www.washingtonelectric.coop

WEC CO-OP CURRENTS

Vol. 64, No. 7 | The newsletter of Washington Electric Cooperative, Inc., East Montpelier, Vermont. | October/November 2003

'A Godsend'

Co-op Power Reaches The Brainerd Farm in 1946

From the picture window in Harry and Joan Brainerd's living room you can see the broad green, sloping apron of their front field and yard, and the long driveway that curves down from their white farmhouse and barn to Taplin Hill Road, perhaps 150 yards below. Beyond the road the woods conceal the contour of the land as it falls away past the East Corinth fairgrounds, the Waits River swollen with rain, and Route 25. But the Brainerds have a beautiful view of the hills rising on the other side of the valley.

Those hills are mostly wooded now, with just a few patches of open land visible from the Brainerds' window and the glint from an occasional roofline on the ridge top. When Harry was growing up on this 400-acre farm in East Corinth – where he was born in 1926, in the same house as his mother (1894) and grandmother (1874) – the land across the valley was as open as his own, spread with the fields of working farms.

Fifty-some years ago those farms, like his, were waiting for the arrival of electricity.

Washington Electric Cooperative, with assistance from the federal REA (Rural Electrification Administration), was founded in Adamant in 1939. By the early 1940s the Co-op was reaching into neighboring towns and counties on its mission to sign up new members and bring electric power to rural Vermont. Harry Brainerd, 77, still has the agreement his parents, Leon and Florence Brainerd, signed with the Co-op on February 9, 1944, ceding a right-of-way across their land for the necessary poles and wires.

In those days few people quibbled about the specifics of the right-of-way, which typically ran crosslots, connecting the farmsteads via the most efficient route – as straight a line as possible. "They just wanted their electricity any way they could get it," Harry remembers.

It took a full two years after Leon and Florence signed the agreement for the Co-op actually to extend its power lines to the Brainerds' homestead. By that time Harry was a young man of 20, working for his parents as a hired hand.

"They started clearing the right-of-way for the electric lines in the spring of 1946," he says, "and got the poles set in the middle of the summer. They had two men who came through in an old Dodge Powerwagon, and asked each landowner to help what they could. The farmers and hired men helped haul the wires along on their own property, then the next farmer over would help out (the Co-op employees) on his land."

In marshy places where the Powerwagon couldn't go, horses were

continued on page 8

"I can't think of anything that changed our lifestyle the way electricity did. It was a Godsend, when it came through." says Harry Brainerd, above, with his wife Joan.

Inside

'Self starters.' WEC's technicians, above, keep your Co-op on course in countless ways. Read about Brad, Scott, George and Steve on page 4.

WEC, EVT, Promoting ENERGY STAR Homes

Cash Awards, Family Health, Incentives For Better Buildings

Al Rossetto, of A. Rossetto Construction in Waitsfield, is fond of saying, "You're not driving your father's car; why rebuild his house?"

His point is this: Construction materials have modernized since the 1950s, and so has our understanding of the flaws of traditional "stick-built" homes – the kind many of us live in, and the kind many new homeowners and contractors are continuing to build.

continued on page 2

Washington Electric Cooperative
East Montpelier, VT 05651

Statement of Ownership, Management, and Circulation

1. Publication Title	2. Publication Number	3. Filing Date
Co-op Currents	IS SN 0746 - 8784	9/30/03
4. Issue Frequency	5. Number of Issues Published Annually	6. Annual Subscription Price
monthly except February, May, August, and November	8	$2.79

7. Complete Mailing Address of Known Office of Publication *(Not printer) (Street, city, county, state, and ZIP+4)*
Washington Electric Cooperative, Inc.
PO Box 8, 75 VT Route 14 North
East Montpelier, VT 05651-0008
Contact Person: Debbie Brown
Telephone: (802) 223-5245

8. Complete Mailing Address of Headquarters or General Business Office of Publisher *(Not printer)*
same as above (7)

9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor *(Do not leave blank)*
Publisher *(Name and complete mailing address)*
Washington Electric Cooperative, Inc.
PO Box 8, 75VT Route 14 North
East Montpelier, VT 05651-0008
Editor *(Name and complete mailing address)*
Will Lindner
Washington Electric Cooperative, Inc.
PO Box 8, East Montpelier, VT 05651-0008
Managing Editor *(Name and complete mailing address)*
Avram Patt
Washington Electric Cooperative, Inc.
PO Box 8, East Montpelier, VT 05651-0008

10. Owner *(Do not leave blank. If the publication is owned by a corporation, give the name and address of the corporation immediately followed by the names and addresses of all stockholders owning or holding 1 percent or more of the total amount of stock. If not owned by a corporation, give the names and addresses of the individual owners. If owned by a partnership or other unincorporated firm, give its name and address as well as those of each individual owner. If the publication is published by a nonprofit organization, give its name and address.)*

Full Name	Complete Mailing Address
Washington Electric Cooperative, Inc.	PO Box 8, East Montpelier, VT 05651-0008

11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check box ☐ None

Full Name	Complete Mailing Address
Rural Utilities Service	U. S. Department of Agriculture Washington, DC 20250
National Rural Utilities Cooperative Finance Corporation	Woodland Park, 2201 Cooperative Way Herndon, VA 22071-3025

12. Tax Status *(For completion by nonprofit organizations authorized to mail at nonprofit rates) (Check one)*
The purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes:
☒ Has Not Changed During Preceding 12 Months
☐ Has Changed During Preceding 12 Months *(Publisher must submit explanation of change with this statement)*

PS Form 3526, October 1999 *(See Instructions on Reverse)*

15. Extent and Nature of Circulation			Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
a.		Total Number of Copies *(Net press run)*	8500	8500
b. Paid and/or Requested Circulation	(1)	Paid/Requested Outside-County Mail Subscriptions Stated on Form 3541. *(Include advertiser's proof and exchange copies)*	5175	5551
	(2)	Paid In-County Subscriptions Stated on Form 3541 *(Include advertiser's proof and exchange copies)*	3086	2781
	(3)	Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Non-USPS Paid Distribution	0	0
	(4)	Other Classes Mailed Through the USPS	0	0
c.		Total Paid and/or Requested Circulation *(Sum of 15b. (1), (2),(3),and (4))*	8261	8332
d. Free Distribution by Mail *(Samples, complimentary, and other free)*	(1)	Outside-County as Stated on Form 3541	157	157
	(2)	In-County as Stated on Form 3541	0	0
	(3)	Other Classes Mailed Through the USPS	0	0
e.		Free Distribution Outside the Mail *(Carriers or other means)*	0	0
f.		Total Free Distribution *(Sum of 15d. and 15e.)*	157	157
g.		Total Distribution *(Sum of 15c. and 15f)*	8418	8489
h.		Copies not Distributed	82	11
i.		Total *(Sum of 15g. and h.)*	8500	8500
j.		Percent Paid and/or Requested Circulation *(15c. divided by 15g. times 100)*	100%	100%

16. Publication of Statement of Ownership
☒ Publication required. Will be printed in the October 2003 issue of this publication. ☐ Publication not required.

17. Signature and Title of Editor, Publisher, Business Manager, or Owner: Managing Editor — Date: 9/30/03

I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).

Instructions to Publishers

1. Complete and file one copy of this form with your postmaster annually on or before October 1. Keep a copy of the completed form for your records.
2. In cases where the stockholder or security holder is a trustee, include in items 10 and 11 the name of the person or corporation for whom the trustee is acting. Also include the names and addresses of individuals who are stockholders who own or hold 1 percent or more of the total amount of bonds, mortgages, or other securities of the publishing corporation. In item 11, if none, check the box. Use blank sheets if more space is required.
3. Be sure to furnish all circulation information called for in item 15. Free circulation must be shown in items 15d, e, and f.
4. Item 15h., Copies not Distributed, must include (1) newsstand copies originally stated on Form 3541, and returned to the publisher, (2) estimated returns from news agents, and (3), copies for office use, leftovers, spoiled, and all other copies not distributed.
5. If the publication had Periodicals authorization as a general or requester publication, this Statement of Ownership, Management, and Circulation must be published; it must be printed in any issue in October or, if the publication is not published during October, the first issue printed after October.
6. In item 16, indicate the date of the issue in which this Statement of Ownership will be published.
7. Item 17 must be signed.

Failure to file or publish a statement of ownership may lead to suspension of Periodicals authorization.

PS Form 3526, October 1999 *(Reverse)*

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.

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.

ENERGY STAR Homes

continued from page 1

Those flaws can be serious. A 2002 study conducted by Harvard University's School of Public Health, led to the following conclusion:

"(I)f the 46 million existing single-family homes in the United States that have inadequate insulation were retrofitted . . . to meet the 2000 IECC (International Energy Conservation Code), *the benefits would include 240 fewer premature deaths, 6,500 fewer asthma attacks and 110,000 fewer restricted-activity days per year"* (quoted from a press release from the North American Insulation Manufacturers Association; emphasis added).

Such a sweeping retrofit of America's housing stock is not going to happen. But if it were done, the Harvard study said, the results would include "a potential savings of $1.3 billion per year in averted costs such as health care, and $5.9 billion per year in additional savings associated with reduced energy consumption, paying back the (investment in) insulation in about six years. The study based the projected health benefits on annual energy savings of more than 800 trillion BTU, which resulted in lower emissions of fine particulate matter and . . . SO2 and NOX."

Rossetto is one of a number of Vermont builders who advocate new construction designs for homes which do not radically change their appearance but do, radically, improve the way they function for their inhabitants. These builders have Efficiency Vermont (EVT), the state's "energy-efficiency utility," in their corner. If their construction projects are in the Co-op's service territory, they also have an ally and co-participant in Washington Electric Cooperative.

The objective is a 5-STAR home.

Vermont's program

"ENERGY STAR is a federal labeling program that helps consumers identify energy-efficient equipment, such as computer screens, washing machines, heating systems, ventilation products, lighting products and air conditioning, regardless whether they know anything about the technology," says Jeff Gephart, who works for EVT as a subcontractor to stimulate involvement with the program. "It (even includes) homes now."

The Vermont ENERGY STAR Homes

continued on page 5

In Celebration of National Co-op Month

Cooperatives worldwide generally operate using the same principles as adopted in 1995 by the International Cooperative Alliance. The principles are part of a cooperative statement of identity that also includes the definition of a cooperative and a list of cooperative values.

Definition

A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise.

Values

Cooperatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, cooperative members believe in the ethical values of honesty, openness, social responsibility and caring for others.

Principles

1. Voluntary and Open Membership — Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.

2. Democratic Member Control — Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary cooperatives, members have equal voting rights (one member, one vote) and cooperatives at other levels are organized in a democratic manner.

3. Member Economic Participation — Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. They usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing the cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.

4. Autonomy and Independence — Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.

5. Education, Training and Information — Cooperatives provide education and training for their members, elected representatives, managers and employees so they can contribute effectively to the development of their cooperatives. They inform the general public — particularly young people and opinion leaders — about the nature and benefits of cooperation.

6. Cooperation among Cooperatives — Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional and international structures.

7. Concern for Community — While focusing on member needs, cooperatives work for the sustainable development of their communities through policies accepted by their members.

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.**

WRV School Thanks WEC's Pole Cats

Editor, Co-op Currents:

On behalf of Waits River Valley School, our students and the Board of Directors, I would like to commend your crew for its efforts in assisting us to construct our high challenge ropes course. As I write this, the builders from Project Adventure Inc. are hard at work constructing the course on the poles set by your crew yesterday morning.

The Co-op's work in advance of the construction was invaluable. Thank you for working so hard to ensure order and delivery of the Class II poles we needed, as well as scheduling the crew to meet our time frame. We also want to thank the Co-op for donating four hours of crew time and equipment for the pole setting, which helped in keeping our budget within spending limits.

The crew that came to the site to set the poles was excellent. Tim Pudvah, working foreman, and Phil Poulin and Larry Brassard, linemen, were expert and efficient in assessing the site and working to set the poles in an unusual setting and challenging weather conditions. They were excellent to work with and did their jobs quickly and in great good humor. We commend them for their fine work.

Thanks again to (Operations Director) Dan Weston, your crew, and Washington Electric Co-op for your community service efforts in support of Waits River Valley School.

Charles W. Watson III
Associate Principal
Waits River Valley School
East Corinth

Chumps

Dear Readers:

The August 14, 2003, blackout that affected great portions of the U.S. Northeast and parts of Canada provided a fascinating subject for commentary, including General Manager Avram Patt's reflections in his Manager's Report in the September/October issue of *Co-op Currents.* What's more, we found a great photo to go with it, purportedly a satellite image showing what the blackout looked like from outer space.

But it turned out that we were taken in by an Internet hoax! Several readers contacted WEC to clue us in. One such message came from Jane English of East Calais, who wrote: "Great satellite photo of the blackout in the latest issue of *Co-op Currents*… except that it is a fake!!! I searched on Google for Geostar 45 and got only lots of links about it being a fake!!!"

Apparently there is no satellite called "Geostar." Nor is the footprint of the blackout, as shown in the "Geostar" image, an accurate portrayal of the area that went dark.

In addition to Ms. English, we heard from Roy Carlson of Middlesex, John Byrne of East Corinth and Brenda Clarkson of South Duxbury. We thank them for helping us set the record straight, and apologize to everyone else for our mistake. We were had!

Editor
Co-op Currents

Now, Call WEC for Mad River Glen Tickets

The geese have flown south, the temperatures are lower, and the prospect of snow has forced recognition that ski season is coming. And the Co-op has a member ski deal unlike what we have been able to offer before.

WEC members who ski at Mad River Glen—which is also a co-op—now are able to purchase day passes at the WEC office. The ticket price varies depending on the day, but weekday adult passes are one third off compared to tickets purchased at the Basebox.

WEC is now a ticket retailer, and members are eligible for special prices (see Co-op Store, page 7). You can call and order tickets by phone and pay with a credit card, and either pick up or we will mail tickets to members.

Get the boards tuned, pray for snow, and we'll see you on the mountain!

Know Your Co-op

WEC's Technicians: Jacks, And Masters, Of All Trades

George Mears and Scott Martino thought they had seen everything, in terms of hostile reactions when the Co-op has to disconnect people's meters for failure to pay their electric bills. But this summer a customer pulled a new one on Mears. When he showed up in his Co-op truck the man threw a jar of pickles at him – and not one of those small jars off the supermarket shelf, but a

'The number of things these guys take care of for the Co-op would make your head spin.'
— Avram Patt

restaurant-sized gallon jar of pickles packed in water.

Fortunately, it missed.

The "pickle incident" wasn't the most lethal reaction Mears and Martino have encountered. Nor, it should be noted, is shutting off power the only job these two skilled technicians perform for Washington Electric Cooperative. Along with mechanic Brad Nutbrown and Safety and Environmental Coordinator Steve Anderson (who supervises this team), Mears and Martino pitch in on an incredible number of behind-the-scenes tasks that keep the Co-op running, provide for the safety and preparedness of the lineworkers, and keep WEC in compliance with a range of state and federal requirements.

"Theirs is a kind of a catch-all position," says General Manager Avram Patt. "Almost everything that doesn't fall squarely into someone else's job description, these guys do. The number of things they take care of for the Co-op would make your head spin."

When your duties amount to more than a straightforward catalogue of X, Y and Z, it takes a special kind of employee, with a strong sense of responsibility, to answer the bell.

"We're self-activated," says Mears, who goes about life with such buoyancy that even when he's not grinning it looks like he's about to. "We get our stuff done. Like Wrightsville (WEC's hydroelectric facility at the Wrightsville dam just outside Montpelier). We've got to get down there to clean out the trash rack and inspect the turbines before snow flies."

"We wear a lot of hats," notes Scott Martino, a quietly conscientious employee who's been with Washington Electric since 1991.

Tales from the dark side

Maybe Mears should have been wearing a hard hat when he encountered the irate customer with pickle jar. Sometimes Mears and Martino need even more armor than that. Most customers faced with disconnection accept it as an unhappy reality (a "disconnect" is undertaken only after extended efforts – including a personal telephone call from a Member Services Representative and note-drop by Mears or Martino – have failed to persuade the customer to arrange a payment plan). But some resort to disagreeable tactics to try to frighten the men away. These include verbal threats, and pit bulls, shepherds and rottweillers chained to the electric meter.

"I carry pounds and pounds of dog biscuits," Mears says with a laugh. "It's cheap insurance."

Unfortunately, though, it's not a laughing matter, as both men have been bitten by dogs when performing their duties.

'I carry pounds and pounds of dog biscuits. It's cheap insurance.'
— George Mears

"We try to collect people's money while we're there," Martino says. "They can pay us and avoid disconnection."

For each home visit – whether for a note-drop (written warning that the meter will be disconnected on a date certain) or a disconnection – a $20 fee is added to the member's costs. "I've left stamped, self-addressed envelopes so they can avoid that charge," says Mears. To his amazement, some people ignore that gesture and pay him in full – including $20 or $40 in fees for home visits – when he shows up,

Perhaps even more troubling are attempts people make to steal electricity. These include placing magnets in the meter to slow the spin of the wheel, which doesn't work anymore because the disks are now made of aluminum. Some people have been known to fool with the wire, either above ground or below ground, to bypass their meters and try to get electricity for free.

"That's dangerous business," says Mears. "We use specialized equipment like Extendo sticks rated at 100,000 volts." Electricity isn't for laymen.

Disconnections are a last resort for the Co-op, says General Manager Patt.

"We accommodate people if at all possible when they're behind in their payments. But by the same token, we are a co-op, and we have responsibilities to our members not to lose money and increase everyone's cost of service."

Meter-minder

Shutting off meters when necessary is just one of Scott Martino's jobs. Another is testing them to make sure every member's meter accurately reflects his or her electricity usage.

It's not uncommon for utility customers to question their meters. These come in the form of high-bill complaints to WEC's office. However, Martino says that faulty meters almost always either speed up so much that a customer's bill goes through the roof, or quit working altogether. Both extremes are likely to catch the attention of the Member Services Department. Martino is sent to check it out and replace the meter if there's a problem.

High bills usually have another cause ("In 12 years of checking for faulty meters I've never found one that's out of tolerance with the Public Service Board's accuracy requirements," Martino says), so after the meter is checked WEC offers to work with the member to figure out the problem and reduce the bill.

'PCBs (found in transformer oil) were outlawed in 1979. When tests reveal it in our older transformers it's sent to a disposal plant. We're responsible for that oil from the cradle to the grave.'
— Scott Martino

Martino's job title is Stockkeeper, which means he concerns himself not only with electric meters but all the hardware and equipment the Co-op buys, installs and maintains for its power system. When crews go out to reconstruct a section of line or add onto the system to provide power to new members, it's Martino who accumulates the materials they'll need, and orders more to keep them well supplied.

There is also an important hazardous-waste component to his job – testing the oil in WEC's transformers for PCBs, a chemical additive.

"PCBs were used by manufacturers in the belief that they had heat-resisting capabilities," Martino explains. "They

were outlawed in 1979."

On an electric system more than 1,200 miles long, finding and testing suspect transformers is a gradual process. No presence of PCBs at any level is tolerated, and if levels exceed two parts per million the transformer is retired and the oil sent to a licensed disposal plant out-of-state.

"We get certified destruction reports once it's destroyed," says Martino. "We're responsible for that oil from the cradle to the grave."

High-tech

"Responsible" is an apt word for WEC's technicians. Safety & Environmental Coordinator Steve Anderson, besides supervising this small and flexible crew, shoulders some of the most important responsibilities in the company. He organizes monthly staff-training programs and sees that the linemen's rubber gloves and blankets – which are vital in their dangerous work – are tested regularly.

And that's just the start of it. Anderson, a Barre native who has worked on design and engineering teams for major urban utilities in Boston and Long Island, is point man for the facilities that actually put the power in the power lines: Washington Electric's eight substations and the hydro plant at the Wrightsville dam.

Respectfully, Foreman Bob Fair calls Steve Anderson (above) WEC's 'substation guru.'

Wrightsville is WEC's only power-generating facility. Its three turbines, housed in a bunker just downstream of the earthen dam that compounds 210 million cubic feet of water when full, produce one megawatt of power. That accounts for 5 percent of the Co-op's demand, although WEC cannot run the turbines when the reservoir's water level is low (primarily a summer concern). WEC is required by state and federal officials to maintain the "pond" at a minimum of 633 feet above mean sea level, and keep flow downstream of the dam at 25 cubic feet per second (or at a rate equivilent to the inflow of the reservoir, if it's less than that.)

Anderson makes sure those conditions are met constantly, and also oversees the performance and repair of the generating equipment.

His other specialty has to do with the substations. Foreman Bob Fair, noting the central role Anderson has played in the construction of new replacement substations in Moretown and South Walden, respectfully calls him WEC's "substation guru." Anderson works closely with the companies that design and equip WEC's substations. It's a complicated procedure including blueprint review, coordination of bidding processes, and the delivery of equipment (which WEC's personnel installs). Anderson's goal is to get the best deal possible for Co-op members while ensuring that the facilities will perform reliably and provide safety for the staff.

These duties don't extend only to the new subs. The older ones sometimes require upgrading. Anderson determines what's needed, negotiates for the purchase, and pulls all the pieces together.

"We're replacing two power transformers at the Tunbridge substation tomorrow," Anderson said recently. "They're coming by truck from Wisconsin, and we've got a crane coming to unload them."

Someone has to orchestrate these events, then make the calculations to ensure the new equipment works properly once installed. That someone is WEC's "substation guru."

Gearhead

And the list of the technicians' responsibilities goes on. They visit farmers to check for stray voltage, install whole-house surge protectors, keep an eye on the monitoring well for the underground fuel tanks. They sweep the garage floor.

"We're multi-faceted!," Mears beams. "When one of us is sick or on vacation it definitely impacts the rest of us. We work as a team."

That includes Brad Nutbrown, the Co-op's mechanic, whose castle is the last two bays of WEC's long garage and warehouse. Even he gets wrapped into the action when Mears, Martino or Anderson need a hand.

At other times, though, he's in a world of his own. WEC has three big trucks (two "diggers," equipped with cranes and drills for erecting power poles, and a bucket truck for overhead work), seven one-ton trucks for routine and emergency line maintenance, a dump truck with a plow, five pickups and a Blazer, a backhoe, two six-wheelers for rough terrain, a pair of Ski-doos, several generators and compressors and various trailers for hauling everything from utility poles to snowmobiles.

'Everything that has a motor or wheels on it, I have in my hands.'
— Mechanic Brad Nutbrown

And one mechanic.

"Everything that has a motor or wheels on it, I have in my hands," says Nutbrown, who brought his wealth of experience to the Co-op three years ago.

He doesn't just service and maintain the fleet; he modifies it, retrofitting standard truck bodies for the unique needs of an electric utility.

At this time of year Nutbrown is busily preparing the fleet for winter weather. WEC's personnel need to be able to get virtually anywhere in an emergency – and there are sure to be emergencies in the months ahead.

Perhaps not all will involve line workers. One of the technicians' proudest moments came not long ago when an elderly Co-op member dependent on life-support equipment in her remote, rural home needed an emergency generator when the power was knocked out by a winter storm. The local fire and ambulance services tried, yet couldn't reach her. But one of Brad Nutbrown's WEC vehicles made it through.

Perhaps they would have saved her life. As it turned out, it wasn't necessary. The linemen, alerted to the situation, restored her power just as the generator arrived.

ENERGY STAR Homes

continued from page 2

program provides incentives to building contractors for incorporating efficiency-related products and designs. The program focuses on three facets: the thermal efficiency of the home (insulation and heat loss), ventilation, and electric efficiency. Space heating and water heating are also considered.

"We work with anyone who's building a new home, and encourage them to build to ENERGY STAR standards," says Gephart. "An ENERGY STAR home meets a high level of thermal efficiency. In Vermont, it must be 30 percent more efficient in its thermal design than the international code.

"When you build a tight, well-insulated cell (building)," he continues, "you need to be concerned about the indoor air quality, having sufficient fresh air for the occupants and controlling moisture. We have ventilation criteria to address indoor air and combustion safety from backdrafts off wood stoves, fireplaces and any combustion appliance."

Efficiency Vermont is funded by an "energy efficiency charge" that appears as a line item on every Vermonter's electric bill. According to the ENERGY STAR Newsletter, lighting accounts for up to 15 percent of the total electricity used in homes; the newsletter says that a home equipped with "whole-house energy-efficient lighting" can expect to significantly reduce annual electric bills, perhaps by $150.

"EVT's services are funded by all of us," Gephart explains, "so the program needs a way to return savings on electricity to make it worthwhile to us as ratepayers."

Money Isn't All You're Saving

WEC now markets the statewide program in its service territory – with its own particular twists: enhanced incentives to encourage further efficiency measures, and financial awards going to the homeowner rather than the contractor.

To qualify as an ENERGY STAR home and receive a $100 award, a building must contain at least four fluorescent lighting fixtures in specific locations. The incentives increase for additional investments – up to 10 fluorescent lights and three ENERGY STAR-labeled appliances, which can net an award of $700.

"The builder gets the (cash) incentives," says Gephart. "Eventually the builder's client gets the larger financial reward, which is lower operating costs for heating, water heating, lighting and electricity."

Since the state adopted the national ENERGY STAR home program in March 2000, more than 1,000 homes, condominiums and apartments have

continued on page 6

ENERGY STAR Homes

continued from page 5

qualified for an ENERGY STAR rating. The ratings go from one star to five, and even to five-plus, which signifies exemplary performance in efficiency and ventilation.

"Almost 20 percent of the homes being built in Vermont meet ENERGY STAR criteria," says Gephart. "That puts us in the range of third or fourth highest among all the states."

WEC's 'New Homes'

Washington Electric Cooperative has championed electric and energy efficiency in its New Home program for years, providing technical assistance and financial incentives to people building in WEC's service territory. WEC continued to offer its own package of incentives and assistance after EVT became the ENERGY STAR service provider for other Vermont utilities. Since the beginning of 2003, however, WEC has worked in partnership with EVT. With the approval of the Public Service Board and the Department of Public Service, WEC now markets the statewide program in its service territory – with its own particular twists: enhanced incentives to encourage further efficiency measures, and financial awards going to the homeowner rather than the contractor.

"We want to be directly involved with our members and prospective members," says WEC Director of Products and Services Bill Powell. "We believe that's what cooperative member service is all about.

"Annually," he says, "new homes represent only about one percent of our membership, but this is where our growth comes from and we want to have as

Welcome To A 5-Star Home

As a first-time homeowner in Milton, Vermont, decades ago, Robert Henderson was duly impressed by the economic impacts of the 1974 energy crunch. When he built his next house, in 1978, he decided to reduce his vulnerability to fuel-price spikes by constructing thicker (six-inch) walls, fully insulated, with a vapor barrier.

"I discovered that it made a big difference in comfort, plus what it saved me in money," Henderson says. "So when it was time to build again I researched building methods and sent away to the U.S. government for information. I wanted an energy-efficient house. It's as simple as that."

The results speak for themselves. The house Henderson and his contractor, A. Rossetto Construction, designed and constructed last year on Power Road in Williamstown achieved the highest ENERGY STAR performance (in the Single Family Homes, 2,000-3,000 sq.-ft. category) of any 2002 home in the state. The annual award was presented last February at EVT's Better Building By Design Conference in South Burlington. Two other homes in Co-op Country – one in East Montpelier and another in Plainfield – won Honorable Mention.

It was no coincidence that Washington Electric Co-op member Henderson teamed up with Rossetto. His research had persuaded him to build with Structurally Insulated Panels (SIPs) – not by merely attaching the panels to a post-and-beam frame, but by using SIPs as the basic structural component.

"SIPs are tight houses, as tight as you can get," says Henderson.

His search for a contractor willing to go whole-hog with SIP construction led him to Rossetto, an advocate of SIP and other innovative features that reduce energy consumption, prevent condensation and mold (which causes subtoxic but unhealthy indoor air), increase living space and enhance comfort.

Rossetto went into the construction business after running a small remodeling company in Connecticut.

"What remodeling taught me is how houses fail," says the Fayston contractor. "I got tired of fixing the same problems. The newer houses had the same problems as the old ones. (Builders) took a very simple design system from the 1950s – sticks (lumber) and insulation – which was hunky-dory until we started tightening the buildings up for energy efficiency. That neglected the fact that buildings have to breathe."

Condensation forms in the interior walls where warm indoor air meets surfaces affected by cold outdoor air. Those opportunities are plentiful in frame houses where light switches, phone jacks and the inevitable gaps caused by shrinking wood and imperfect joints create myriad cracks and crevices. Moisture encourages mold, and those same wall cavities exude the tainted air back into the living quarters.

"As buildings got tighter our kids got sicker," says Rossetto. "Since the 1950s the percentage of the population with asthma has gone from 10 percent to 30 percent.

"What I did with Robert Henderson's house, and other houses I've done, is I've stopped using my father's (era) building techniques."

Robert Henderson's Williamstown home, constructed with Structurally Insulated Panels, was the most energy-efficient house built in Vermont in 2002.

In with the new

Did he ever! SIP panels resemble sheets of Styrofoam sandwiched between particle board. Cut to shape on-site, then glued and screwed together, the panels form a solid structure that is light in weight but is said to be stronger than traditional buildings, with a mere fraction of the air infiltration. In Henderson's case this structure was erected above a shallow, frost-protected slab foundation made of foam-Insulated Concrete Forms (ICFs), which is protected from moisture by an underground skirt of insulation that spreads away from the house. (The system also deflects rain and snowmelt coming off the house.)

Rossetto swears by the Structurally Insulated Panels for their impermeability and ease of construction.

"My largest SIP house to date took only 78 pieces to complete the exterior shell, and was erected in 10 days with a crew of four," he claims. "The small number of seams makes it possible to completely air-seal each one. Had it been framed traditionally there would have been around 200 plywood seams and 500-plus studs, joists, cripples, headers, etc., that would have had to have attention.

"Plus, a stud wall cavity needs to breathe to vent moisture. Too much ventilation in the wall cavity and the building is hard to heat; too little ventilation and mold grows. SIPs are inert. All they do is hold the building up and completely insulate and seal the shell."

When EVT inspectors examined Rob Henderson's house they determined that if all the detectable air leaks were somehow put together they would create a single hole two inches in diameter.

SIP homes do not achieve their integrity through mass. Like a Styrofoam cooler, the panels are lightweight. Henderson recalls with amusement, "The shell of this house weighed less than the truck that delivered it!" The house is anchored into the earth for greater stability.

The outside of Henderson's home is trimmed with thin concrete clapboards. Painted, they look like any other new clapboard – but they will not swell and contract with weather changes (like, for example, cedar), so paint them once and they stay painted until the paint itself deteriorates.

Henderson's Williamstown home is heated by a boiler not much larger than a desktop computer tower, which is attached like a fuse box to a utility-room wall. Propane fueled (Henderson has not completely escaped the energy cartel), the system heats the floors of his two-story home. He sets the thermostat at around 67 degrees and forgets it, as the heat level stays constant at about 72 and is not affected by drafts as with forced air. A mechanical heat-exchange system ventilates the house at regular intervals.

Henderson is especially fond of his triple-pane, heat-mirror windows, which reflect ultraviolet sunlight out and allow infrared light in.

"I can sit at a picture window when it's 28 below zero with the wind howling, and read comfortably in a T-shirt," he says, pointing to his first winter – the at-times record-setting winter of 2002-2003 – to prove it.

Despite these and other progressive innovations, Henderson's house is modest. He appreciates the limits of both his own and the planet's resources, noting as he shows a visitor the framing of an interior, room-defining wall, "there's no wood bigger than eight inches here, because that would be old growth."

"Robert Henderson is a knowledgeable, informed consumer," says contractor Al Rossetto. "He wanted to have a small impact on the planet."

With a 5-Star ENERGY STAR home, the contractor and his customer have achieved that goal.

much positive influence as we can on how people come into the Co-op fold. If they incorporate ENERGY STAR specifications they'll achieve significant cost savings from conservation, enjoy greater comfort, and enhance the resale value of their homes. They'll also help the Co-op control its costs for purchasing wholesale power, which helps every member of the Cooperative."

To help capitalize its New Home program, Washington Electric charges a $300 energy-assessment fee on new buildings constructed in its territory. The fee is in addition to WEC's $10 membership fee and costs for engineering and power line extensions (if necessary).

Obviously, new home owners cannot be required to exceed the Vermont Residential Building Energy Code. But if the homeowner and contractor work with ENERGY STAR to achieve high building standards, WEC extends further financial awards. This starts with a $150 "participation bonus," available only to Co-op members. There is a $500 award if the finished product qualifies for a 5-STAR rating, and WEC then offers an additional $500 if the new home incorporates a qualifying comprehensive mechanical ventilation system.

Washington Electric's 'New Home' incentives, when added to the $700 that EVT provides to the contractor for a 5-STAR house, can achieve a total value up to $2,450.

"By working through this process and making the necessary investments, people can be assured that they'll qualify for 5-STAR rating," says Powell.

WEC members looking good

Last February, Efficiency Vermont bestowed "ENERGY STAR Recognition" upon eight builders, statewide, who had achieved the highest-quality energy-efficient construction for specific projects in 2002. True, the sampling numbers were small, yet three of those eight awards went to homes owned by WEC members.

"Our Co-op accounts for only about 3 percent of the statewide residential market in Vermont," Powell says. "This concentration of awards suggests that Co-op members are making good decisions about construction and efficiency."

Rob Henderson at work in his comfortable and efficient 5-STAR living room.

Overall, Powell estimated that 30 percent to 40 percent of the homes built in the Co-op's service territory in 2002 achieved a 5-STAR rating from the ENERGY STAR program.

With its New Home program, and in partnership with Efficiency Vermont, WEC hopes more people will be encouraged to make similar wise investments. While the 2003 construction season has nearly passed, people are making plans for projects to commence next spring. Contacting Bill Powell at Washington Electric Cooperative is a great way to start planning for an ENERGY STAR-rated home that will safeguard your investment, provide more comfortable living, and protect your family's health.

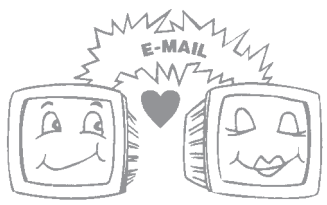
WEC CO-OP STORE

Whole House Surge Protection

• Meter-base Surge Suppression Device protects all household appliances from storm or other electrical surges. Installed by Co-op or your contractor. Fully warranteed to cover appliances from damage.

Cable Special Offer!

Protect your cable modem/ VCR/TV, other audio or computer devices with: **PANAMAX Max2 Coax Surge Suppression Device.** Retail value: $49.95. Member discount: $35.95 includes no-charge shipping.



Paying Too Much For Your Internet Service?

Try Vtlink's Switch-It Program!

Vtlink along with WEC will give you one-month NO CHARGE service for simply switching to Vtlink. Sign up today and receive 1-month service FREE, then pay only $17.95 per month billed by WEC. Send an e-mail to weclink@vtlink.net with your WEC account #, name, phone, and a good time to contact you. A customer service representative will respond to help you make the switch. Offer applies to new customers only!

Co-op Long Distance Telephone Service

- Reasonably priced
- No gimmicks
- Available to Co-op members
- Provided by Powernet Global
- Call 1.800.932.5245, or visit www.washingtonelectric.coop/pages/phone.htm
- **OR** call 1.866.216.0332 and switch today!

Special Ski Ticket Offer

Mad River Glen 2003/2004 Season
WEC Members Ski Cheap!!

Co-op Now Retail Ticket Voucher Site. Purchase voucher, ski cheap! Charge order in advance, and we'll mail to you, or stop at the Co-op Office.

WEC member prices . adult		jr/sr
Midweek	$30	$20
Weekend	$40	$28
Holiday	$45	$33

MRG regular prices . . adult		jr/sr
Midweek	$45	$33
Weekend	$45	$33
Holiday	$45	$33

Call the Co-op at 800-932-5245 or visit us on the web at: www.washington-electric.coop/pages/prod.htm

Brainerd Farm

continued from page 1

used to pull the wires.

Holes for the utility poles were dug by hand, and there were no cranes in those days to lift and lower them into place.

"They'd place the butt end down in the hole, then get a bunch of men with pitchforks to line up along the pole and push it up," says Harry, who wielded a pitchfork himself and helped set the poles across his father's land.

Those poles apparently stood there, unused, for several weeks, waiting for the wires to be strung and connected to WEC's new and growing distribution system. It was September before the current first flowed and the Brainerd homestead entered the modern world. Electricity wasn't entirely new to the family; like many rural people, they had a Delco generator, but at 32 volts it couldn't power any equipment or appliances.

"It was mostly just electric lights," Harry says, "and you'd be lucky to have one light in each room. We'd run the generator until we got done with chores, maybe a couple of hours after dark."

When the Co-op began providing the full complement of 110 volts, "It made farming easier, I'll tell you. I can't think of anything that changed our lifestyle the way electricity did. It was a Godsend when it came through."

Ready and waiting

The Brainerds wasted no time taking advantage of their new opportunity. Even before the power line was constructed they purchased a mechanical milk cooler and had it in their barn just waiting for the electricity to operate it.

Before then, getting ice to preserve their Jersey milk in warmer months was a tedious, imperfect process. The Appletons, who owned a nearby farm, were in the ice business; they harvested winter ice in huge blocks from Lake Morey and Lake Fairlee and stored it packed in thick sawdust to prevent it from melting. Once it was delivered to the Brainerd farm Harry and the other workers would break it up in the barn and set the milk cans around it, forever cleaning away the sawdust to keep the tank from getting clogged.

The mechanical milk cooler sat there waiting for the future, and when that future arrived it became the family's first electrically powered labor-saving device.

It was followed quickly by others: an artesian well in 1947, an electric refrigerator for the house. "We added one thing and then another until we were fully electrified," Harry recalls.

Two significant purchases followed a decade later – and these came directly from the Co-op itself. On September 1, 1959, the Brainerds bought a bulk cooler from WEC for $42.65 per month (60 months; total purchase price $2,559).

"Washington Electric came out and fixed up the tank, and all we had to do was put the milk in it," says Harry.

Above, the Brianerd farm in East Corinth. Right, Harry and Joan Brainerd, married 54 years.

Two years into that contract they signed another one, for a mechanical barn cleaner that cost $1,728 ($28.80 per month).

"They were (eager) back then to get you to use more electricity," he says. "They'd sell you anything they could to use more power on the farm."

There were reasons for that. First, electric co-ops were chartered specifically to improve living standards and modernize rural America. Co-ops all over the country marketed not only agricultural equipment but household appliances to their members, who still were fairly isolated and could rarely visit appliance showrooms in town.

Further, it was an expensive proposition, providing power in a sparsely settled service territory, where there might be no more than a farm or two along a mile of poles and wires. As much as those rural families benefited from their new milk coolers, Frigidaires and electric stoves, the co-ops needed revenue from power sales to stay in business.

Things went smoothly on the Brainerd farm until the ice storm of 1968, when Harry, standing in the field behind his house, watched the power lines sag under the weight of the accumulating ice until poles began snapping, one after another, across his land.

"When those wires hit the snow," he says, reliving the experience in his mind's eye, "it was like lightning going off."

However, the eventual result was that the Co-op rebuilt the lines along a new right-of-way, coming to his house and barn directly from poles along the road. Ever since then, Harry says, his electricity has been almost flawlessly reliable.

"I've had nothing but good experiences with Washington Electric," he says. "We're fortunate; maybe there's others who can't say that. But we've had almost no problems at all."

'A wonderful life'

These days the cows are gone at the Brainerd farm – Harry and Joan sold their herd in 1988 – and the barn, still straight and four-square (if you don't count the old silo), holds only artifacts of the farming life: a vintage butter churner, a separator and an antique settling pan that allowed the cream to rise to the top and the skim milk to drain from the bottom; an ancient "butter worker" with wooden paddles; a handsome spinning wheel inherited by Joan from her family.

On the wall in the milk parlor are Agricultural Quality Certificates from 1984, 1985 and 1986, attesting to the superior milk produced by the Brainerd herd, which had changed over from Jersey to Holstein along the way.

"Our herd average was 19,000 pounds of fluid milk per cow per year, and 643 pounds of butterfat," Harry says with satisfaction.

The immaculate barn now looks somewhat like a museum. In fact, yellow buses occasionally ascend the long driveway bearing little chatterboxes on a field trip to see a farm that has been written up in the National Registry. Harry has sold portions of the property to two of his daughters and sons-in-law, keeping the land in the family for the foreseeable future. It's unlikely there will ever be milkers in the modest-sized barn again, considering the growth of dairy herds numbering 600 cows or more in their part of the state.

But this retired farming family has no regrets.

"It was a wonderful way of life," Harry Brainerd says, "but it's gone."

Notice of Proposed Adjustment in the Energy Efficiency Charge to take effect in November 2003 for Non-Residential Ratepayers

On 16 October 2003 the Vermont Public Service Board (PSB) issued an order in Docket 6874 concerning the methodology by which the state-wide Energy Efficiency Charge (EEC) is calculated. Adjustments to the methodology were proposed by the Department of Public Service (DPS) to assure that charges were fairly distributed across customer classes, and supported by utilities throughout Vermont.

Starting with bills rendered November 1, 2003, the EEC for commercial and industrial electricity consumers will be adjusted to reflect a modification in the structure of the charge. The charge is assessed based on the amount of kilowatthour (kWh) and kilowatt (kW) usage shown on the monthly electric bill.

Vermont's residential electric ratepayers will see no change from the current EEC. The 2003 revised charge is expected to remain in effect until February 2004, at which time the year 2004 EEC will be implemented.

The Energy Efficiency Charge is paid by all Vermont electric consumers to pay for efficiency services that cost-effectively reduce Vermont's needs for electric power generation. Energy efficiency programs and services are Vermont utility requirements and are part of the cost of your electric service. The Vermont Public Service Board has found that energy efficiency programs benefit Vermonters in two ways: first by lowering the electric bills of individual customers who directly receive the services; and second, and more importantly, to offset more expensive utility power costs thereby lowering electric rates and bills for Vermont consumers over time. Efficiency Vermont provides these statewide energy efficiency services, including information, technical advice, education, rebates and other financial incentives for homes, farms and businesses. Over one in four Vermont electric consumers have already improved their energy efficiency with Efficiency Vermont's help. For more information about these efficiency services, contact Efficiency Vermont toll free at 1-888-921-5990 or at www.efficiencyvermont.com.

The revised 2003 charges are as follows:

WEC members. Effective on November 2003 bills, for October use, the charge will be as follows for WEC members:

Residential: . . . . . $ .002471 per kWh

Commercial:

Non demand members: . . . $ .002587 per kWh

Industrial:

Demand members: . . . . . $ .001418 per kWh, plus .185314 /kW/month

Street and Area Lights . . . $.087273, $.218182,and $.34091 per month for 100, 250, and 400 watt units, respectively.

Customers with questions about the EEC, or about energy services for WEC members can contact WEC at 1.800.932.5245,or: www.washingtonelectric.coop. Also for more information about the EEC, please contact the Department of Public Service toll free at: 1-800-622-4496.