

WEC CO-OP CURRENTS

Aging Well

That's The Goal of WEC's Pole-Inspection Program

Consider the pole. It's the simplest of tools, a plain wooden column with no moving parts. While you're busy pursuing life in its annual, seasonal cycles – going to work, coming home, firing up the lawn mower in spring, trading it for the rake in fall and the snow shovel in winter, having babies, raising them, having grandchildren, going to the supermarket, going to the doctor, maybe going to Florida (!) – the pole just stands there, day in, day out, doing nothing.

Except holding up the power lines that are critical to your way of life and (and this is the crucial part) not falling over.

People often call them "telephone poles," but they are power poles, or "utility poles." Your electric co-op owns them, and the phone and cable companies rent space on them beneath the power lines, because public policy discourages redundant, parallel poles and wires (although there are rare places where the electric and telephone lines diverge).

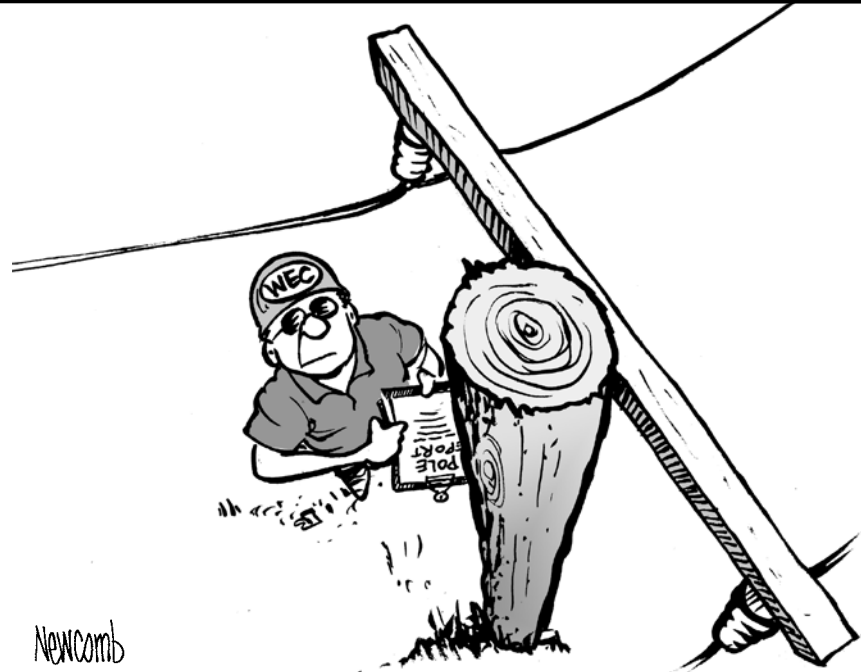
WEC must consider the pole, because it has 24,000 of them. And they don't last forever, especially with the weight of additional lines

and crossarms, outdoor lights, fuses, transformers, voltage regulators and other equipment hanging off of them, and the stress of supporting all that stuff in sometimes severe wind, snow and ice storms. For its distribution system the Co-op generally uses fir poles, 40-45 feet long. (Transmission line poles are taller, around 55 feet; WEC owns and maintains approximately 26.5 miles of transmission line on about 500 poles.)

Simple they may be, but buying and replacing a power pole can be a \$2,000-\$3,000 proposition. And, again, WEC has 24,000 of them! Financially, and for the purpose of providing reliable electric service, it's clearly more advantageous to protect power poles and maximize their life span than to 1) ignore them until they rot and fall over, or 2) dig them out and replace them long before they're ready to go.

This is what's behind Washington Electric's system-wide pole-inspection program, which was initiated in the summer of 2004 and has been continued in the two summers since then. Co-op members have occasionally called WEC to inquire about the service personnel they've seen in or near

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Inside Washington Electric's Board of Directors

How Nine 'Civilians' Preside Over an Electric Co-op

Washington Electric Cooperative is a corporation with some \$44 million in assets and 26 full-time employees. It operates and pays taxes in 41 separate municipal jurisdictions, and serves nearly 10,000 customers every day. Its gross revenues last year were approximately \$12 million, and carries long-term debt of more than \$26 million.

In other words, by Vermont standards

Washington Electric Cooperative is a relatively large corporation. It also has longevity; WEC has been in business for almost 67 years.

Yet the ultimate authority for this corporation lies with a group of nine men and women – the WEC Board of Directors – who convene all together

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Inside

Maple Corner has a new substation. WEC's linemen and technicians completed construction and "turned it on" this month. WEC members, and the environment, will benefit. Page 3.

Electric utilities are complex businesses. WEC's Board of Directors has developed ways to distill the issues and make 'forward progress.' Page 1 story is continued on page 4.

Ratings systems. We're not talking about TV, but new and renovated energy-efficient homes – information you may be able to use. Page 6.

Attention Groton and West Danville: WEC is coming for a visit. Co-op is gearing up for this fall's Community Meetings in October. See page 8.



Utility poles tell a story if you know what you're looking for – whose pole it is, location indices, what birds, animals and insects have passed by. The pole-inspection story continues on page 8.

Washington Electric Cooperative

East Montpelier, VT 05651

Members Write

Co-op Currents welcomes letters to the editor that address any aspect of the Co-op's policies and operations, or any matters related to electricity. Readers can write to Co-op Currents, P.O. Box 8, East Montpelier, VT 05651. Letters to the editor will not be published in the Annual Meeting (April) issue.

(Our August issue focused on wind power, with Co-op board members relating their experiences in Vermont and far afield with wind farms. Here are two responses from readers.)

Would Volunteer to be a 'PIMBY' (Please, In My Back Yard)

Editor, Co-op Currents:

Just a note to add my comments on wind power. I have loved windmills since I was a little kid reading stories of windmills in Holland... you know, Hans, wooden shoes, windmills. There was also a large windmill, much more like the Dutch windmills than the controversial ones being discussed presently, not far from where I lived in Connecticut, that was very cool. And, I have loved going past the windmill at UVM since it was erected a number of years ago.

When my son Porter was little we dreamed of and played at having a windmill in our back yard or attached to our house somehow. We would

draw pictures of what that might look like. It was just a dream, for I knew we would never be able to afford one and I really didn't know if anything like this existed. Now here it is being discussed for real.

Looking at pictures and films of windmills on wind farms brings visions of majestic art projects, beautiful graceful forms, shades of light, shifting design as the camera passes by. I certainly do not think they are a blight on our landscape.

What blights the landscape are the cell towers that pretend to "blend" in, looking out of place with their bulky, silly "branches" sticking up out of the tree tops. There is nothing artistic about them. (Saying that, of course, I do wish I could get cell service in Adamant!) And what about all the oil rigs out west that people put up with because it brings them oil... and lots of money? And telephone poles? Etc.

So I say go for it, and hope that the dissenters – many of whom are our friends who have marched against Vermont Yankee and Hydro Quebec – will eventually see not only the need

for wind power but also the beauty of the windmills themselves.

"Not in my backyard" doesn't work here. I want one in my back yard (just can't afford one).

Alison K. Underhill
Adamant



The poem below was inspired by the writer's third visit to Fenner, N.Y., Wind Farm.

Working Rural

Cows are munching on the grass,
Green corn is growing high;
Golden oats are making seeds
And dancers dot the sky.

Birds are flying all around
And crickets chirp so loud,
No smoke, no fumes, no toxic waste,
It makes me feel so proud.

These peaceful giants stand and spin;
A wondrous job is done,
For their slow dancing with the wind
Helps your computer run.

Your lights, TV, and music, too,
Your fridge and all the rest,
Let's think again of what we want
And how to do it best.

It's time for care and thoughtfulness;
Our grandkids want to know
That Mother Earth is valued more
Than "stuff" and "waste" and "show."

Linda Gahneh Fox
Walden

Co-op Currents

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WEC is part of the alliance working to advance and support the principles of cooperatives in Vermont.
www.vermontcooperatives.coop

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The Board of Directors' 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 through WEC's office. Meeting dates and times are subject to change. For information about times and/or agenda, or to receive a copy of the minutes of past meetings, contact Administrative Assistant Deborah Brown, 802-223-5245.

5th Annual Renewable Energy Conference

BEYOND PEAK OIL

Thursday, October 19, 2006 9:00 a.m. – 5:00 p.m.
The Wyndham Burlington Hotel

Conference Highlights:

- **Morning Keynote Address—Chuck Kutscher of the National Renewable Energy Laboratory.** Dr. Kutscher will preview the findings of important new research conducted for the American Solar Energy Society demonstrating how renewable technologies (concentrating on solar power, PV, wind, biomass, biofuels, and geothermal) and energy efficiency (in buildings, industry, and transportation) can drastically reduce U.S. carbon emissions and dependency on fossil fuels. This talk makes the case that through efficiency and renewables we already have the needed solutions at hand.
- **Luncheon presentation** by award-winning political cartoonist **Jeff Danziger.**
- **Gubernatorial debate** between Governor Jim Douglas (invited) and Scudder Parker.
- **Renewable Energy Awards**—REV will present awards to Vermonters who have been leaders in the promotion of renewable energy.
- **New location!** At The Wyndham in downtown Burlington— accessible by public transportation.
- Join us for the networking reception after the sessions!

To register and for more information visit:
www.REVermont.org or call (802) 655-7769

New Maple Corner Substation

A Going Concern

Facility 'Energized' in September

Chalk this one up as finished. On Friday, September 8, Washington Electric energized its new substation at Maple Corner in northern Washington County, completing a construction project designed to directly improve service to some 814 Co-op members and provide greater "redundancy" that will benefit another 3,000 Co-op households, farms and businesses.

For electric utilities, redundancy is a good thing. It means that customers potentially can be served from different substations, so in the case of an outage their power might be temporarily restored while the line crews make repairs to the lines that normally provide for them.

Directly served by the new \$489,000 substation are WEC members in Worcester, Middlesex, and the Maple Corner section of Calais, who previously got their power from the Co-op's original Maple Corner substation – a wooden structure that had grown old and obsolete. Along with construction of the new facility, WEC will upgrade the power line systems that tie the new facility to the substations in Moretown and East Montpelier. That's where the redundancy comes in.

"This was a real team effort, which started with our members voting to support the project at our Annual Meeting in May," said Engineering & Operations Director Dan Weston. "They've continued their support by being very understanding about the occasional, brief outages that have been necessary while we've completed the construction and gotten everyone back onto the system the way they were originally served."

During construction, changes were made so that local Co-op members got their power through temporary connections to the Moretown and East Montpelier substations.

Voters backed the Maple Corner project 1,046-53 at the 2006 Annual Meeting on May 23. WEC broke ground within a week and worked on the project through the summer. Following site-preparation work by Hebert Excavating Corp. of Williamstown, Co-op linemen,

engineers and technicians performed the construction, based on a design completed with the assistance of longtime WEC consultants Dufresne-Henry Inc., and Crocket Engineering L.L.C. of Essex Junction. It was the third substation the team has completed

since 2001, when WEC replaced its facility in Moretown; another replacement substation then was constructed in South Walden, and energized in 2004.

In each case the old structures are removed and the site returned nearly to original condition.

The Maple Corner project gave Washington Electric an opportunity

The Maple Corner project gave Washington Electric an opportunity to incorporate new technologies with improved protection for the environment.

to incorporate new technologies with improved protection for the environment. The property is close to a seasonal wet area. Some equipment at electric substations uses mineral-based oil for various purposes, and the old substation had no spill-containment

system. Spill containment was incorporated in the new design at Maple Corner, and modern transformers were installed that use a soybean-based dielectric fluid instead of mineral oil. ("You literally could eat it," said Weston, "though I doubt anyone would want to.")

Other advances include programmable electronic vacuum-bottle reclosers, rather than oil-based reclosers. (Reclosers respond to electrical faults automatically, giving the system several chances to resume operation before defaulting into a full-fledged outage.)

The old (left) and the new (below). For WEC members, the new substation is an investment in better energy efficiency, improved electric service, and environmental precautions.

All hands

During construction, Maintenance Foreman Mark Maloney headed several crews that installed new insulators on a portion of the Co-op-owned transmission line that carries power to the Maple Corner substation from East Montpelier. Environmental Coordinator and WEC Technician Steve Anderson, who heads up technical and design aspects of substation construction for the Co-op, provided his usual oversight for the Maple Corner project, while assembly of the substation was performed primarily by Foreman Bob Fair and linemen Rich Hallstrom, Kevin Lanphear and Jason Smith.

"But everyone had a part in it," said Weston. "There are a lot of details to be attended to, and the rest of the work the Co-op needs to do during summer had to get done at the same time. Foreman Tim Pudvah and his crews focused on building line extensions to new members. All of our line crews and support technicians did a great job and turned out an extraordinary amount of system upgrades this summer, and I'm proud of them."



Board of Directors

continued from page 1

usually only one evening a month. The board includes a couple of attorneys, a rural mail carrier, a farmer, three small-business entrepreneurs, a music teacher, a human-services worker. They are where they are, first, out of a desire to serve their communities, and second, because they were elected to their positions by the Co-op's members. But none of them are professionals in the field of Co-op operations, retail electric power.

Yet the corporation is sound. Its bills are paid. The vital decisions are made. It is ambitious. Plans are carried out that in some cases take years to formulate, and which then extend for years or even decades into the future.

So how do they do it?

On one level, the answer lies with the staff. Washington Electric is served by skilled and highly conscientious employees, many of whom have been at their jobs long enough to see directors come and go. Another part of the answer is that the Board of Directors has established very purposeful internal systems that enable them to deal with an enormous amount of information despite the limits on their time, and to further their vision of the Co-op both as a corporation that provides a vital, practical customer service and as something more – an organization that can provide leadership in the community and the state.

Sharp pencils

The Co-op's staff and board have undertaken some highly visible projects, such as creating an \$8-million landfill-gas electric-generation facility in Coventry, and supporting a proposed wind farm in Sheffield with \$947,000 in federal grant money. Some projects are less high-profile but are significant investments of Co-op money, like the \$489,000 substation just completed in Maple Corner. Some projects, such as designing and implementing a Vegetation Management Plan to control growth along the company's 1,256-mile right-of-way, grow directly out of the corporation's mission; others are offshoots of that mission, like providing long-distance telephone service and dial-up Internet access for Co-op members. Some projects evolve out of discussion about the Co-op's ideology, like the creation of an on-going, charitable Community Fund and a permanent way to finance it. There are personnel issues that ultimately reside with the board, from negotiation of the IBEW union contract to policy governing the computer data that employees can take with them out of the building.

And there are the two, large "constants": WEC's budget, and its power supply. With neither of these can you just "set it and forget it." The budget is

profoundly affected by the whims of the weather, and power supply by the whims of the market (or other forces; WEC abruptly lost access to a third of its power in August when a fire temporarily disabled the generators at the Coventry plant. Since that necessitated the immediate purchase of replacement power from the market at a higher cost, the fire in essence also lobbed a hand grenade into the carefully constructed budget).

Monitoring these constants, and envisioning, conceptualizing, and seeing projects through from beginning to end involves a level of detail at the board level that is not apparent from the outside. Nor is it apparent where the board members – none of whom are retired – find the time to educate themselves about the issues involved in conducting the company's business. But some directors say there has been an evolution in the board's internal organization and its processes for addressing issues large and small, predictable and volatile.

"We used to have a breakdown of committees that was very much along traditional lines and which had been handed down for presumably a long period of time," said Roger Fox, currently the vice president of the board and a WEC director since 1991. "There was a finance committee, a policy and bylaw committee, a committee having to do with operations. There were other committees as well, and people used to serve, more



"None of us are softies. We all have sharp pencils and everybody is aware of the Co-op's finances. We have to justify why we are spending."

— Don Douglas

than now, on more than one committee. It was cumbersome and inefficient."

Fox said the committee structure and allocation of responsibilities began to change during the presidency of Charles Smiler in the late 1990s (Smiler resigned from the board when he left Vermont in 1998).

"We basically came up with the arrangement we're using now," he continued. "We have a money committee that also deals with administrative issues [the Finance & Administrative Committee], a committee that deals with the operation of the electric system and our power supply [Power & Operations], and a committee that deals with the interests of the members and all aspects of membership in the Co-op. The buzzword in the industry at that time was 'competition'; it was the era when most states were deregulating electric utilities. Vermont ultimately didn't go with competition, but business opportunities for the Co-op expanded when the Legislature rewrote the governing statute in 2000. So the membership committee also oversees decisions about other

services besides electricity that we can provide, and that's why it's called the Members & Markets Committee."

The board structure has changed with the changing environment in which utilities operate, but according to Director Wendell Cilley, a member of the board since 1993, the group has also become more focused and efficient. Cilley and others attribute a great deal of the credit for that to Barry Bernstein, who was elected to the Board in 1997 and succeeded Smiler as president the following year.

"Historically," said Cilley, "the board spent a lot of time at meetings hashing out what were sometimes fairly detailed issues. The push has been, since Barry has been president, to get a lot of that detail work done in committee, and for the committee to come to the board with recommendations and what they see as the salient issues in making those recommendations."

When they do, Don Douglas pointed out, they won't find the board to be a rubber stamp.

"None of us are softies," said Douglas, who is Co-op Treasurer and chair of the Finance & Administration Committee. "We all have sharp pencils and ask penetrating questions, or try to. Everybody is aware of the Co-op's finances; nobody's out there – including staff – advocating for unwarranted spending. We all have to justify why we are spending."

Douglas also said that when committees take their recommendations to the board, "it matters whether the vote at the committee level was unanimous; if it was, it has a better chance of going through without the board sending it back to the committee for more work, or augmenting the proposal in some way during the vote. If it wasn't unanimous the board will query the person who voted against it to find out why. The board members respect one another's opinion."

Very intentionally, no committee is larger than four board members.

"That's so that a committee can't force its opinion on the board by controlling the majority vote," Douglas said. Co-op members who are not on the board of directors can serve on committees – the Power & Operations Committee, for example, includes John Warshow of Marshfield, who has extensive experience developing small hydroelectric facilities – but Warshow cannot vote on issues at the board level.

Bernstein makes the committee assignments, and tends to move people around from time to time. "Changing committees gives people experience with various kinds of issues that come before the Co-op," Douglas explained.

"I think Barry has had a major influence," said Cilley, who chairs the Power & Operations Committee. "He goes to all the committee meetings, he stays current on the issues. I think he is



"Barry [Bernstein] has had a major influence as president. I think he is instrumental in seeing that the big-ticket items stay on the top of the pile and we don't get mired in unnecessary detail."

— Wendell Cilley

instrumental in seeing that the big-ticket items stay on the top of the pile and we don't get mired in unnecessary detail. The details inevitably get managed by the general manager [Avram Patt] and the management staff.

The committee function works well because we don't spend a lot of time on 'process' issues; it's fairly well directed at 'product' issues – decisions about what we are actually going to do. If a board gets stuck on process, the product is often the innocent bystander who gets shot."

Reduced to paper

Committees, however, are not where a Co-op issue, an idea, a responsibility, a dilemma, or sometimes even an opportunity, originate. Committee work is more often an intermediate step, not the first place that an issue raises its head.

That tends to be in the Annual Plan. The directors develop an understanding and appreciation of the issues most central to running an electric utility, but it's the function of the staff, and particularly department administrators, to keep those issues four-square before the board. The directors also have priorities and visions of their own. All of these are considered and incorporated at the start of every year in the drafting of the Annual Plan.

When reduced to writing, the Annual Plan looks more like a statement of goals and principles. For example, the first entry in the 2006 Annual Plan reads, "**1. Maintain Financial Strength and Assure Economic Equity for Members.**" But under each of these broad statements is a numbered series of tasks that, when accomplished, will distill these glorified objectives from the realm of pie-in-the-sky idealism to an achievable goal.

There are nine such tasks under "**Maintain Financial Strength and . . . Equity for Members.**" Among them are "Monitor and adjust spending per 2006 operating budget and board-approved [debt and revenue-related] targets," "Continue to seek fair treatment for WEC regarding property taxes," and "Develop a Cost-of-Service Study and Rate-Design Proposal" – an important document required periodically from all electric utilities, to make sure that the different "classes" of customers are charged appropriately for the power they use.

The other broad statements in the 2006 Action Plan are:

"2. Improve Performance of WEC's Distribution System for the Benefit of Our Members,"

"3. Secure Power Supply at Lowest

Cost, With Consideration for Environmental and Social Consequences,”

“4. Provide Diversified Products/ Services that are of Benefit to Our Members,”

“5. Maintain Strong Member, Community and Government Relations,”

“6. Maintain Strong Organizational, Administrative and Communications Functions.”

All of these are fleshed out with concrete tasks. The seven tasks under **“Improve Performance of WEC’s Distribution System”** include “Complete analysis and continue pole treatment & testing” (described on page 1 of this issue of *Co-op Currents*) and “Improve phone system capability for outage reporting.” The meat on the bones of **“Secure Power Supply at Lowest Cost”** comes in the form of six tasks, including “Finalize timing and initiate financing request for Coventry fourth engine,” and “Monitor wholesale power costs and supply needs, to acquire lowest-cost short- and mid-term supply.”

All six of the broad objectives in the Annual Plan are similarly fleshed out, with the intention of turning them into reality. But the Annual Plan is just that: a plan. How is it then set into motion?

As board member Wendell Cilley explained, “The management staff – which includes Avram, [Engineering & Operations Director] Dan Weston, [Special Projects Administrator] Denise Jacques, [Finance Director] Linda Nelson, and [Products & Services Director] Bill Powell – take the Annual Plan and develop an Action Register. The Action Register has timelines for when tasks in the Annual Plan are expected to be done. If it says, for instance, that they want the fourth generating engine at the Coventry plant to be installed and working in December, you can work backward to schedule the things that need to be done first, like reports from our consultants and the member-vote of approval.”

The staff doesn’t develop the Action Register on its own. It submits a draft to the board’s Policy Committee, which includes the board officers (President Bernstein, Vice President Fox, Treasurer Douglas and Secretary Marion Milne) and the chairs of the three standing committees. There, the Action Register takes further shape. To make sure that each task is accomplished, “Responsibility” is designated to specific staff members, directors, board (or board-and-staff) committees, or consultants. A “Timeframe” is established, which may be specific (“January”), general (“second quarter”), or in some cases “ongoing.” Completion of each task is defined under “Deliverable”: concrete proof, such as the conclusion of an accounting order, approval of a project by the state Public Service Board, or construction of the Maple Corner substation.

“It’s a ton of work,” said Cilley. “It

really is. [But] the Action Register gives the board a way to look at what’s in the works, who’s responsible, when it’s supposed to be done, and how we’re doing it. It becomes the blueprint for a major portion of the Co-op’s activities for the coming year.”

Of course, not everything can be predicted or planned for. Who could have known in January that a fire would sideline the Coventry plant in August?

But the Register is an amazingly comprehensive document. When news shows up in *Co-op Currents* that might surprise Co-op members – like the Community Meetings scheduled for Groton and West Danville in October, or a certification program for WEC’s right-of-way contractors – it’s no surprise to board members. They saw it coming months ahead of time, when they approved the Action Register.

All hands in

It almost goes without saying that many, if not most, of the Co-op’s plans and initiatives overspread the responsibilities of more than one of the Board’s major committees. Power & Operations (P&O) oversees the procurement of wholesale electricity as well as electricity that is generated by the Co-op at its Coventry landfill gas plant or its hydroelectric facility on the Winooski River. There’s a healthy dose of finances involved in both of those operations, as well as in substation construction, power line renovations, and nearly everything else P&O governs, and that means those activities must be evaluated and budgeted by the Finance & Administration Committee, too. Members & Markets (M&M) takes responsibility for WEC’s Annual Meeting, relying particularly on Administrative Assistant Debbie Brown to pull the pieces together. There are cost components to the Annual Meeting that enter the purview of Finance & Administration (F&A), which is also true of the “marketing” portion of M&M initiatives – the phone and dial-up programs, among others. Finance & Administration helps the board and M&M decide which services might be worth the investment and which might not provide WEC members with enough benefit to be worthwhile.

Among many issues that come under all committees’ review, one particularly stands out for Finance & Administration Chair Don Douglas.

“When I came onto the board [in January 1999], line clearing, what we now call Vegetation Management, was lagging,” said Douglas. “There was a conscious decision made to institute a more defined policy. The impetus came partly drawn from the Members & Markets Committee and their concern about outages caused by uncontrolled growth in the right-of-way, and some concern expressed by the staff that we



“Business opportunities expanded when the Legislature rewrote the statute enabling the Co-op to provide services besides electricity; that’s why it’s called the Members & Markets Committee.”

— Roger Fox

might get heat from the state.

“Sometime around 2000 we began to develop our Vegetation Management Policy, and now we’re spending something like \$400,000 a year and we’re on a rotation schedule where we’re trying to stay out in front of the foliage. But it was a long, cathartic process that the board and staff and management went through to figure out what level of spending will get us the best bang for the buck.”

The policy involves more than spending. Members & Markets became concerned because sometimes the best way to prevent trees and brush from threatening the lines is to move the lines closer to the road – and that can mean disturbing a tree canopy that residents are fond of.

“We had to address that concern and get input from communities,” said Douglas. “Dan Weston and other staff members have talked directly to members about it, and some of the board members

are out in the community all the time [as a rural mail carrier, it’s certainly true for Douglas. As a result, it’s in our policy now, formally, that we care about what the lines look like.”

Power & Operations had a big role to play, even though the right-of-way (ROW) clearing is done by contractors, because the contractors’ activities must be supervised by and coordinated with the Co-op’s operations staff. And more money for vegetation management meant less money for other important work. “It’s been a complicated, contentious issue,” said Douglas, “and there’s still controversy about ROW. There’ll always be outages. No matter what we do we’re never going to clear all 1,200 miles of our right-of-way every year.”

But at the board level, organizational practices that have been in place since the start of this decade assure that no matter how inconvenient and discomforting, matters like ROW clearing won’t be avoided. You can look it up under **“Improve Performance of WEC’s Distribution System for the Benefit of Our Members”** in the 2006 Action Plan, where it says:

3. Provide annual operations reports on construction work plan progress and ROW maintenance.

Responsibility: Dan, Avram

Timeframe: December

Deliverable: progress reports to P&O and board.



WASTE NOT



Reducing solid waste is a goal most WEC members can agree on. The Co-op reduces the wastestream’s harmful impact by collecting the methane gas at the NEWS landfill in Coventry and using it generate electricity.

In this space, we help Co-op members find their own ways to reduce Vermont’s wastestream, with tips about recycling, composting, the proper disposal of hazardous materials, and how to avoid generating some kinds of waste in the first place. Our information comes from the Central Vermont Solid Waste Management District (CVSWMD.org) and other sources. Readers can submit ideas or questions for Waste Not by contacting Washington Electric Cooperative.

Empty paint cans. Finished your summer painting jobs? Now what to do with the cans? The paint cans themselves are recyclable, but the paint that was in them is the trickier question. Cans that contained latex paint pose no hazard, but if you are disposing of the can before it is completely empty you should dry and remove the remaining paint (if no one has use for it). Leave the lid off and let it air-dry, or mix it with an absorbent material like kitty litter or sawdust and put it in a well-ventilated area, distant from children, pets and flames. Scrape the dry paint out and put it in the trash. (If you’re using very old latex paint it should be assumed to be hazardous, as mercury was used in some latex paint until 1991.)

Surprisingly, containers of oil-based paint also can be recycled – if they are truly empty (i.e., no paint can be poured out). However, some haulers will not accept empty oil-based paint cans, so you should call your hauling company or your solid waste management district to inquire. If the can is not completely empty take it to a hazardous waste collection (inquire of your district when and where they’ll accept hazardous waste).





Changes In Home Energy Programs

Scoring Reversed For Vt. ENERGY STAR Homes;
Net Metering Now Includes Hydro

For members building new homes the Co-op provides comprehensive energy-efficiency services through the statewide Vermont ENERGY STAR® Homes Service, in conjunction with Efficiency Vermont. The VESH program provides analysis of a proposed home's energy performance, cost and options to lower energy operating costs and environmental impacts of equipment and investment decisions. Co-op members who participate in this voluntary program and whose homes meet the program standards are eligible for combined incentives up to \$2,250.

Since 1999 the Vermont ENERGY STAR® Homes Service has used a scoring system, similar to one used nationwide, based on a scale beginning at 0 and going up to 100. The ENERGY STAR program is administered by the federal Environmental Protection Agency (EPA), and includes energy performance ratings of most appliances and building components.

To meet Vermont's residential energy code, a new building previously needed a minimum score of 82. This score correlated to "FOUR STARS"; better practice (then) was "FIVE STARS," or "FIVE STARS PLUS." EPA and other stakeholders in the building performance industry, along with public input, have modified the rating system to update the standards, and to allow for additional inspection processes to evaluate a home (new or existing).

One of the most significant changes in the ENERGY STAR® program nationwide is the adoption of the "HERS index" (Home Energy Rating Score). In the HERS index, a more-efficient home will now receive a lower score, and a less efficient home will receive a higher score. This is the opposite of the

previous scoring system.

The logic of the scoring system change follows this rationale: The lower the score, the less purchased energy a home is projected to use. Lower score = lower cost of operation.

For new (or existing) homes to meet the thermal performance of Vermont's Energy Code, a building now needs to score 85 points or less (log homes, and multifamily buildings must score 95 points or less).

Similarly, for homes to meet ENERGY STAR thermal performance standards, a home's score now must be 80 points, or less.

For homes to be potentially eligible for current federal tax credits (up to \$2,000) a home's score would now need to be in the range of 60 points or less (but the exact rating needed depends on several variables).

Zero energy house

The new scoring system has as its "best" case the net "zero energy home" (ZEH). This is an imprecise term whose current definition and use vary with the context and application. In some cases "zero energy" is meant as "no energy purchased from off site." Other ZEH applications are used to define a building which at times is contributing energy back to the grid.

So, ZEH is a vague term, but here implying a low- or no-impact on non-renewable sources of energy.

Renewable electric generation

Another typical feature of low/zero energy homes is the installation of a renewable energy (generation) system in a net-metering relationship with the grid. In Vermont the resources available since

1999 for members to self-generate have included solar electric (photovoltaics, or PV) and wind. In 2006 the law was amended to allow small hydro into the net-metering statute, although the particulars of what size and how to make these installations are still being worked out by the Vermont Public Service Board.

Builder checklist

Another significant change, beyond the HERS index, is the adoption of a required checklist that builders must follow during construction to assure

minimum air leakiness and proper insulation installation.

For Co-op members participating in the Vermont ENERGY STAR® Homes Service the HERS index will allow more accurate feedback about their home's potential energy performance.

For more information go to: <http://www.encyvermont.com/pages/Residential/BuildingEfficiently/VermontENERGYSTARHomes/enrollment/>, or contact the Co-op: 1.800.932.5245 (802.223.5245), or: <http://www.washingtonco-op.com/>

\$980,000 In Incentives Available For Renewable Energy

Commissioner David O'Brien announced that the Vermont Department of Public Service (DPS) will provide \$500,000 to the "Vermont Solar and Small Wind Incentive Program" to support photovoltaic, solar hot water, and small-scale wind installations. The Solar and Small Wind Incentive Program will also receive an additional \$238,000 of incentive funds for solar electric and solar hot water systems from Central Vermont Public Service Corp. and Green Mountain Power, for customers in their service territories. Combined with money from the initial Solar and Small Wind Incentive Program, a total of \$980,000 will be available for incentives.

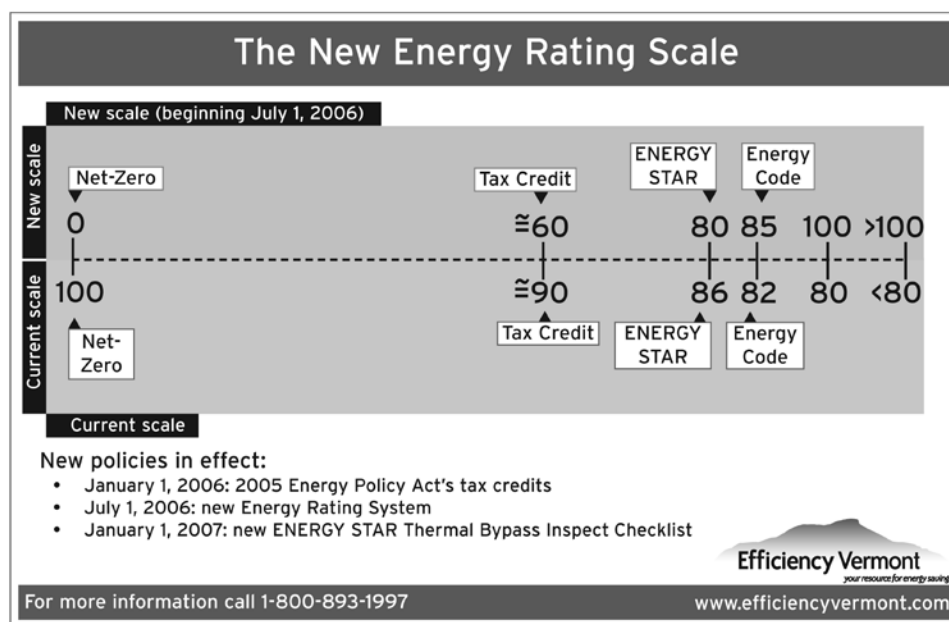
The Solar and Small Wind Incentive Program was passed by the Legislature and signed into law by Gov. James Douglas in 2003. Since its inception the program has provided \$1,373,920 in incentives to support the installation of 345 renewable energy systems. The Renewable Energy Resource Center (RERC) at the Vermont Energy Investment Corporation administers the Vermont Solar and Small Wind Incentive Program.

The incentive program provides grants to individuals, businesses, farms, schools, and municipalities for a portion of the cost of installing small-scale solar and wind systems. Some notable changes being made to the program include allowing farms to qualify for a larger wind incentive of \$4.50/Watt, up to a maximum of \$20,000. (Schools and local/state government are already eligible for this level of incentive). Also, low-income multi-family housing buildings will be eligible for a solar electric incentive of \$3.50/Watt, up to \$35,000. The Department anticipates that new level of funding will support the installation of approximately 210 new renewable-energy systems throughout the state, which could generate 425 MWh of electricity annually.

"By offering funding to farms, schools, local and state government facilities, and low-income multi-family housing, assistance is being provided to those who need it the most, and will in the end benefit all Vermonters," said O'Brien.

The \$500,000 being provided by DPS is a portion of the \$1.3 million in Clean Energy Development Funds that was appropriated by the Vermont Legislature and approved by the Joint Fiscal Committee for spending prior to December 1, 2006. The Clean Energy Development Fund (CEDF) was established in 2005 and is funded through proceeds due to the state under an agreement between the DPS and Entergy, owner of Vermont Yankee nuclear plant. The purpose of the CEDF is to promote the development and deployment of cost-effective and environmentally sustainable electric power resources for the benefit of Vermont electric customers. The CEDF will receive payments from Entergy between \$6 million and \$7.2 million annually through 2012.

People interested in applying for incentives should go to the Renewable Energy Resource Center website (www.rerc-vt.org/incentives) to obtain a list of qualified solar and wind installers, and to download the reservation incentive forms. Information can also be obtained by calling the RERC hotline toll free at 1-877-888-7372. The RERC website has a "Clean Power Estimator" to help customers evaluate the economics, energy production, and environmental benefits of installing a solar or wind system.



Community Meetings

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list, can call WEC for a reservation.

No reservations are required for the meeting and discussion that follow dinner. Everyone is invited to attend.

"We've been holding these community meetings since 2003," said WEC General Manager Avram Patt. "The idea has been to find a way, outside of the big Annual Meeting in May, for Co-op members and the board and staff to get together to talk about what the Co-op is doing, to hear our members' ideas and opinions, and generally share information with each other. It also gives us a chance to talk with people about projects and plans that we have in mind for their particular communities, and for people to tell us how they're feeling about the service we provide or any personal or local concerns."

The community meetings double as fundraisers for local groups, who prepare and serve dinner and benefit

The community meetings double as fundraisers for local groups, who prepare and serve dinner and benefit from any profits remaining after costs.

from any profits remaining after costs. This year the West Danville meeting will be held at the West Danville Community Church, co-hosted by the West Danville Community Club. The Groton meeting will benefit the Groton Playground Fund, and will be held at the Groton United Methodist Church.

"As we have in the past, something I'm sure we'll talk about is power supply – where we get the power that we provide for our members, how much it costs us to do that, and where we think we'll be getting or looking for our power supply in the future," said Patt. "We'll update people on our Coventry generation facility, where we just had a fire in August. If people want to discuss wind energy, that's fine and it's what we're there for. We had a good discussion about wind last year

in Worcester, mostly supportive of the Co-op's involvement with the project proposed in Sheffield and Sutton, but with people airing lots of differing opinions in a respectful atmosphere."

Focus on efficiency


This year the Co-op also has another important subject to discuss.

"One of our main themes will be that it's really time now for all Co-op members, and for the Co-op itself, to have a renewed focus on energy efficiency. This is increasingly important for the Co-op members' own interest – their pocket books – for the health of the Co-op, and for the health of the planet."

Driving these concerns are the increasingly volatile costs of wholesale power, and climate change.

"Efficiency Vermont is doing a great job statewide for Vermonters and for our members," Patt said. "What we want to do – since the Co-op has a tradition of being in the forefront in this area – is not just to rely on Efficiency Vermont to carry the ball but to find ways that we can provide leadership in energy efficiency, and encourage ourselves and our members to go beyond what others are doing. People are going to be hearing more about this from us. We'll be focusing on the kinds of things residents can do, readily and at no cost – or, if cost is a barrier, finding ways to make it easier for us all to accomplish greater efficiency and savings."

Efficiency won't be the only subject at the meetings, which take on a chatty, informal and neighborly atmosphere. But along with other aspects of providing reliable, affordable power, WEC sees efficiency as an important topic.

"And the community meetings this fall," Patt said, "will give us an opportunity to get the conversation started." 

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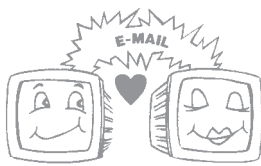
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Pole Inspection

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the Co-op's right-of-way. Those are employees of United Pole Technologies (UPT), a subsidiary of Asplundh tree services. WEC has contracted with the New Hampshire-based company to work under the direction of Ed Schunk, the Co-op's Transmission and Distribution Technician, who is heading up the inspection program.

This summer and fall UPT is working its way out from the North Tunbridge substation, following lines that extend service throughout the Tunbridge and Brookfield areas. Members might also see UPT employees completing work begun last year on circuits connected to the Maple Corner substation.

This summer those efforts have been concentrated in Calais.

"That'll wrap it up for now," said Schunk, reviewing the summer's projects. "We're hoping to be done for this year by the middle of October."

The drill

The pole-inspection program grew out of Washington Electric's 2004-2008 construction work plan. Like other RECs (rural electric co-ops), WEC operates on a four-year construction-lending cycle with its federal financing agent, the Rural Utilities Service (RUS). A comprehensive analysis of the Co-op's 1,256-mile, 10,000-member, 41-town distribution system had indicated that WEC could make more efficient use of its operations budget by paying closer attention to its power poles.

"We conducted a cost/benefit analysis and figured out that we could save significant amounts of money by delaying the rate at which our poles deteriorate and need to be replaced," said WEC Engineering & Operations Director Dan Weston. "If you go out and treat a pole it will continue to grow old, but it will be useful for a longer time."

The inspection program has improved the power-pole stock in the areas where Schunk and UPT have worked over the past three summers, but that has amounted to barely 25 percent of the poles on the entire system. However, the program provides a field sample of the status of the overall system. Weston and his staff will begin drafting another four-year construction plan in 2007, and the pole program will help them assess what projects should be their priority for improving the Co-op's electric system in the next cycle, and where pole-maintenance fits into those priorities.

For now, though, the immediate benefit of the inspection, treatment and replacement effort is maintaining the stock that's already out there – the poles that not only are helping to provide electricity to Co-op members but which also must be stout enough to safely support people who may have to climb them.

Starting at a substation and working out along all the circuits and feeders, the technicians do a small test bore on every utility pole 12 years old or older (most poles have a "birthmark" stamped upon them). Primarily, the inspectors are looking for insect damage and rot.

"UPT advised us that 12 years would be the right cutoff

Buying and replacing a power pole can be a \$2,000-\$3,000 proposition. And WEC has 24,000 of them!

point, to where it would be a waste of time to examine poles that are newer than that." Schunk explained. Newer poles, however, are visually inspected for obvious but rare damages like woodpecker holes,

burns from faulty electrical equipment, wildlife damage, or even vehicle damage from cars or snow machines.)

"Our system average for poles is 29.2 years old," said Weston. "Nationwide, the average is roughly 30 years. The typical useful life-expectancy of a pole is approximately 50 years. It varies with things like climate and soil conditions."

Attaining a 50-year life cycle, or at least something closer to it, is part of the program's purpose. If after drilling and sampling the pole is found to be sound, the workers excavate around it and treat it, a dozen or so inches above and below ground level.

"Most of the time the rot is at ground level," Schunk explained. "Usually a pole rots from the inside out, not from the outside in which most people would expect. The main reason we do the inspections in the summer is not just that it's more convenient in nicer weather; it's that in the middle of the winter everything freezes. You could do a screwdriver test on a bad pole [sticking a screwdriver into a pole to check for rot, a quick test linemen might do when working in an area during the winter] and it would seem fine. In the summer you do the same test and the screwdriver goes in like it's going into insulation."

It's not always apparent why poles deteriorate, but every bad pole the inspectors discover prevents a potential outage.

"We found a pole from 1989, just 17 years old, that the whole inside looked like termites had eaten it," said Schunk. "We never could figure out why. It was strange."

"We have so many miles of line, and there are so many poles out there. With this pole, the only way we would ever have found it would be if someone was walking the line crosslots during a storm; they might have seen it; but where the hole was, they probably would have walked right by it, thinking it looked fine."



by the industry to be safe, we respect and honor requests by members to not treat certain poles that may be of concern to them," said Weston.

In that situation good poles are left untreated; deteriorating poles are replaced

During the first three years of the inspection program, roughly 2 percent to 3 percent of poles tested and inspected have exceeded the acceptable level of decay and have been "condemned."

"The ones we condemn are poles that won't adequately support the wires and the weight under snow and wind-loading conditions," said Weston. "They have a red tag nailed to them. It alerts anyone – our linemen, the phone company, whoever – that the pole is condemned and unsafe to climb."

It is then put on a work order and scheduled for replacement.


"A two, two-and-a-half-percent replacement rate doesn't sound like a lot," said Schunk, "but when you're doing 2,200 poles [a year] it does add up."

Which makes regular and comprehensive pole inspection all the more important.

"It's a very cost-effective approach," Weston said. "We're extending the usable life of the poles. A complete inspection and treatment of a pole might run \$25. If we have to change that pole out, that can run to \$2,000 or even \$3,000."

"In essence, you can provide between five and 10 additional years of pole life by spending \$25. If we're getting another 10 years out of that pole, that's about 25 percent of its usable life, so we're going to be saving the Co-op somewhere around \$575."

That's per pole. And did we mention there are 24,000 of them?

You do the math. 

Safe treatment

The "treatment" given to a structurally sound pole helps seal out moisture and insects. Weston described the compound as a copper-napthenate substance.

"It is NOT creosote," he emphasized. "It's not volatile, and it is textured to adhere to the pole and not leach into the ground. It's similar to what poles are treated with at the manufacturer, and that technology has improved in recent years."

Nevertheless, in a small number of cases landowners have asked that the treatment not be used, perhaps because of a nearby water supply or, in one person's case, because her horses grazed in the pasture.

"Although the material is considered

WEC Is Coming To You

Co-op Community Meetings Set This Year for Groton, West Danville

Washington Electric Cooperative will continue a new tradition in October when the Co-op's leadership, including administrative staff and members of the Board of Directors, hold "community meetings" in West Danville (Tuesday, October 17) and Groton (Wednesday, October 18).

Both evenings, things start at 6 p.m. when dinner will be served, followed by

an informational meeting and discussion at 7 p.m. Reservations are required for the dinner, and Co-op members in those and nearby communities will receive an announcement and invitation in the mail with a reservation coupon they may return. There is a \$5 per-person charge for dinner. Others interested in partaking of dinner, but not on the local mailing

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