

# WEC CO-OP CURRENTS

## The People Under the Hardhats

### WEC Linemen Work the System

**T**hey are the face of the Co-op. The linemen are the first people you think of when your power goes out, or when a storm hits and the white or green trucks with the "WEC" logo prowl the roads of central Vermont looking for trouble spots. They are the face of the Co-op because they work in full view of the public, moving broken trees off the lines, hanging from the tops of the utility poles with their spiked climbing gear and leather safety straps while they dismantle the apparatus that conveys dangerous electric current, find and fix whatever went wrong, and reassemble the system – mindful to inconvenience WEC members as little as necessary.

They are the face of the Co-op because these are the guys you can approach and talk to when their trucks are parked beside the road or in some remote driveway or field, where they are busy at work.

People do just that. On a humid morning in late July, a homeowner picked his way over a muddy path in dense woods to where a crew was



**Washington Electric Cooperative's Operations crew.** 'Not everybody can be a lineman,' says their supervisor, Dan Weston. 'It's not a 7:00 to 4:00 job. It's a way of life.'

working. He was curious why his power had gone off and how long the interruption would be. (This was a planned outage, set for 8 a.m. on a weekday morning and expected to last less than an hour; WEC had tried to alert customers beforehand.)

In a small clearing at the base of a utility pole he encountered Class A Lineman **Dennis Bador**, a 33-year veteran with Washington Electric, wearing a hardhat and leather protective chaps. Dennis had shut down the power

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## 'Yes!' Members Approve Methane Project

**A** vote of Washington Electric Co-op members on June 29 gave overwhelming support to WEC's proposal to develop an electric-generation facility fueled by methane at Casella Waste Systems' landfill in

Coventry. Co-op members approved the proposal 1,633 to 86, in a vote largely conducted by mail.

"The Board of Directors is appreciative of our members' strong

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### Inside

**BUMPED.** Our linemen series displaced a good article on ways people can conserve fuel and energy without going broke (or suffering). We will publish that story in the September issue of *Co-op Currents*.

**Some utilities get all the breaks.** But if you think they're co-ops, you're wrong. See story on federal supports, page 2.

**Don't forget to shop at the Co-op Store!** WEC's menu of products and services is worth checking out. Page 7.



*The Woodbury/Calais Foodshelf is helping more Vermonters than ever. It's also the kind of organization WEC supports with its Community Fund. Want to help? See page 8.*

### Washington Electric Cooperative

East Montpelier, VT 05651

# Among Electric Utilities, Co-ops Get The Least Federal Support

By George Stuteville

The federal government provides far more in support to investor-owned utilities and to municipal utilities than to co-ops, according to a study by the National Rural Electric Cooperative Association (NRECA). The study was based on a variety of congressional and Department of Energy reports.

The annual study, released in March by the NRECA strategic analysis unit, showed that loans and government assistance to co-ops amounted to about \$8 per consumer-member in 2002, compared to \$57 per customer for municipals (called "munis") and \$35 for investor-owned utilities (IOUs).

"Getting these facts out is extremely important because we are beginning to hear that some in Congress who are not familiar with the electricity industry think that co-ops receive high levels of assistance from the federal government," said Dena G. Stoner, NRECA vice president of government relations.

With the federal government facing increasing deficits, Stoner said, all

expenditures are coming under closer scrutiny. She noted that the NRECA strategic analysis unit has compiled such statistics for several years to accurately inform lawmakers on the subsidy issue.

Using the Department of Agriculture's 2002 Statistical Report, "Rural Electric Borrowers," federal subsidies were calculated for 675 co-ops serving more than 11 million consumer-members.

They received about \$83 million in Rural Utilities Service (RUS) loans during 2002. After adjusting for federal and RUS interest charges, it resulted in about \$8 per consumer-member,

according to NRECA's analysis. Another 235 co-ops have repaid their RUS loans in full.

The differences among the types

of utilities becomes even sharper, Stoner said, after considering that, while IOUs average 34 customers per mile and munis average 44 per mile, co-ops, which serve sparsely populated rural areas, average only 6.6 consumer-members per mile.

Munis receive subsidies of about \$937 million, based on a calculation of federal revenue lost because of the

issuance of municipal bonds. That calculation was taken from a Department of Energy study of 516 munis in its 2002 report, "Financial Statistics of Selected Publicly Owned Electric Utilities."

IOUs charge rates that also include amounts for presumed federal tax liabilities, but thanks to various tax

breaks – such as investment tax credits and accelerated depreciation – they are permitted to retain most of what they collect for federal taxes.

The tax credits amounted to about \$3.3 billion in 2002, bringing the subsidy to IOUs to about \$35 per customer.

"Assistance to the investor-owned and city-owned utilities continues at high levels," said Stoner. "For co-ops, the appropriation to finance RUS electric loans continues at a very modest level."

This article first appeared in *Electric Co-op TODAY*, a publication of the National Rural Electric Cooperative Association.



## Federal Assistance to Electric Utilities

### INVESTOR-OWNED ELECTRIC UTILITIES

Number of systems: 174  
Investment Tax Credit: \$5.2 billion  
Accelerated depreciation: \$55.2 billion  
Total retained taxes: \$60.4 billion  
Annual cost to government: \$3.3 billion  
Total customers: 94 million  
Assistance per customer: \$35

Source: U.S. Dept of Energy (DOE/EIA), 2002 data

### MUNICIPAL ELECTRIC UTILITIES

Number of systems: 516  
Tax-exempt bonds outstanding: \$77.2 billion  
Total interest paid: \$3.9 billion  
Annual cost to government (24 percent marginal tax rate assumed): \$9.3 billion

Total customers: 16.3 million  
Assistance per customer: \$57

Source: DOE/EIA financial statistics of 516 selected publicly owned electric utilities, 2002

### RURAL ELECTRIC CO-OPS

Number of systems with RUS (federal) loans: 675  
Total RUS loans outstanding: \$10.6 billion  
Government cost of money less average interest rate on RUS loans (5.41 percent – 4.63 percent): 0.78 percent  
Annual cost to government: \$83 million  
Total customers: 11 million  
Assistance per consumer/member: \$8

Source: USDA 2002 statistical report, 'Rural Electric Borrowers,' November 2003

## Co-op Currents

*Co-op Currents* (Publication No. USPS 711 -210 and ISSN No. 0746-8784) is published monthly except February, May, August and November by Washington Electric Cooperative, Inc., Route 14, P.O. Box 8, East Montpelier, Vermont 05651. The cost of this publication is 35¢, which is included in the basic monthly charge to each member. Periodical postage rates at East Montpelier and at additional offices. Postmaster: Send address changes to *Co-op Currents*, P.O. Box 8, East Montpelier, Vermont 05651.

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### Editorial Committee

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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.

## Methane Project

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support for the Coventry project," said WEC President Barry Bernstein. "When we counted all the votes that came in – including votes that could not be officially counted because they came in after the deadline – the total came to more than 1,700 'yes' votes and only 87 'no' votes."

Membership approval came about three weeks after the Vermont Public Service Board granted WEC a Certificate of Public Good for the project. Now— with regulatory approval, the membership vote in favor of the project, and assurance of a \$7.32-million development loan from the federal Rural Utilities Service (RUS)—WEC has received all the official supports it needs. Casella is seeking a land use permit under Act 250 to expand its existing landfill, which is a part of the overall proposal.

Meanwhile, the Co-op is negotiating with construction firms that have bid on the project. Development will include a small building at the landfill site housing the generating equipment, and a 7.5-mile transmission line to carry the power to VELCO's substation in Irasburg,

where it will enter Vermont's electric grid. The Board's goal is for the project to be finished and providing power by January 2005.

However, the approvals by state regulators and Co-op owner-members constitute the beginning, not the end, of the Co-op's ambitious project to generate a significant portion of its power needs from landfill methane. Now comes the construction phase, followed by 25 to 30 years of operation and maintenance. But Bernstein paused after the vote to express his appreciation of the individuals and agencies that had helped the project move forward.

"Again, we want to thank everyone who has worked on this project and gotten us to this stage," he said. "Casella, the staff at the RUS, the Vermont Public Service Board, the state Department of Public Service, the Agency of Natural Resources, our consultants, our own Co-op staff, and WEC member John Warshaw. This has truly been a team effort, and the members of our Cooperative are going to benefit, with affordable, reliable and local renewable energy for a long time to come."



## Manager's Report

# Connections Between Coventry, Nevada and Montpelier

By Avram Patt

## Coventry Landfill Gas Project

I want to start by expressing gratitude to our members for their support of WEC's methane/electric-generation project, to be constructed in Coventry. We have put a great deal of effort into developing this project, writing about it in *Co-op Currents* and discussing it at four local area member meetings and our Annual Meeting in May.

Through all of that, and the many questions we've fielded by phone, email, letter and on the street, it has been rewarding to see the interest so many Co-op members have in where their Co-op will be getting its future power supply from. On June 29, when the ballots from the member vote were tabulated, we had a much higher-than-usual turnout, with 95 percent voting to support the project.

Thank you!

Casella Waste Systems is now awaiting some necessary permitting approvals for expansion of the landfill before we can begin construction. We are expecting work to start in September, and the plant to be generating electricity in January.

We will keep you posted, but for now, thanks again for your support!

## The Future of Wind Energy in Vermont

Last winter, we devoted most of the January/February *Co-op Currents* to wind energy in Vermont. We made sure to give space to opinions opposing wind energy development, even as we stated the reasons why the Co-op believes it is a necessary and good thing.

Since that time, I have to say that we have been disappointed by how our state government is dealing with this issue. First, the Agency of Natural Resources drafted a policy that would prohibit any utility-scale wind development on state-owned land. While most potential wind sites are not affected by this ban, it sends a clear signal about the administration's direction. Vermont allows communication towers to be built on state-owned ridgelines, and we allow ski areas to develop publicly owned mountains from the top to the bottom for commercial use.

We have also been concerned by other regulatory obstacles being thrown at developers looking to build wind farms – obstacles that may affect your Co-op's



Avram Patt

ability to put a small "slice of wind" in our own power supply mix.

Most recently, Gov. Douglas announced the establishment of a "Commission on Wind Energy Regulatory Policy," to see if wind projects should be subject to additional regulatory review beyond what Vermont law requires now. The current process, called "Section 248"

approval, is what WEC just went through to get the Certificate of Public Good for our Coventry landfill methane project, and it has for years been the process for reviewing proposals for any generating or transmission facility. The Public Service Board uses the exact same criteria for reviewing the environmental impact of a project as Act 250 uses, and there are the same opportunities for affected parties to participate and for public comment.

I can tell you from WEC's experience that even with the support of the state agencies reviewing our proposal, it wasn't easy. We dealt with wetlands, air quality, stormwater, wastewater, an endangered plant species, aesthetics and every other criterion that would be covered in any Act 250 application. As a developer, it was time-consuming, costly and sometimes frustrating. But as a citizen concerned about environmental impact, I felt the process did what it was supposed to do.

Now, the governor has asked a special commission to consider whether wind farms – and wind farms only – should be required to go through Act 250 or some other additional process as well as the Section 248 process I have described. It is astonishing that this would be considered at a time when we

claim we are trying to streamline regulatory processes and avoid duplication and red tape.

In Europe, residents are proud of their wind farms. The same is true in an increasing number of areas in this country. From talking to WEC members, and from surveys that have been taken among Vermonters as a whole, I believe the great majority of us are ready to accept some wind development into our landscape. There are, after all, only a few potential sites, so visions of all of Vermont's ridgelines planted with wind towers are just not accurate.

Wind projects should be put through a tough and public review process before they can be built. That process already exists, and our state government should start using it to review proposed projects, rather than stalling. WEC will be meeting with the commission later this month. Wind projects should be carefully and publicly scrutinized, but they should not be subject to a double standard.

## Vermont Yankee, Yucca Mountain, and the Measure of Time

Two items about nuclear power have been in the news lately, one local and one national, and they are related. Although Vermont Yankee has had its share of safety problems recently, with a fire and other malfunctions that were quickly corrected, the story that dominated the news was the "lost" fuel rods that were missing for several weeks.

What's the big deal about a couple of pieces of narrow rods – one seven inches long, the other 17 inches – that were eventually "found" in the storage pool, right where they had always been?

The big deal was revealed by a court ruling affecting the nuclear waste repository that the federal government wants to build at Yucca Mountain in Nevada. That location was selected to

take the high-level nuclear waste from the nation's nuclear power plants and military facilities. Site selection fell behind schedule, and completion of the project is still years away. The selection is being fought tooth and nail by pretty much everyone in Nevada.

And if the facility ever does open, all its storage space is already spoken for. Yucca Mountain does not have enough room to store all the high-level radioactive wastes that exist today, much less the stuff still being produced.

Some readers may remember that parts of Vermont were once being considered for this site. The Department of Energy was looking at granite formations, the most prominent of which runs right up the middle of WEC's territory. This was front-page news across Vermont in 1985, with huge public meetings attended by statewide elected officials and thousands of concerned citizens. The Department of Energy, with the encouragement of many of us, gave up on Vermont and Yucca Mountain was eventually picked.

What I think we learned was that there was something fundamentally absurd about plans for hollowing out mountains (creating new mountains of granite slag next to them), and eliminating whole towns for the transportation corridors.

Back then, we were informed of the mind-boggling fact that lethal nuclear waste has to be safely stored for at least 10,000 years—which is longer than all of recorded human history! We are trying to build storage facilities that will not only last that long, but also devise a means of communicating with whoever or whatever will be around then. On July 9, a federal court ruled that Nevada does not have the legal right to stop the government from building the repository. But the court also ruled that 10,000 years is not a long enough time to protect the public from these lethal materials. Our National Academy of Sciences has said that the peak life of radioactive emissions from nuclear waste at the site could last as long as 300,000 years! So the government needs to revise its plans before waste can be shipped to Yucca Mountain.

Let's contemplate what this means. Vermont Yankee and other nuclear plants are not only continuing to produce radioactive waste, they are looking to

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Co-op Currents Editor Will Lindner recently encountered this wind-turbine project in County Donegal, Ireland.

### For more on wind energy in Vermont, and Vermont Yankee and Yucca Mountain:

The August issue of *Vermont Business Magazine* (VBM) contains two detailed and balanced articles on these subjects. Copies are available at newstands and libraries. VBM also posts their featured articles on their website, [vermontbiz.com](http://vermontbiz.com) sometime after publication of the issue.

**WEC Linemen**

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for this section of line at the next pole over, and was now serving as “groundman,” passing tools and equipment up by rope to Maintenance Foreman Mark Maloney and Journeyman Lineworker Richard Hallstrom, at the top. Responding to the member’s inquiry, Dennis pointed at two sets of “capacitors” on the ground and explained that they were installing the devices to improve power quality in this area of Roxbury (which draws its electricity from WEC’s Jackson Corner substation, several miles away in Williamstown, and therefore can suffer “line loss,” causing a reduction in voltage). The power would be back within 15 minutes, he said – and it was.

Dennis Bador has been with Washington Electric since 1971. He lives in Worcester and raises treeing walkers, a breed of hunting hound. He speaks deliberately, as if choosing his words carefully, providing brief but informative answers. He knows people have a right to ask questions because everyone counts on having electric power. You need to be able to respond to them at the same time as concentrating on the tasks at hand. It’s part of a lineman’s job.

**‘A commitment, not a job’**

Most Co-op linemen, and especially the senior members of the crew who have been building, repairing and maintaining the system for decades, are used to answering people’s questions, sometimes under circumstances that are almost impossible for the questioner to appreciate. In a heavy snowstorm in January 2001, **Mark Maloney** was leading a small crew in Moretown, trying to solve a puzzling outage. It was mid-morning when a Co-op member tromped through the



Foreman Bob Fair at the controls of a backhoe, tidying up new right-of-way in Washington. Co-op linemen master a variety of skills in their work.

thigh-high snow to where Mark was deep in concentration, trying to analyze the problem. The member had been out of electricity for several hours and wanted to know when his power would be back on. Mark couldn’t tell him for sure, but explained what he thought would probably happen. It was a brief, respectful conversation – but the member had no way of knowing that Mark had been on the job for 26 hours, enduring the harshest weather, and foresaw at least another full day ahead for the crew before his head would hit a pillow.



Larry Gilbert

Maloney, tall and intense, is also a licensed electrician. And if the Co-op fielded a barbershop quartet, he would definitely sing bass.

All the members of the crew bring skills and talents. Although WEC’s linemen are cross-trained, Foreman Bob Fair relies on Class A Lineman **Gene Manning**, who has been with the Co-op since 1985, to drive the big truck with the

derrick and auger, and to operate those machines when they are setting new power poles. The other machine Gene handles well is a milking machine. He and his wife Pam operate Butternut Mountain Farm, a small dairy in Orange that in 1998 won the blue ribbon for best-tasting milk at the annual Vermont Farm Show.

There is a story for every one of these workers. Underneath the identical helmets WEC’s linemen are individuals, many of them Co-op members themselves. They are Vermonters with a demanding and challenging job.

“Not everybody can be a lineman,” says their supervisor, Operations Director Dan Weston. “It takes people with a particular kind of personality. Only people with a desire to be outside and an ability to work in extreme conditions, for extreme lengths of time, are cut out to be linemen. You can be frozen and tired somewhere in the mountains in the winter, or hot in Groton with mosquitoes all around. I tell



Ed Schunk

new people who want to apply that it’s not a 7:00-to-4:00 job, and don’t think it is. It’s a commitment to a career, and it’s a way of life.”

**Teamwork**

There’s only one way to know how demanding the job is, and that’s to do it. But the Co-op’s younger, newer line workers invariably cite their preference for working outside as a reason they applied for the job. **Richard Hallstrom**, a courteous and diligent employee from Waterbury Center who was hired in 1999, had his sights set on line work since he was a teenager. He wanted a career with stability and the kinds of skills people would respect, and he wanted more than anything to work outdoors. He got his wish.

So did Journeyman Lineman **Raymond Hall**, a cheerful, outgoing native of Groton. Hired in 2000, Ray knew what he was getting into; an outdoorsman, he had worked for Farr’s Tree Service, which clears right-of-way for the Co-op. Simultaneously, he was then, and still is, a logger.

Two characteristics make Ray a great fit for the crew, according to Foreman **Tim Pudvah**: Ray has a broad sense of humor, and a great sense of the teamwork that the lineman’s job entails.

“You listen to the two-way radio all the time when you’re in the field,” says Tim. “You can hear the guys talking on another job, and you picture where they’re working and you may remember something about it – where you may have replaced a fuse, or where there are trees close to the line. We help each other like that all the time.”

Tim and his fellow construction foreman, **Bob Fair**, are two of the Co-op’s most senior employees. They not only oversee, but participate in, the hard labor of building power line to the



Hans Pope-Howe



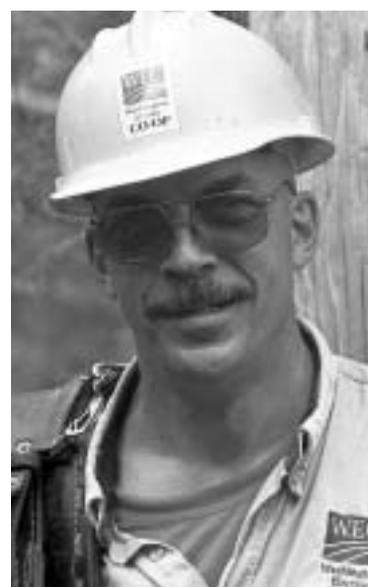
Richard Hallstrom



Larry Brassard



Tim Pudvah



Mark Maloney



Raymond Hall



From left, Gene Manning, Shane Blake and Bob Fair take a break while setting poles for a new line extension.

engineers' specifications. Before the crew even gets to the job site, the foreman has done the preparatory work to see that the team is ready to accomplish its task, and he keeps an eye out to make sure that safety, efficiency and professionalism guide the workers' performance.

Tim is quiet-spoken and gentlemanly, and carries photos of his four grandchildren in his job folder. Bob, a little bit rougher cut but cordial and quick to laugh, is a lineman through and through, always noticing details like the color of the wire stretched across a distant hillside (which tells him its vintage and condition). WEC's electric lines would stretch from Vermont to Georgia if they were placed end-to-end, but Bob and Tim know the system like Mark Twain knew the Mississippi River. They have repaired, rebuilt or constructed nearly all of it in their 30-plus years on the job.

### Plugged in

Caring for all that line frequently means going off-road. Linemen use snowshoes, snowmobiles, six-wheelers and plain old boot leather to track circuits that traverse mountains and cut through

fields and woods. In his 21 years with the Co-op, Class A Lineman **Larry Brassard** has hiked or driven most of it. Easygoing and quick to smile, Larry comes from an "electric" family: his sister, Denise Jacques, is a senior administrator with WEC, and two of his brothers are private electricians.

**Phil Poulin**, of Washington, is one of the quieter members of the crew. Solid and muscular, Phil has a pilot's license and once took Co-op administrators on a trip to get aerial photos of WEC's substations. With 10 years on the job, Phil is competent, hard-working and reliable.

If anyone knew what he was getting into as a lineman, it was **Larry Gilbert**, of Woodbury. His father, Larry Sr., worked on WEC's system for 29 years. As a youngster, Larry saw his father summoned at all hours during emergencies, including nights and weekends, and saw him come home to catch a few hours' sleep before heading out again. Larry Jr. went into HVAC work after school – interestingly, he serviced the heating and ventilation systems in missile silos in the western prairies during a stint in the Air Force – but he was drawn to the camaraderie and

outdoor lifestyle his father had enjoyed as a lineman. Larry applied for a position in 2001, shortly after Larry Sr. retired.

Apprentice Lineman **Hans Pope-Howe** is another one who cites the outdoors as a drawing card for utility work. Hans grew up in a Co-op home in East Calais, and received technical education as a mechanic. But Hans, tall, fair and rawboned, has "outdoors" written all over him, and began his apprenticeship at Washington Electric a year ago, about the same time he got married.

That was also when WEC added **Shane Blake**. Like Mark Maloney, Shane is a trained electrician. He was a crew foreman for Lambert Electric before hiring on with the Co-op last summer, three weeks after his daughter was born. Soft spoken and friendly, Shane is well into his apprenticeship. In July the Co-op sent Shane and Hans to "climbing school" in Maine, where they would learn and practice the skills that go into mounting a utility pole with spikes and harness, and setting themselves in

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## Power Quality: It Doesn't Happen by Itself

Line extensions occupy much of the Co-op's time during the summer months. But while construction crew foremen Bob Fair and Tim Pudvah are busy adding poles and wires to serve new homes and businesses, Maintenance Foreman Mark Maloney keeps a small crew at work on projects aimed at improving service and reliability.

WEC has a number of such projects in its sights. These include replacing faulty "cutouts" (a fuse mechanism), sectionalizing areas of the system so that if an outage occurs it will affect fewer people, and improving power quality.

It was the last of these – adding a capacitor bank to a three-phase line in the woods of East Roxbury – that Maloney, assisted by Rich Hallstrom and Dennis Bador, was doing on a recent July morning. As he explained the job, the inductive current passing through this circuit was experiencing deterioration – partly from "line loss," which occurs over long distances as current flows away from the substation, and partly from the drawdown of electric motors, like refrigerators. It was important to correct it because the effected line continued over the ridge above the East Roxbury Cemetery to serve Co-op members even farther out.

Maloney and his crew would mount capacitors on one of the poles, underneath the three primary conductors (electric wires) but above the neutral wire that ran below them. Capacitors have the effect of correcting voltage so that customers a long way from the substation can have the same voltage as people close by. Consistent, appropriate voltage is important to ensure that household equipment, from light bulbs to refrigerators to computers, runs properly.

For starters, Bador switched off the power at a nearby pole. With the lines de-energized, Maloney and Hallstrom disassembled the "close construction" hardware on the pole, which looks a little like the three balls that symbolize pawn shops; close construction is a way to send three-phase power lines through thick woods where the right-of-way is hemmed closely by trees.

They replaced the close construction with a new wooden crossarm at the top of the pole. To this they attached insulators to secure the electric wires, and fuses and a lightning arrester to protect the capacitors from a severe jolt of voltage from a lightning strike. Then they detached the neutral, moving it farther down the pole to make room for the capacitor bank.

At this point, Bador turned the power back on. Maloney and Hallstrom kept

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Ray Hall, at work on a hole for a new utility pole in Williamstown.

## KNOW YOUR CO-OP

# Line Extensions: The Summer's Work

*This month's stories on Washington Electric's Operations crew is part of a series highlighting Co-op employees.*

It's summertime, and for WEC's operations team summer is line-extension season. Despite the fact that the warm weather provides the best opportunity to catch up on maintenance projects and system improvements, from May through October, roughly, there is a unique imperative: to extend power to new Co-op members.

Every year, some 180-190 people build houses in the 41 towns of Co-op country. The Co-op must meet their needs for power as quickly as possible.

Some jobs are easy. If a home is built close to a road, it can be as simple as mounting a transformer on the nearest utility pole (to step the power down from 7,200 volts to the 120/240 volts appropriate for residences) and running a service line to the meter.

Other times, the job is significantly

more involved.

In July, a new home was under construction at the end of a long driveway off Lowery Road in Washington. When WEC is asked to provide service to a new location, the first thing the Engineering Department does is figure out how to connect the site to WEC's existing power lines. For a number of reasons, the shortest, most direct route isn't always available.

In this case, getting power to the new house meant building a half-mile extension – not from Lowery Road, but from a pole near Lambert Road, some distance away. The new corridor zigged and zagged through woods and pasture land, crossed Lowery Road to an open meadow, then ran beside the road until it dove underground for the final 1,150 feet to the residence, where carpenters were still banging nails.

Completed in just over a week's time, it was one of the longer line extensions on the Co-op's plate this summer. It

involved setting six new poles, with guy wires to counteract tension from the power lines, and three green junction boxes (called "terminating cabinets") for access to the underground cable. (Extra connections inside the cabinets are ready if, someday, someone else wants to build nearby.)

When Foreman Bob Fair and his crew arrived with two trucks and a backhoe on a July morning, contractors with chainsaws had already cut a 30-foot-wide swath through the brush and woods. The new corridor would allow the linemen to tap onto the existing power line near Lambert Road. WEC's engineers had staked the right-of-way, showing them where to dig holes for the poles. They also had to drill a hole – in ledge, as it turned out – for an anchor and guy wire to brace the old pole where the new extension would branch off at a 90-degree angle.

"If you don't brace that pole, the whole system falls right over," said Fair.

Building a line extension isn't necessarily a linear job, where you start at one end and proceed step-by-step to the other. Rather, you tackle what the weather, time, available manpower and equipment enable you to do. Over the next several days the crew worked both ends and the middle, using the truck's big augur, plus a manual hydraulic drill and sometimes even a sledge hammer, to dig holes for the poles and anchors. At times Fair broke away to operate the backhoe, tidying up the new corridor through the woods – moving tree trunks aside, mounding dirt and rock around newly set poles.

Holes for power poles are typically six to seven feet deep. Some were easy, as the augur spun through the earth with little resistance. In other cases they had to drill tediously through rock. The anchors, slim rods about eight feet long, can be a challenge, too. They have a threaded end that is supposed to splay out and embed itself firmly in subterranean materials. But when you're drilling into the unseen, things have a way of going awry. The crew just had to keep making adjustments and trying new approaches until all the poles and anchors were successfully set.

## Out of sight...

Then there was the underground: 1,150 feet of primary (7,200-volt) conductor taking off below the surface from the final new pole, traveling through three-inch plastic pipe to two junction boxes about 400 feet apart. A third box, closest to the new building, housed a



*Tim Pudvah, foreground, pulls the end of a new section of power line with a six-wheeler. As Tim drove forward, the slack line along a series of poles rose into place.*

transformer to reduce the power for residential use.

(The Co-op does not excavate the ditches for underground line. That is left for the homeowner or contractor. The Co-op owns and is responsible for underground primary, just as it is for the overhead lines; but underground secondary service – from the transformer to the resident's meter – is the responsibility of the homeowner, which is not the case for overhead service.)

Question: How the heck do you feed power line through hundreds of feet of buried plastic pipe?

Here's how. The linemen start by inserting a long string into the exposed end of the conduit, and pull it through to the other end with a powerful vacuum. Back at the starting point, they attach the string to a larger, sturdier rope. They pull the string carefully until the rope comes through, and then pull on the rope until the electric cable, to which the rope is attached, appears. They then attach the cable to a connection in the cabinet, and go through the same process for the next underground expanse.

Line-extension projects take on a life of their own. Careful planning can't account for the unpredictable. WEC performed 42 line extensions in June alone. More people are coming to Co-op country, and Washington Electric – indeed, all electric utilities, by state regulation – must make it a priority to prepare for them.

## Power Quality

*continued from page 5*

working, wrapping orange rubber sleeves around the neutral line to protect themselves.

As Bador passed tools and equipment up to them by rope, they drilled holes in the pole and mounted an aluminum frame to support the capacitors. Now all that was left was to attach the capacitors to the frame, and then wire the capacitors to the power lines so they could begin to function. Meanwhile, on the ground, Bador made his way through the thick vegetation with a small saw on the end of a long rod; the tool enabled him to cut away branches of a willow tree that were now too close to the new, wider power line construction.

From start to finish, the operation took about two hours. Because the improvements were made to a major circuit, they will reduce line loss and improve the quality of power reaching members in a large area. While the construction crews are extending WEC's system to new Co-op members, Mark Maloney and his coworkers are enhancing service to people who are already on WEC's lines.



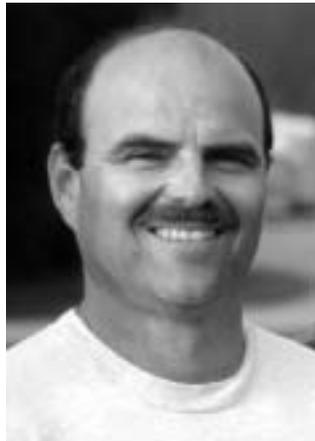
*Rich Hallstrom and Mark Maloney, working to improve power quality in East Roxbury.*

**WEC Lineman**  
continued from page 5

safe positions to work on the electrical equipment.

"Our linemen climb daily because of the rural nature of our system," says Weston. "With other utilities you're more likely to see them use a bucket (a truck-mounted elevation system), but our lines, in a lot of places, are so far back you can't get a truck to them. All of our linemen climb."

By the time apprentices have completed three years of classroom instruction in conjunction with 8,000 hours of on-the-job training, and have progressed from groundman — passing equipment to workers overhead, attaching



Phil Poulin

hardware to new poles before they are elevated and set, and other earthbound tasks — to journeyman, they have acquired a variety of skills.

"They can go out and build lines; they are certified blasters; they can safely cut down trees when they have to, they can run a jackhammer, and they have their CDLs (federal commercial drivers licenses)," says Weston. "One thing that's important: We don't want robot linemen. We want linemen to think for themselves out there, and be aware of what's going on around them. It's the best way for them to be safe."

**Ed Schunk**, a lineman since 1988 — and definitely not, his comrades say, one of the quiet types — has a unique role at the Co-op. Three years ago he became WEC's T&D Technician (it stands for "transmission



Dennis Bador

than yellow helmets atop the power poles or in the cabs of their Co-op trucks. They are individuals — "a bunch of strong personalities," says Co-op manager Patt — and yet are part of a team. Many have irreplaceable experience and know-how after years on the job; others are attaining

and distribution"), specializing in the monthly inspection of the substations. He also does line inspections, and knows how to survey power lines and corridors. "We needed someone familiar with the system and technically oriented," says Weston. "Ed bridges the 'hands-on' gap between engineering and operations (line crew)."

These 13 WEC employees are more

those traits. It's hard to imagine that you could buy the kind of service they provide in any other professional sector.

They are "the face of the Co-op." If you have a question about the work they're doing in your neighborhood, stop and ask. Yes, they're busy, but they are used to doing several things at once. It comes with the territory. 

# WEC CO-OP STORE

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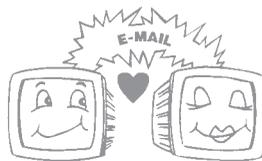
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# Woodbury Foodshelf Moving to Better Quarters; A Co-op 'Community Fund' Recipient

It's getting harder for Vermonters to make ends meet," says Georgia Myer of Calais. "Given gas prices, property taxes, fuel and utility costs, a family with two adults working fulltime doesn't always make enough to feed the family. Many of us are a paycheck away from needing a food shelf."

Myer is one of a core group of volunteers who operate the Woodbury/Calais Foodshelf. That gives her a perspective on the growing need in Vermont.

"Our numbers are up 40 percent from a year ago," she says. "We've gone from serving 60 people a month to (serving) 80 to 130. Previously, we saw the same faces every month for four or five years. In 2003, it suddenly mushroomed."

The food shelf had operated out of the basement at the Woodbury Town Clerk's office since its founding in 1995. The space was reachable only by a narrow staircase. Bulk foods had to be passed through a ground-level window. Faced with growing need, the volunteers launched a capital drive to build new quarters – and were gratified to find that they lived in a caring community. The Woodbury Fire Department and Auxiliary offered to let the food shelf attach a single-room addition to its building in the village, providing easier loading and unloading. People and businesses contributed labor and materials, refrigerators and freezers to accommodate the 4,000 pounds of food now passing through the food shelf each month.

Financial contributions came from several sources, including Annie's Naturals, the Farmhouse Café, Bourne's

Inc., Lambert Electric – and Washington Electric Cooperative. The Woodbury/Calais Foodshelf received one of the first donations from WEC's newly established Community Fund. WEC donated \$500, one of the larger Community Fund donations made in 2003.

"We estimated we would need \$32,000," says Myer. "We raised more than \$15,000 and received the equivalent of \$17,000 in donated labor. The Co-op responded to us immediately, and was a brick in the foundation of this project."

**To contribute your capital credit refund or to read more about the Community Fund, visit the "Member Info" section of WEC's website, or contact Deborah Brown at the Co-op office.**

## Consider donating your capital credit refund

Washington Electric's Board of Directors established the Community Fund last year, inspired by a central principle of the cooperative movement: supporting local organizations and causes with a positive impact on community life. In a report to the membership published in the February 2004 *Co-op Currents*, General Manager Avram Patt detailed \$6,929 in Community Fund donations during the first year, including the \$500 to the Woodbury/Calais Foodshelf.

Initially, WEC's Board capitalized the Community Fund with a one-time, \$10,000 contribution directly from the Cooperative. Going forward, however, the Board decided that the fairest way – from the members' perspective – to capitalize the fund was to invite members to donate their capital credit refunds to it.

In July, WEC mailed notices to all Co-op members, informing them that the capital credit refund program was gearing up for the 2004 distributions, and

where we get it from becomes more urgent as time goes on. Every source has some environmental impact, so choices must be made.

Washington Electric Co-op, through our long-standing support of energy efficiency and the development of projects like our landfill gas facility in Coventry, is taking steps in the right direction. But the efforts of one small co-op will not have much of an impact on Vermont as a whole, much less the nation. That takes effort not just by the energy industry, but by our state and national leaders.

Where we have opportunities to move to renewable and cleaner energy sources, we should pursue them, whether that is methane from landfills or manure, or from the wind that blows across Vermont. 



Volunteer Peter Peltz unloads construction materials at the new site for the Woodbury/Calais Foodshelf. WEC donated \$500 for the project from its Community Fund.

reminded members that they could choose to forego their refunds (typically in the range of \$10-\$40) and contribute them to the Community Fund instead. To do so, they needed to return the form in an enclosed envelope.

"So far the response is good," said Patt in early August. "But we want to remind people that they can still make that choice, even if they don't have the letter we sent anymore."

Recipients so far this year include Central Vermont Adult Basic Education, the Peacham Playground Committee, Habitat for Humanity and Twin Valley Seniors.

To contribute your capital credit refund or to read more about the Community Fund, visit the "Member Info" section of WEC's website, or contact Deborah Brown at the Co-op office.

## Food-assistance eligibility; Foodshelf hours

Meanwhile, the Woodbury/Calais Foodshelf is preparing for a grand opening. The volunteers are eager for people to know the qualifications for food assistance, since programs are more inclusive than many realize.

The Woodbury/Calais Foodshelf serves two populations. First are residents of Woodbury, Calais, Marshfield and Cabot, towns that make annual contributions at Town Meeting. There are no income guidelines for eligibility. Any resident of the four towns is welcome to use the food shelf as a resource.

The Woodbury/Calais Foodshelf is also a U.S. Department of Agriculture Commodities Distribution Site. For this, there are eligibility requirements. But Georgia Myer says they are more generous than people might assume. Examples: a family of two can earn \$1,926 a month (\$23,107/year); a family of four can earn \$2,906/month (\$34,873/year); a family of six can earn \$3,396/month (\$40,752/year) – and all still qualify.

No tests are given at the door. Says Myer, "We take people's word about their eligibility."

There are no geographical limitations for USDA commodities. You don't have to live in Woodbury, Calais, Marshfield or Cabot to qualify for assistance from the federal program.

**The Woodbury/Calais Foodshelf is open 9 a.m.-11 a.m., one Saturday a month. In the immediate future those dates will be August 21, September 18, October 16, November 20 and December 18.**

Although use of the food shelf has increased dramatically, Myer believes more people need help.

"We believe we're still only serving 30-to-40 percent of the need that's out there," she says. "We want to reach all of our neighbors who need help. This is a passion for us." 

## Marketplace

**FOR SALE:** Two white heavy wool Moroccan rugs (measurements include 6-inch tassels at each end): (1) 14'8" x 10'3". Price \$1,200. (2) 9' x 6'2". Price \$600. Willing to negotiate. Call 439-5316 (Corinth). Email: [jhdh@tops-tele.com](mailto:jhdh@tops-tele.com)

**FOR SALE** (several objects): Hayclone with 30-foot chute, used for loose hay or sawdust; \$250 or best offer. Heavy metal trip bucket loader; best offer. Encyclopedias (Grolier), never used; reasonable offer. Man's bicycle, \$20. Lady's Shasta mountain bicycle, like new; best offer. Mirro-matic 8-quart pressure canner; \$50. Verizon cell phone, with charger, extra battery, car charger; \$150. Antique clawfoot bathtub, washstand and toilet set, spoke handles with porcelain; \$300. Sink: white, single bowl, double drainboards; \$50. Home Supply well, troll tank; \$75. Brand new Stanley stacked tool boxes on wheels, comes with 50 non-electric tools; value \$425; will sell for \$200.00. Call 802-485-8266.

## Manager's Report

*continued from page 3*

extend their licenses and run longer than originally planned. The nuclear industry said this problem would be figured out many years ago. As I see it, there is no plan, never has been, and now, how are they going to deal with the 300,000-year requirement?

The nuclear industry likes to say they produce no "emissions" and therefore don't contribute to air pollution or global warming. High-level nuclear waste is an emission. Just because most human beings can't comprehend a 300,000-year time-span doesn't mean the legacy we're leaving behind isn't real.

## In Conclusion

Changing how we use energy and