WEC CO-OP CURRENTS

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WEC and VSECU Partnership Breaks New Ground:

Co-op Members Now Invited To Join Credit Union

Dear Members,

When two or more people come together, pooling their resources for the benefit of all, we call this distinctive bond a "cooperative." Over the years, the people of the state of Vermont have made this spirit of cooperation a hallmark of the Vermont character.

Avram Patt

Our cooperative heritage continues to thrive today, as Washington Electric Cooperative and the Vermont State Employees Credit Union are pleased to announce that all owner/members of Washington Electric Cooperative are now eligible to participate in, and become members of, the Vermont State Employees Credit Union.

Cooperatives often spring up to fill a need that otherwise would be neglected. Such is the case for both Washington Electric Cooperative and the Vermont State Employees Credit Union. Beginning in 1939, WEC has worked to bring affordable, reliable electricity to its members in rural central Vermont. The VSECU was founded in 1947 to offer a banking alternative to its members looking for affordable and reliable financial products and services not offered by other financial institutions. Today, in similar spirit, the VSECU and WEC are continuing Vermont's cooperative traditions.

Steven D. Post

Although different types of co-ops around the world have been working together to spread their cooperative values for many years, we believe this arrangement between an energy utility and a financial cooperative is unique in Vermont. We are excited about bringing together the cooperative spirit in a way certain to benefit members of both co-ops.

If you are not already a member of the VSECU, we encourage you to take advantage of the financial benefits the Credit Union can offer you. Thank you for your support as we continue to enhance and improve Vermont's cooperative tradition.

Sincerely,

Avram Patt
General Manager, WEC

Steven D. Post
CEO/General Manager

Inside

Washington Electric Cooperative
East Montpelier, VT 05651

Tree Debris

WEC's Policies For Cleaning Up After The Chainsaws

By Mike Myers
Right-of-Way Management Coordinator

Members of Washington Electric Cooperative occasionally call the Co-op to express concern about debris such as branches, stumps and tree trunks along our power line rights-of-way. Most of the time, the debris is what remains after a storm. Some members have wanted to know what our policies are: Do we come back after an event like Tropical Storm Floyd last fall, or the Ice Storm of January 1998, and clean up where our workers have cut trees away from the power lines?

In better weather, when the Co-op sends crews to your area for routine maintenance of the right-of-way, are they going to leave a mess behind?

I hope to address these questions to our members' satisfaction in this article.

Simply stated, the main factor that determines whether members can count on us cleaning up such debris is whether the cutting was done during a period of storms and outages. If trees blown into the power lines were cut away so that our line crews could restore electricity, Co-op members unfortunately cannot expect WEC to return later to clean up the area. Having said this, we realize that such storm debris might be on our members' private property, along the right-of-way that enables us to serve you. It can be unsightly and inconvenient for the property owner.

Mike Myers, left, relaxes in a clear right-of-way. But during storms (below) no one has time to take it easy.

On the other hand, when cutting is done during maintenance or reclearing of the right-of-way, the crews will chip limbs and debris if the lines are next to roads. On cross-country sections the Co-op will pile the branches, limbs and occasional logs along the edge of the right-of-way. The owner of the property has the right to collect this material and put it to good use – perhaps as firewood – if he or she desires.

Routine maintenance

Washington Electric Cooperative's rural, heavily forested territory requires it to do a large amount of vegetation management. Since our long-standing policy is to manage our power line corridors without spraying chemicals on the land, right-of-way (ROW) clearing involves a lot of hands-on, physical labor. WEC performs vegetation management on approximately 100 miles of distribution line right-of-way each year.

During maintenance, tall-growing species are removed from underneath the wires, trees are trimmed along the edges of the ROW, and weak, leaning and diseased trees that are capable of striking the conductors (electric wires) if they should fall are taken down.

These tasks are performed by private companies under contract to the Co-op. Their crews, usually consisting of three workers, are equipped with wood chippers, dump trucks and bucket trucks. We keep two or three such crews busy year-round. When they are engaged in routine reclearing, the crews have the time to do the type of cleanup work we would like to provide.

On cross-country sections of line, brush and limbs are piled on the sides of the right-of-way, creating a clear path underneath the conductors. Where lines are located along roads or driveways, limbs and brush are fed into the chipper. Special care is taken in areas where the lines cross above lawns. When working in residential areas tree crews are usually able to make wood chips available to members who request them.

'Trouble calls'

It's a different story in bad weather. During storms and "trouble calls" (reports of outages), it is usually not the contracted tree crews that go out with the chain saws, but the Co-op's own power line workers instead. Very often they need to cut away trees that have fallen across the wires and shorted out the electric current, and clear away any vegetation that obstructs their access to the poles and power lines.

In storm situations our line crews are expected to restore power quickly. They do not have the time or equipment to chip brush or clean up the trees they've removed from the wires. Once one member's power has been restored the crews need to proceed to the next problem and help other members. Nor can they return later and clean up the area, even though this can result in additional work – beyond removing the debris caused by the storm itself – for homeowners.

In the worst storms, the line crews are assisted by our tree-clearing contractor. And in those situations, the contracted crews are not expected to clean up the debris either. The tree crews need to work closely with the line crews, addressing the problems at one spot and then moving on.

We know it would be helpful to our members if we could return to clean up the branches and trees brought down by storms or cut in an emergency. But WEC's responsibility is to keep electricity as affordable as possible. With that in mind, your co-op does not have the resources for such clean-up work. The ROW maintenance crews have enough to do trying to maintain our power line corridors through a 41-town distribution territory – in hopes that when the next storm comes there won't be much overgrown vegetation to threaten the lines and cause outages.

Those are our policies. But if you have special concerns about trees or other vegetation cut during a storm or reclearing operation don't hesitate to call WEC and ask for me, Mike Myers, coordinator for our right-of-way management program. WEC will address each situation on a case-by-case basis.

Co-op Currents

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The Board of Trustees' regularly scheduled meetings are on the last Wednesday of each month, in the evening. Members are welcome to attend. Members who wish to discuss a matter with the Board should contact the President though WEC's office. Meeting dates and times are subject to change. For information about times and/or agenda, contact Management and Programs Administrator Denise Jacques, 802-223-5245.

Manager's Report

Four-Year Plan To Upgrade Service, Accommodate Growth

By Avram Patt

At the end of May, your Board of Trustees adopted a Four Year Construction Work Plan for the years 2001-2004. This is a detailed engineering plan which analyzes the construction needs of the Co-op's system, prioritizes them, estimates costs and puts projects, both large and small, into a realistic timetable.

Avram Patt

The work plan was written by WEC's consulting engineering firm, Dufresne-Henry of Springfield, Vermont. A number of WEC's operations staff, under the leadership of Director of Operations & Engineering Dan Weston, were very actively involved in working with Dufresne-Henry in setting priorities and in contributing their detailed knowledge of our distribution system, which traverses some very rugged territory over 41 towns.

And the plan received detailed scrutiny from your board members, as they have a responsibility to consider our members' needs, both in terms of the quality of our service as well as from a financial perspective.

Some of our construction projects are designed to upgrade aging lines where that is needed, or to replace equipment. With more than 1,200 miles of line, that is a never-ending job that we have to keep up with. Other projects are targeted to improve power quality where we may have voltage problems.

In some places, we are adding connections between parts of our system that will create "redundancy," the ability to provide power from more than one direction, so that we can keep the lights on for more members even when we are having a problem somewhere on the lines. Also substation replacements are included in the work plan.

In some areas, our system needs upgrades in anticipation of growth, so that we can be prepared to serve new members. Our membership continues to grow at a moderate but steady rate, and in some locations, the capacity of our existing distribution needs to be upgraded to serve that growth. Related to this, we estimate that by the time 2004 ends, 671 new members will have requested line extensions. Although line extensions are paid for by the members requesting them, it is a major part of our staff's construction work that we must plan for.

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Impact on the Co-op

Why is this important? Well, first, this is a comprehensive plan designed primarily to do one thing: improve service reliability. The projects in the work plan will both reduce the number of outages on our system and enable us to restore power more quickly when it does go out. Where we have problems with the quality of power delivered over our lines, those are addressed. And, the plan enables us to be ready for new members and growth on our system. So, this plan represents our best effort to maintain and improve our core service to you.

Second, this plan has a major financial impact on our Co-op. It anticipates construction costs of more than $6.8 million over the four years (about $1.4 million of that will be paid for by individual members for line extensions). The plan lays out a large chunk of what our crews will be doing over that time.

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Other than the costs of line extension, WEC finances construction costs through long-term loans from the federal Rural Utility Service (RUS) and also the Cooperative Finance Corporation (CFC), a private lender owned by the nation's electric co-ops. So, the financing of our past, present and future construction projects is an ongoing financial commitment which we as members pay for through our monthly bills. (Our financing request based on the 2001-2004 work plan has been submitted to the RUS, as well as to the Vermont Public Service Board.)

The executive summary of the Four Year Construction Work Plan (below) provides some additional detail about our priorities and spending for system improvements over this period. If you have questions about the plan, or would like more specifics about what is included in your area, please feel free to contact us at the Co-op.

Work Plan Executive Summary

The four-year work plan for the years 2001 through 2004 documents the engineering analysis of, and summarizes the proposed construction for, Washington Electric Cooperative's electric distribution system. Service extensions for new members, line and pole replacements, and line upgrade projects are necessary to service new loads and provide greater overall system capacity. Proposed projects have been established for rehabilitation of various aging and deteriorating equipment that have reached the end of their useful lives, and line construction to provide dual source feeds to improve the quality of electric service. The estimated costs for the proposed projects are as follows:

- New line extensions for projected 671 new members: $1,556,285 (this amount will be reduced by $1,436,645 due to contributions in aid of construction from new members).
- 42.94 miles of conversion and line charges: $1,424,733.
- Replacement of the South Walden substation: $400,000.
- Replacement of the Maple Corner Substation: $335,000.
- Miscellaneous substation equipment: $18,000.
- Miscellaneous distribution equipment including transformers, meters, sectionalizing equipment and system-improvement pole changes: $3,061,045.
- Other distribution items including security lights and monitoring equipment: $20,200.
- Total proposed Work Plan expenditures of $6,815,263.

Project descriptions and costs are provided in more detail throughout the report.

Proposed projects and recommendations are necessary to provide adequate and reliable service to new and existing members and improve overall system efficiency. Each project has been evaluated for economic feasibility and environmental impact associated with its construction. Dufresne-Henry Inc. has worked closely with WEC in establishing projects that can be constructed in a timely manner utilizing the Co-op's existing employee base. Projects have been prioritized and organized in a manner that enables approximately 10.7 miles per year to be constructed.

Projects have been evaluated based on their impact to the overall distribution system. System reliability, phase balancing, load dispersion, loss reduction, voltage improvements, load shedding and redundancy back-up capability are factors that were considered when determining system improvement projects. Approximately 4.7 miles focus on the replacement of small and aging wire, which shall improve the system's reliability, reduce losses, and improve voltage. The replacement of old and undersized wire shall also aid in the reduction of outage time and reduced maintenance costs. The remainder of the projects being proposed include upgrades in wire size, new wire, and/or upgrade in number of phases constructed for system reliability, loss reduction, phase balancing, voltage improvements and back-up capabilities.

When Lightning Strikes

Damage To Power Line Systems Can Be Unpredictable

It's lightning season again. And the damage caused by a lightning strike on WEC's electrical system can be so widespread that scores of homes, farms and businesses lose power, either momentarily or for as long as it takes for a line crew to find the problem and fix it.

On the other hand, lightning damage can be limited to just one house. Maybe yours.

"We have various electrical components out on our distribution system that are designed to do different things," explains WEC Operations and Engineering Director Dan Weston. "And all those devices – fuses, transformers, lightning arresters and other things – react quite differently to a lightning strike. That's why it's important for our members to understand that what happens to the house next door, or even to the whole neighborhood, might be different from what they experience after a storm or a lightning strike.

"The point is," Weston concludes, "people may need to call us, after a reasonable period of time, if their power hasn't come back. Even if everyone else's power has been restored around them, it doesn't mean we are aware of all the damage that could have occurred on the lines."

More than once this summer, the Co-op has heard from a member upset that everyone else's power has been restored except his (or hers). Understandably, people in that situation might think they are being ignored.

"But lightning damage can be very targeted and very specific," Weston says. "If a strike should shut down a tap (extension of the electric system) that has 80 or 90 houses on it, it's not practical for us to call all those people individually to verify that their power has been restored. That's why we need to hear from the member who's still waiting. Otherwise we're not going to realize that there's an isolated problem."

photo by Jeb Wallace-Brodeur

Lightning bums a ride

An electric utility like WEC, with a network of wires suspended over 1,200 miles of terrain, is almost asking for trouble. Says Weston, "You're putting an excellent conductor of electricity up in the air where it's vulnerable, and running it all over the territory. When lightning strikes, it literally can enter our system, and now WEC is carrying that extra power."

A utility's goal in such circumstances is to help the rogue power do what it wants to do, which is to find the ground and dissipate its energy in the earth.

"You need to give the lightning a place to go," Weston says. "Where you don't want it to go is through valuable equipment like transformers, because it can ruin them and they cost in excess of $600 each."

WEC therefore mounts a "lightning arrester" on the cylindrical tank of the transformer that feeds your house. (Look outside at the pole that carries the wires attached to your house. In most cases it will have a round device near the top that is your very own transformer... actually, WEC owns it.) The lightning arrester channels the excess power to a copper wire that leads from the top of the pole into the ground, diverting it away from the expensive guts of the transformer.

WEC also uses lightning arresters at the junction of main lines and side taps that serve the homes along a road or in a neighborhood.

"The lightning arrester channels excess energy to the ground. In most cases the device is not damaged and continues functioning," Weston says. "The customer may never know the system was hit at all."

But the arresters don't always capture and dissipate the enormous thrust of current from a lightning bolt. (One variable is the surrounding terrain; wet, swampy ground is better for dissipating lightning than dry gravel or ledge.) So at each transformer there is also a protective fuse link. Like fuses in your auto or stereo equipment, it is designed to melt and disconnect under the heat of excess power. The lightning then runs to the ground rather than through the transformer.

However, a break in the fuse link also cuts power to the transformer, which then hangs on the pole doing nothing. When the transformer is idle you've got no power to your house.

Protective power line equipment like oil-controlled reclosers (OCRs) and substation breakers correct themselves. They'll shut down under the impulse of an electrical surge and then turn on again automatically – up to three times before calling it quits and waiting for the line worker to show up. That's why some power interruptions are momentary; the system has repaired itself.

On the other hand, protective devices like fuses perform their function once and must then be replaced. WEC places fuses not only at the transformers but also at scattered points along its distribution system. Their purpose is strategic: If a power surge causes a fuse link to melt, that limits the number of members affected. Without fuses, outages would be far more widespread. The fuse, therefore, is a second line of protection for the consumer.

(Co-op General Manager Avram Patt notes that WEC will soon make a third line of protection – surge protectors and Uninterruptible Power Supplies, or UPS, previously discussed in Co-op Currents – available to help members safeguard sensitive and costly equipment like computers, sound systems and microwave ovens. "No matter what we do on the lines," Patt reasons, "there will be surges and there will be interruptions.")

No guarantees

Whether mounted on the transformer or on WEC's power lines, once a fuse blows it stays blown and must be replaced. The first thing line crews do when responding to a reported outage is look for evidence of a spent fuse (a hinge springs open, which can be seen from the ground).

But all these methods for restoring power, automatically and manually, do not make the Co-op's system fail-safe.

"Lightning can travel several miles on the lines, and in all that distance the equipment might restore itself everywhere – except for one blown transformer-protective fuse that shuts down someone's house," says Weston.

"If people see that the power has been restored in all the houses around them, but theirs is still off, it's imperative that they call. There might be no other way for us to know about the problem."

How It Works

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credits amounts to only about 26 percent of that year's margins of $377,508.

How will your account be affected by these limitations?

The monies dedicated to those accounts will be applied equitably among the qualifying members. Take 1999 for an example. Since the $100,000 limit will retire about 26 percent of the margins for 1999, that same percentage will be applied to each member's capital credit account. If that percentage – by itself or in combination with 1981/1982 refunds – yields a total above $20, a check will be forthcoming, as stated previously.

The remaining percentage (about 74 percent) of the 1999 margins will figure into a capital credit refund for all qualifying members at some future time. A similar process will be applied to the outstanding capital credits from 1982 that are not retired in this year's program.

Some former members' accounts may never reach the threshold required for payment. In those circumstances, WEC's bylaws allow such small amounts of money to revert to the Cooperative.

If you have received a capital credit check in the past, you know that for most residential members (who are, by far, the majority of WEC's membership) the amount of money is not huge. But it's your money, derived from your slice of the ownership of the company that provides your electric power.

A Very Wet Year

Revisiting WEC's Hydro Station At Wrightsville

Steve Anderson left, and George Mears atop the Wrightsville Dam.

There hasn't been much good to say about the spring and summer weather this year. It's been wet... significantly wetter than normal, and far wetter than the spring and summer of 1999 when central Vermont suffered that other precipitation extreme: drought.

This year it has rained and rained – seemingly every day. It was too wet for Little League teams to play, in some cases, until June, because the fields wouldn't dry out between rainstorms. Farmers and gardeners forestalled their planting until it was nearly too late because the ground was saturated. It was a great year for growing hay, but a challenge to get the mown hay into the barn.

For Washington Electric Co-op all this wetness has had a good side. It has enabled WEC's hydroelectric station at the Wrightsville dam in Middlesex to generate electric power at a faster clip than normal.

"Wrightsville produced about 2,300 megawatt hours, total, in 1999," said Steve Anderson. Anderson, an amiable, red-haired Harley rider, supervises the operation and maintenance of the hydroelectric facility that was licensed for WEC by the Federal Energy Regulatory Commission in 1981 and began operation in 1984.

"We've already produced up to 2,030 megawatt hours just within the first seven months of this year," he continued. "Of course, 1999 was a drought year. A typical production year is 2,800-3,000 (megawatt hours)."

Jamie Shanley, a research hydrologist with the U. S. Geological Survey (USGS), said that the trend toward higher, steadier river flows actually began in the fall of 1999, closely following that summer's drought.

The USGS uses the Dog River as its "index river" in central Vermont. The Dog and the North Branch that is spanned by the Wrightsville Dam are tributaries of the mighty Winooski. The Dog flows northward through Roxbury and Northfield and joins the Winooski River in Montpelier. The North Branch comes down through Worcester and Putnamville to join the Winooski from the north. The Wrightsville Dam was constructed by the U.S. Army Corps of Engineers in the 1930s to protect Montpelier from another disaster like the legendary 1927 flood.

"Flows in the Dog River were well above normal starting last October," said Shanley. "The drought quickly reversed itself. The March 2000 flow was 61 percent above normal in the Dog River, and it was probably comparable in the North Branch. Flows were high because a lot more snow (than normal) left in March this year."

April was also affected by the early snowmelt. Flows that month were 11 percent higher than normal.

And then the rains came, making this spring one of the wettest on record. Precipitation brought flows in the Dog to 28 percent above normal in May, and 10 percent above normal in June.

"Clearly, this has been an above-average period for flows," Shanley concluded, "based on a long record."

Steady Improvements

It has also been a stormy period. On July 18, lightning struck a transducer that monitors the accumulation of debris at a "trash rack" below the face of the dam. The rack catches sticks, branches, litter and rubbish floating in the river and prevents the flotsam from entering the penstock and turbines. A second transducer monitors the water elevation.

When either transducer is disabled it could result in damage to the generation equipment. Thus, a "Pride relay unit" that senses both overcurrent and undercurrent on the lines is prepared to automatically shut down the generators. (The unit also responds to obstructions on the distribution lines that transport generated power away from the dam.)

Another piece of equipment that has served the Co-op well is the Andover control system, which can be operated remotely. That often spares WEC's hydro technicians from driving to the station in the middle of the night, when all that might be needed is a quick adjustment and restart of the dam's electronic equipment.

The technicians – George Mears, Scott Martino and Kevin Stevens – carry beepers that are triggered by signals at the dam. They also have computers in their homes, connected electronically over a phone line to the control system.

George Mears confesses that when this automated equipment was first introduced he was skeptical.

"I was a staunch person against the thing," he admits. "But now if the beeper goes off at night you just get up, turn the computer on, wait for your eyes to get focused, and then clear the problem on the computer and go back to bed."

That beats the long drive Mears used to make from his home near Groton to do the same simple tasks by hand in the dam's control room.

"We pay him when he has to get up at night," said WEC General Manager Avram Patt. "But it's easier for him and less expensive for the Co-op for George or Scott or Kevin to be able to make the necessary adjustments from their homes."

Improvement like the Andover control system have helped salvage the Co-op's investment in the Wrightsville station, which for a long time, Patt said, seemed like a mistake.

Anderson, left, supervises operation of the dam. Mears, right, is one of the hydro technicians.

"Frankly, the plant started out as a dog," said the manager. "There were major problems with how it was designed and how it was built. Eventually, our people took the bull by the horns and, incrementally over several years, made important improvements in efficiency at the plant."

Steve Anderson and his staff of technicians have displayed a real dedication to improving and maintaining the generating station. Patt also credited former Trustee John Bellefeuille, who headed up a committee to tackle problems at the dam, as well as former manager Joe Bongiovanni and now-retired Operations Director Harvey George.

"The plant has been running exceptionally well this year," Anderson agreed.

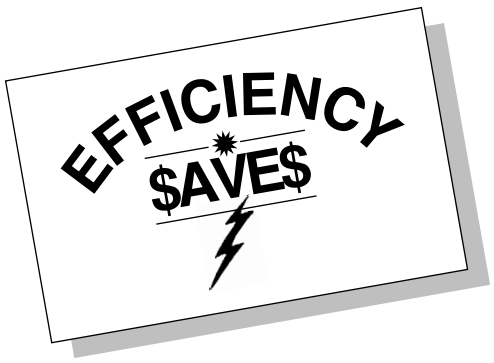
But he also pointed out a certain irony – a "Catch 22," as he called it. "The extra generation that's made possible by the rainfall enables Wrightsville to generate more power, which saves the co-op money. But the same conditions apply to the IPPs (independent power producers – small-scale, in-state power producers that generate electricity from renewable resources), and Vermont's utilities are required by the Public Service Board to purchase what the IPPs generate.

"That power is comparatively expensive," Anderson said, "and that's the catch. We save money on one hand and have to spend more on the other."

With luck, it all comes out in the wash.

Marketplace

FOR SALE: Four Nokian Hakkapelitta-10 snow tires, 185/65R15. Half the usable tread is left. $100 or best offer. ALSO two Dunlop D60A2 all-season touring/performance tires, 205/60HR15, nearly new. $100. Call 563-2321.



'California's Problem' Could Be Catching

Efficiency Ignored As Nation Veers Toward Energy Crunch

"Laissez les bon temps roulez!" Let the good times roll!

In the United States, the good times have been rolling for nearly a decade now. Politicians are eager to claim credit for the economic wave the country has been riding, but few pause to observe the gathering negative consequences of this 10-year national Mardi Gras, or breathe a word of caution.

There may be no sector that better exemplifies the dramatic economic growth the country has experienced and the pitfalls that growth poses than electricity. On August 1, USA Today published an article detailing the concerns of California energy officials as they anticipated high temperatures through the month of August and the drain such weather would cause on energy supplies. The state had prepared a plan for responding to an energy crisis, but the plan – short-term, rolling blackouts that would shut down plants, offices, traffic lights, restaurants, refrigerators, home computers and air conditioning in one section of the state after another – was only marginally preferable to the alternative: system-wide failure of the state's energy grid.

Lest Vermonters be complacent and write such reports off as "California's problem," national energy officials say that those trends are symptomatic of growing problems nationwide with electricity supply and demand. And because regional electric grids are increasingly intertied – through high-voltage transmission lines that deliver power from one part of the country to another – problems in California, New York or Chicago could become problems for Vermont, Kentucky or New Mexico.

"We have a booming 21st century economy running on an antiquated electric power system," warned U.S. Energy Secretary Bill Richardson.

Chief causes of Richardson's were: the country's ravenous appetite for electrical energy; transmission systems built for smaller demand that have not been upgraded to handle today's needs; and a lag in power production.

In 1990 the North American Electric Reliability Council estimated that demand for electricity would grow 1.8 percent annually. In fact, annual growth has been twice that amount. Housing construction has been a major cause, but so has the appetite among both businesses and private consumers for high-tech electronic equipment – from printers and fax machines to wireless phones, computers (which most of us leave on all day) and "home theaters." Such gadgetry – a negligible factor just a few years ago – now accounts for an estimated 13 percent of electricity usage. By 2020, it is expected to reach 25 percent.

While demand continues to increase, national officials warn that supply has not kept pace. After a period when the industry overbuilt in the 1970s, power-plant construction has lagged. Reasons for this may include:

- indecision, nationally, over what kind of generation we should pursue (fossil-fuel, nuclear and hydroelectric plants all present significant environmental costs and are difficult to license; and while renewable and on-site generation may be the wave of the future, the future is not here yet, in terms of affordability and the readiness of such technologies as fuel cells for widespread public use);
- complacence brought on by our general feeling of plenty and our escape, thus far, from the kind of crisis that gets people's attention;
- a habit, developed over the past 20 years or so, of relying on power imported from other regions of the country. With demand growing everywhere, however, there is less power to go around.
- uncertainty about the regulatory environment in which new plants would operate.

'We have a booming 21st century economy running on an antiquated electric power system.'

— U.S. Energy Secretary Bill Richardson

Conservation sidelined...

These problems related to production, transmission and demand are compounded by a growing disregard for energy conservation. USA Today reported that conservation programs nationwide had been cut 70 percent.

One reason for this is electric industry restructuring – sometimes called "deregulation" – which has been introduced, in some form, in 24 states. Previous requirements by state regulators that utilities promote efficiency and offer incentives to their customers to reduce their energy usage are falling by the wayside. David Nemtzow, president of the nonprofit Alliance to Save Energy, estimated that the lapsed conservation programs had been saving the country an amount of power equivalent to that produced by 40 generation plants.

"What has been lost," he said, "is a much cheaper, acceptable alternative (to stepping up production)."

But not at WEC

Responding to the newspaper report, Bill Powell, director of products and services at Washington Electric Cooperative, said "Despite general industry disinterest in promoting energy efficiency, the Co-op is still committed to helping our members conserve power and save money."

Powell oversees WEC's array of programs that provide financial and technical assistance to help members reduce power consumption in their homes, whether through renovations or by purchasing more efficient appliances and heating units.

But he observed that the prevailing culture demonstrates little regard for conservation. Powell recently reviewed flyers that advertised appliance sales at central Vermont retail outlets.

"The flyers are actually produced by national manufacturers, not locally," he said. "I looked at the refrigerators and freezers on sale, and when you find the make and model number and look up the Energy Star ratings (put out by the U.S. government), you find that they're not the better models in terms of efficiency. Some of them actually use more than the average (amount of electric power)."

Powell also checked the General Electric website, and had this to report: "They don't put out any information on the energy usage of their products. It strikes me that this billion-dollar global entity doesn't get it."

Modern lifestyles have arrived in Vermont, and a feature of those lifestyles, Powell said, "is proliferation of the plug load – computers, stereos, VCRs, you name it. It's just the way life is these days. Not to have this kind of equipment is to be the exception."

Powell's advice?

"Know your loads. Know what you are plugging in and be conscious of your usage. When you're not using equipment, turn it off. And when you're in the market to replace equipment, shop for efficiency because it pays for itself.

"And if you've got questions," Powell added, "call the Co-op. We're not here only to sell you electricity. We're here to help you buy the right stuff to help you improve efficiency and reduce your bills."

Outfoxing the marketers

The national apathy toward conservation affects both Washington Electric Cooperative – which is not immune to problems in the electric industry – and WEC members individually. WEC members Roger and Linda Fox of Walden discovered this recently when they decided to buy a new refrigerator.

"Our old one, which we'd had for 23 years, still worked but we decided to replace it before it left us in the lurch and because we needed more storage space," said Fox, a WEC Trustee who is vice president of the Board.

They considered waiting a year because a recent article in *Consumer Reports* advised that new federal efficiency standards for refrigerators were to be introduced in July 2001.

"But the magazine also pointed out that efficiency had been improved in newer refrigerators and the best current models were nearly as good as the upcoming standards."

So the Foxes went shopping. And what they found was that energy efficiency didn't seem to be much on anyone else's mind.

"There was a fairly significant variation in how much power the different refrigerator models use," Fox reported, "but the dealers don't typically make it easy to compare operating costs versus purchase prices, and they don't feature energy efficiency prominently in their advertising. You may have to look closely to find information about efficiency."

Some dealers provide Energy Star stickers for qualifying models, said Fox, and all units on the showroom floor feature an "Energy Guide" label (printed in black and yellow) that supposedly indicates the costs of operating the appliance. But the label doesn't give consumers in high-cost regions like New England an accurate picture of the effect the refrigerator will have on their electric bill.

"Right now the label shows an annual operating cost based on a national average price of 8.42 cents per kilowatt hour," Fox explained. "But that's a 1998 average, not a current one. And it can be misleading in this region, where electric costs are significantly higher than the

national average."

The industry markets refrigerators based on appearance and special features like built-in ice machines and cold water spigots. Marketers don't pay much attention to efficiency – and unfortunately neither do most consumers.

But as Fox said, people should.

"A refrigerator is potentially the most energy-intensive appliance in the house, other than the water heater," Fox said, "because it's on all the time. The typical energy-glutton refrigerator of 10 or 20 years ago used as much as 5 kilowatt hours (of electricity) a day – or about 150 kwh a month. That could account for a quarter to a third of your total energy consumption.

"By contrast, the most energy-efficient of today's top-freezer refrigerators can cut that usage to about 40 kwh a month."

Fox was up-front about energy costs for Washington Electric members.

"Our rates are high. We live in a region of the country with higher-than-average electric rates, and we belong to a utility with very low customer density which further increases the cost of providing power. That's why in our situation you really need to be a savvy shopper if you're buying a refrigerator." On WEC's system the best models could save anywhere from $30 to $50 per year.

Fox found the Internet to be a helpful source of efficiency information. A couple of sites he found useful were: www.energystar.gov and www.energy.ca.gov.

"A refrigerator is likely to be with you for 15 to 20 years or longer," said Fox. "In addition to considerations about the economic costs of energy usage, I hope people will think about the environmental consequences of their choices. Electric generation produces pollution. You're asking the 'system' to make enough power available to you to run that refrigerator for a very long time."

And it's increasingly clear that you won't get any help from California.

WEC To Return $200,000 to Co-op Members

Capital Credit Program Revised To Benefit 1999 Consumers

You belong to an electric co-op. How is that different from being a customer of an investor-owned utility? The difference is that you are a part-owner of this utility, Washington Electric Cooperative.

How can you tell you're an owner? You can tell you're an owner when, like the owners of other businesses, you can pocket a share of the money that's left after all the expenses have been paid.

That's what WEC's capital credit refund program is all about. And this year, for the first time, WEC's Board of Trustees asked the staff to design a system that will enable as many current Co-op members as possible to receive a financial benefit from their membership in the Cooperative.

Previously, the capital credit refund program exclusively targeted members who were with the Co-op in its earlier years – an approach to capital credit refunds known among cooperatives as FIFO, for "first in, first out." While WEC will continue that effort in 2000, the Trustees have earmarked 50 percent of this year's capital credit refunds for people who were served by Washington Electric last year. (This system is called LIFO, for "last in, first out.") In 1999 your Co-op earned margins of $377,508.

The Board does not want to compromise WEC's financial stability by overspending on the capital credit refund program. It has therefore set aside $200,000 for this year's effort, half of which ($100,000) will go toward the capital credit accounts of Co-op members of 1981 and 1982, with the other $100,000 going toward 1999 accounts.

"A number of electric co-ops have started applying this approach to capital credit returns," said WEC General Manager Avram Patt. "We're trying to do two things at once. We want to recognize and pay off those capital credits that are the oldest ones still on our books, which was the thrust of the refund program for the first two years. And we want to offer some return of capital credits to current members. The Board felt it was important for today's members to have a sense of ownership in the Co-op."

The very newest members – people who have joined WEC in the year 2000 – will not receive refunds until a future year.

Your money

As a cooperative, WEC budgets to keep its revenues close to its expenses. The source of those revenues, after all, is the money WEC collects from its members.

Which brings us up to now.

This year WEC is earmarking $100,000 to retire capital credit accounts from 1981 – when WEC enjoyed margins of $68,538 – and 1982, when margins came to $242,098. The other $100,000 will go to 1999 accounts.

"There are other kinds of co-ops that regularly give back patronage refunds based on the previous year," said Patt. "But those tend to be cn-ops that don't require anywhere near as much physical plant and equipment as an electric utility."

So how will the program work?

Locating members

The first thing WEC must do is attempt to locate people who qualify for a capital credit payment in 2000.

WEC is sending notices to current and former members who are eligible to receive a capital credit refund of $20 or

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caption

Check For New Products!

Save on Lights That Last

Ask for WEC's brochure for expanded lighting options!

WEC offers members the opportunity to purchase state-of-the-art compact fluorescent light bulbs and attractive fixtures at discount prices.

Discounts will be honored for members who return this form to The Energy Federation with a check, VISA or MasterCard number.

For more information call WEC at 1-800-WEC-5245, or EFI at 1-800-456-5983.

Please send me the bulbs specified below:

Code	Product Description	WEC Member Price	Quantity Ordered	TOTAL
BB	15w Triple	$8.00		
CC	20w Triple	$8.00		
DD	23w Triple	$8.00		
GG	25w SLS	$8.00		
FF	30w Circline	$8.00		
HH	20w Tube	$7.50		
JJ	28w Tube	$8.00		
II	25wGlobe	$8.00		

Order Form

Member's Name _____

Address _____

City _____

State _____ Zip _____

Acct. or map # _____

Order subtotal: _____

5% Vt. sales tax: _____

Shipping: $3.50

Total: _____

To order by mail, fill out form and return with check or Visa/Mastercard number to:
Energy Federation, Inc.,
40 Washington St., Suite 3000, Westborough, MA 01581-1013.

Why Join the VSECU?

Credit Union Gives You Ten Good Reasons

From 121 members in 1947, we have grown to more than 32,000 members in 2000. The cooperative spirit has built a financial institution that consistently offers high savings rates, low loan rates and numerous high-quality convenience services that save time and money for our members.

But the most compelling reason why our members are loyal to the Credit Union is that they know we are always working with their best interests in mind. We owe no allegiance to outside shareholders, only to our member-owners. That is what makes us stand apart from for-profit financial institutions, a difference that will ensure you will receive our best service every time.

Here are 10 reasons why you'll want to join the VSECU:

1. Competitive rates on Share (Savings) accounts, Term Share Certificates (CDs) and IRAs
2. Free, interest-bearing Share Draft (Checking) accounts
3. Direct Deposit and Payroll Deduction
4. Low interest rates and flexible terms on vehicle and other consumer loans
5. Competitive interest rates and low closing costs on mortgage and home equity loans
6. Low-rate, honest value Visa or MasterCard credit cards
7. Convenient Visa ATM/Check card that you can use anywhere in the world that displays the Visa logo

8. Express banking; our 24-hour branch office that you can access through your telephone or PC (with Internet access) seven days a week
9. No-cost financial management counseling located at our Montpelier branch
10. Safe deposit boxes, notary public and other convenience services

For more information, please contact a Member Service Consultant or visit our website at www.vsecu.com.

The Vermont State Employees Credit Union
One Bailey Avenue, Montpelier
103 State Street, Waterbury
(802) or (800) 371-5162

WEC to Return $200,000

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bers (including you) when they pay their electric bills. But in years when WEC's income does exceed the costs of running the utility, that excess revenue – which other businesses would call profits and the Co-op calls margins – belongs to you and all the other members of Washington Electric Cooperative.

The capital credit refund program is the way WEC channels your portion of that money – which is pegged to the total amount of your bills – to you.

The Rural Utilities Service (RUS) is the federal agency that finances WEC and many other electric co-ops. RUS currently prohibits the co-ops from refunding capital credits until they have attained at least 30-percent equity in their property and holdings. Washington Electric met that threshold during the latter 1990s.

"It took our Co-op quite a while to reach the equity-percentage requirement by RUS, as it does most electric co-ops," said Patt. "Plus, in the 1970s the Co-op was not doing well financially and our equity went down to almost zero. It took us a while to build equity back up again."

The maiden voyage for capital credit payments came in 1998, when WEC returned $196,000 to members, or their heirs, from the company's first 30 years (1939-1969). The next year WEC continued the refund program with the same objective – to close out the more historical accounts and bring the program closer to the present time. In that second year, WEC returned $149,553 to people who had bought power from the Co-op during the three years in the 1970s when WEC realized margins above its expenses.

more. People need to fill out and return the card that comes with the notices, verifying that they are – or were – the member of record, or the member's legal heir. If they are claiming an inheritance right (the member of record being deceased) the Co-op will require proof, as explained on the card.

"We're mailing out the notices around the first week in August," said Management and Projects Administrator Denise Jacques. "People who were members in 1981, 1982 and/or 1999 should expect to receive notices by the middle of August."

Past experience indicates that not everyone will be found through the notices. To widen the net, WEC will publish the names of people who have not returned their verification cards in Co-op Currents in the fall (either September or October). WEC will also take out a newspaper ad to inform the public that the Co-op is extending capital credit refunds to members from those three years, and request people to contact the Co-op if they believe they might qualify.

To reduce the cost of this program to the membership, the names of those people – who typically number in the hundreds – will be published only in Co-op Currents, not in local newspapers. WEC will rely largely on word-of-mouth and the help of current members for finding those people who qualify for a refund.

"We've learned that administering the capital credit payment program can get very costly and consume a lot of staff time," Jacques explained. "We're trying to control the expenses and logistical problems as much as possible without compromising the members' ability to get their refunds."

The bottom line? WEC will make good on this year's capital credit refunds by December. If you've got a check coming to you for $20 or more (see sidebar on this page for details), expect it by then. If your "capital credit" will be in the form of a credit on your electric bill, it will be the December bill.

Then, come January, Washington Electric will look at its 2000 proceeds to determine whether it was another "capital-credit" year.

You'll be the first to know.

How It Works

The Mechanics Of Capital Credit Refunds

In designing a system for refunding capital credits to present and former WEC members, the Co-op's Board of Trustees departed this year from the programs of 1998 and 1999 in certain significant ways.

- The Trustees have allocated a specific amount of money – the $200,000 – to the program this year, rather than retiring all the capital credits from specific time periods as they did in the past. The sum is consistent with, and in fact exceeds, the expenditures of 1998 ($196,000) and 1999 ($149,553) for capital credit refunds. Designating a specific expenditure for the program allows for better financial planning for your Co-op.
- For the first time, WEC will combine LIFO ("last in, first out") and FIFO ("first in, last out") approaches to capital credit refunds (see story). The Board has allocated $100,000 to repay capital credits earned in 1999, with the other $100,000 going toward capital credits from 1981 and 1982.
- No capital credit checks will be written for less than $20. Current members of Washington Electric Cooperative who figure into this year's capital credit refund program (having purchased power from WEC in 1981, 1982 and/or 1999) will receive refunds of $20 or more by check. Refunds below that amount will instead be applied as a deduction from the member's December electric bill. Former members whose capital credits amount to less than $20 will not receive a payment this year. Their accounts will stay active at the Co-op, with a payment coming sometime in the future when their credits have reached the minimum.

Playing the percentage

In the first two years of the capital credit refund program, WEC retired all of the capital credits from 1939 through 1980. The $100,000 dedicated to the years 1981 and 1982 is sufficient to retire all of the capital credits from 1981, when the Co-op earned $68,538 in margins, thus removing those obligations from the books.

But the remainder will retire just a portion of members' credits from 1982, when margins reached $242,098. And similarly, the $100,000 earmarked for 1999 capital

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