the argument for the temporary moratorium. It’s not a pushback against adoption of renewables, Hallquist explained, but a moderation that VEC deems necessary to enable technologies – including wind in Texas and solar in Hawaii.

The crux of the moratorium is that the turbines imposed health risks upon people who live near them, and asked if he and his neighbors were seen as “collateral damage.” Hallquist could only reply, “We don’t have any expertise in that field. We’ve got to rely on the state Department of Health.” The department has not issued final findings implicating wind farms for risks to health.

Terrence Keating, of Fletcher, and Bob Chapman, a seasonal resident of Swanton, had differing views of VEC’s service. Keating said he appreciated VEC giving prior notice for planned outages, which he said was “very helpful.” Chapman, a Vermonter now living in Massachusetts, took the Co-op to task for raising the customer service charge several times and complained that, now at $16.73 per month, it was “way too much.”

Hallquist explained a crucial difference between a rural electric co-op and an urban power company; VEC has an average of 15 members per mile to bear the costs of maintaining electric infrastructure, whereas cities and suburbs can have hundreds or thousands in that span, so their charge can be far less.

“Our cost is $30 a month per member,” said Hallquist. “We’ve got to service it whether people are there at the time or not.”

Some of the most enjoyable exchanges had to do with conservation. Said one member, drawing laughter, “If you’re not using a light, shut the switch off. It’s a simple thing to do; it goes up and it goes down.” And, another member extolled the virtues of the clothesline – even though some neighbors might take exception with your underwear being visible.

“We have to do a much better job of talking to our kids about the importance of conservation. We need to talk about it in our schools. But first,” she insisted, “we need to believe in it ourselves!”

Members chime in

Finally, the floor was open for remarks and questions from the membership, and as folks popped up around the conference room to say their piece, it was clear that for many this was one of the most enjoyable parts of the meeting.

Jim Stevens of Newport inquired about the mix of VEC’s power sources, and asked, “How much of these new sources [solar and wind] do we need?”

Hallquist explained that “need” is not the issue; theoretically, the New England grid could operate solely on natural gas generation (although competition from heating-fuel companies and exports last winter interrupted the supply for power production).

VEC and NRECA Help

so that the two utilities are able to learn from each other.

“Another thing I use is the CEO Forum,” Hallquist says. “It’s an NRECA group that’s limited to CEOs. We all put out thoughts and ideas to let each other know what we’re thinking. If I want to know how other cooperatives are handling concerns like structuring rest time for field workers, I’ll post a question on the Forum. You’ll get 25 to 50 responses; you can consider them, pick what seems to be the best for our situation, and use it.

“I’ve developed good, working friendships with other co-op CEOs around the country, and it helps me become a better CEO.”

Hallquist says other VEC staff members benefit similarly, by trading their ideas and experiences with colleagues elsewhere. These are groups for engineers, communications specialists, human resources directors, and others.

Perhaps “the best new thing” happening at the NRECA, however, is the Cooperative Research Network.

This is how the NRECA itself defines the organization: “The Cooperative Research Network (CRN), the technology research arm of the National Rural Electric Cooperative Association, conducts collaborative research to accelerate technological innovation that can be applied by electric cooperatives worldwide.”

“This has grown up over the past five years or so, and there’s a great need for it,” says Hallquist, who is intimately involved with the CRN. “For the first 70 years or so of the electric grid there wasn’t a lot going on; it was a fairly static industry. Over the past 10 to 15 years, though, the changes have been dramatic, and accelerating. The CRN is basically the cooperatives’ response to these rapid changes in the energy world, and helping us get out in front of those changes.”

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Many co-ops have developed expertise in different areas.

“For us, our smart grid leadership was something we were providing through the Cooperative Research Network until 2011,” Hallquist says. “Now, our focus is on cyber security. We’re working as one of a group of 15 electric co-ops to really set standards for what cyber security should be. We’re sharing our models and bringing the systems we’ve developed to the NRECA, and the NRECA will bring it to the U.S. Department of Energy for, eventually, all the utilities to use.”

The United States Department of Energy has designated Hallquist as a “subject-matter expert” in cyber security for utility systems. Hallquist, slightly embarrassed, explains how it happened.

“We already had led in the deployment of the smart grid,” he says. “Well, once we started getting all this data back – customer information and other things that we had a duty to protect – we started thinking, ‘How do we make this secure?’ We decided we had to figure out that nobody was talking about cyber security at the electric co-op level.

“They might call me an expert,” he says, “but nobody’s an expert really. It’s such an emerging field. We just happen to be early enactors.”

Yet VEC is not working on this issue in a vacuum; there are the 14 other co-ops participating on the cyber-security team.

And while they’re doing that work, others NRECA-affiliated co-ops are studying other issues, developing other expertise, solving other problems in the increasingly complex and important field of energy and public service.

Because Vermont Electric Cooperative is associated with the NRECA, those resources are readily available to VEC’s personnel at the other end of a phone call or an e-mail – just like the Sixth Cooperative Principle says they should be.