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MEMBER NEWSLETTER OF CENTRAL VIRGINIA ELECTRIC COOPERATIVE

"Improving the quality of your life in a quietly impressive way."

Summer 2014

Volume 23, Number 3

FOR YOUR COMFORT & CONVENIENCE

When the Derecho hit Central Virginia on the last day of June in 2012, the weather was hot and the damage was considerable. People went in search of ice to keep food cool and hauled fuel to power generators for a limited amount of electricity. Living without electricity is difficult and attempting to replace it is expensive and labor intensive.

That is why one of your Cooperative's top priorities is **reliable service**. We even have a department of people who work on that every day so that you don't have to ... and they have a pretty good strategy:

1. Keep the lights on by reducing faults.
2. Limit the impact when faults do occur.
3. Respond and repair as quickly as possible.

1. Keeping the lights on by reducing faults:

Most outages on the CVEC system are caused by trees growing outside of the 40-foot power line right of way (ROW) that fall into the ROW and onto or through the power lines. No longer isolated and insulated, the trees provide a path to ground for the electricity, which creates a short circuit.

In addition to our regular ROW maintenance work (\$1.6 million annually) CVEC has added some new activities to keep the lights on:

- Increasing the pace and scope of ROW work, including removing dead or diseased **danger trees** growing beyond the ROW (with the property owner's permission).
- Clearing single-phase lines and ensuring that lateral branch growth is trimmed in a timely manner.
- Adding wildlife protectors.
- Improving grounding where necessary and adding lightning arrestors.
- Utilizing vegetation management software and distribution system monitoring to track and analyze our efforts compared to incidents and outages.

Of the three strategies, keeping the lights on provides the greatest benefit to members, receives the majority of investment, **and it is something that we work on every day.**



Continued on next page

COMFORT & CONVENIENCE (continued)

2. Limiting the impact when faults do occur:

With 4,500 miles of power line flowing through rolling to rugged rural terrain, it should come as no surprise that trees are far and away the number one cause of outages, often in combination with a weather event. After trees, outages occur as a result of animals/birds, lightning, equipment failure, and actions by the public (*auto accidents, tree cutting, farm equipment, etc.*)

CVEC is working to increase the number of protective devices located along the distribution line to isolate faults when they do occur.

This includes:

- ✓ putting fuses at the take-off point on all single-phase “tap lines.”
- ✓ segmenting three-phase lines with protective equipment that will isolate the fault and keep as many people in service as possible.
- ✓ looking for opportunities to construct alternate paths to back-feed power.

While fewer in frequency, when one of the transmission line companies drops the power feed to a CVEC substation, every member is instantly out of service and will be until service is restored by the Investor-Owned Utility that delivers energy to the CVEC distribution system.



You are invited ...

Did you see the live Internet stream of the CVEC Annual Meeting last June? 300+ members who could not attend in person, watched the reports and elections from the comfort of his or her home.

It worked so well, CVEC will hold a Town Hall Meeting with CEO Gary Wood on Wednesday, October 22, from 7 to 8 PM.

Gary Wood will give a brief overview of the Cooperative's efforts to assure that reasonably priced power is delivered in a reliable manner to Co-op members. Visit www.mycvec.com and follow the special Town Hall link displayed on the home page.



Members will be able to ask questions of general interest thru the website. Please call the Co-op at 800-367-2832 during normal business hours if you want to discuss your account or a specific issue.

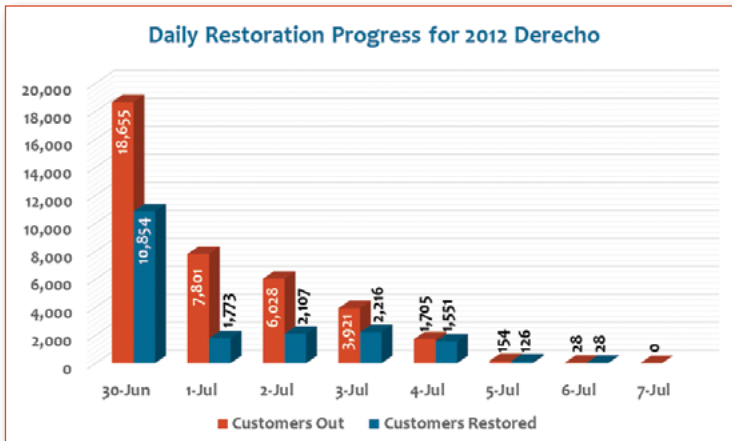


3. Respond and repair as quickly as possible:

Too late! Snow falls, winds rage, trees topple, and the lights go out. Despite all of the planning and best efforts, outages will occur, particularly in Cooperative territories that have radial lines. Radial lines stretch from the substation, delivering electricity out to the end of the circuit, branching off as they go, with no alternate source of power. One downed tree may affect hundreds of members or it may affect half a dozen members. After a major weather event, there may also be hundreds of trees down that need to be cleared before all members will have service restored.

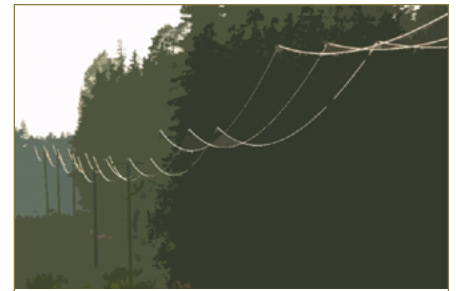
CVEC has worked to establish a quick response and repair process, including:

- ☑ positioning linemen prior to a major storm with stocked vehicles and rallying volunteer linemen from other states ready to pitch in.
- ☑ taking what the system gives you. Since the primary (*three-phase*) circuits feeding out of the substations provide energy to all single-phase lines located farther down line, clearing the primaries first is logical and necessary. This step permits the most members to see power restored as soon as possible (*typically over 50% in the first 24 hours ... see the chart below*).



- ☑ working with information provided by members to the CVEC Outage Management System, which will predict the fault location that will be found down line from a protective device, such as a recloser, that operated when the fault happened and turned off the power to prevent further damage.
- ☑ keeping members and community leaders informed about the process of and the progress with repair efforts. Look for an updated outage web map with greater detail before the end of the year.

Keeping the lights on ...
minimizing the impact and responding to outages
so members enjoy the good value of
comfort and convenience powered by electric energy.



CVEC contract crews will be clearing rights of way in the following areas:

- Appomattox
- Bryant
- Kidd's Store
- Martin's Store
- Nellysford
- Scottsville
- Vera

If you have any questions,
feel free to contact us
at
800-367-2832
or
ms@mycvec.com



CVEC DELIVERS VALUE:
COMFORT &
CONVENIENCE

CVEC'S PROCESS OF POWER RESTORATION: A PRIMER

While CVEC constantly focuses on service reliability, members' attention quickly rises when a storm creates an outage. Here is some basic information about the nature of the distribution system, outage reporting, and service restoration.

Distribution System:

CVEC has more than 4,500 miles of line fed out of 30+ substations and metering points. A good portion is overhead line that features three-phase lines (*three wires that sit atop crossarms*) serving as primary feeders, and single-phase lines that take off from the three-phase lines. They travel overland to reach into coves, valleys, and rural neighborhoods. CVEC also has underground distribution lines, mostly in planned communities where developers have paid to install the conductors underground or on individual accounts where some members have selected that option for the wires that run between their individual transformer and their house.

CVEC's distribution system is designed to have a useful life of 35-years and represents an investment of more than \$200 million since 1937. It is constantly being tested, repaired, and upgraded to ensure adequate capacity and normal service reliability. At present, CVEC invests \$8 to \$10 million annually in upgrades to the distribution infrastructure.

The distribution lines are radial, essentially in the shape of a tree, with the trunk being the primary feeder, and then having lines that take off in different directions like the side branches of a tree. The line continues to branch off until small tap lines arrive in neighborhoods or clusters of homes.

Protective devices, fuses, and breakers are installed all along these lines and at the beginning of tap lines. These devices operate when an object gets between the line and a grounded surface (*such as when a squirrel stretches from the metal transformer to the energized line or when a tree falls on a power line*), which is known as a fault condition. When a protective device does operate, the line is de-energized (*think of a circuit breaker in your house*) and every member beyond that point is without electric service. These devices limit an outage when a fault condition occurs; otherwise, the line would trip all the way back to the substation and everyone on the circuit would be out of service. 📍

Outage Reporting and Communications:

What happens when a storm arrives? Trees growing outside of the ROW can fall into the power lines as a result of wind, root release, or ice/snow load, creating a fault condition and possibly greater damage: breaking poles and tearing down the conductor. When that happens, a fuse or breaker located up-line (*closer to the substation*) will operate and de-energize the entire line beyond that point.

At this point, CVEC begins receiving calls from members. As our service reps take calls, the information is entered into the Outage Management System (OMS), but little information is known at that time. About 80% of CVEC's members use the Co-op's website or the Automated Reporting System, by verifying their account or primary phone number. This process allows CVEC to handle upwards of 1,000 calls per hour and enter the outage information into the OMS. As calls come in, the OMS will analyze the data and predict the fault locations on each circuit (*at least the first fault location on the circuit exiting the substation*) and dispatch a crew to where they can do the most good.

During this time, Dispatchers and Member Service Reps have little information about the extent of the damage or the number of fault locations that exist between the substation (*the source of power*) and each member's house. Members want to know how long until their service will be restored. Factors affecting restoration include any number of conditions:

- » One tree down, which will likely require 2-3 hours to clear and re-energize the line.
- » One tree down with a broken pole and downed line, which might take 4-5 hours to repair.
- » Numerous trees down from a major storm in multiple substations. We have seen upwards of 2,000 trees cleared during a major weather event. In those circumstances some members will experience a one-day outage and others will experience a multi-day outage.
- » Trees down near the end of the line that create outages for small clusters of homes in a neighborhood. Restoration work to restore service to half a dozen



homes in each cluster may take several hours only after the primary circuits have been opened and energy is flowing.

Other factors that affect the service restoration time include steep terrain, trees still falling in the work area, and heavy snow or boggy soil that limits access with heavy equipment, requiring crews to carry in equipment and tools.

The OMS will ask members if they wish to receive a call when our system predicts that their power has been restored. If a member gets that call and power is NOT restored, there are probably additional fault locations between the substation and their location. It is best for them to report the outage again.

CVEC provides updates about restoration progress to members about significant and extended outages by way of our website, Facebook, and press releases. An outage from a single fault location will likely be cleared before we have full information from the field.

Later this year, CVEC plans to introduce a mobile application that will pro-actively notify members when we predict that you have an outage and will be able to send updates directly to a smart phone. 📍

CVEC RESPONDS TO OUTAGE CALLS 24/7!

Member Service Reps and Dispatchers take calls during the business day and evening. When no employees are on duty or we experience high call volumes, CVEC is backed up by our business partner, the Cooperative Response Center (CRC), a communications cooperative that takes overflow calls from members and assists with payments and outage entry. CRC can answer thousands of calls during an outage and it supports the manual outage entry efforts of CVEC employees.

Of course, the speed and accuracy of the Cooperative's automated phone system makes it the best means for entering information into the CVEC Outage Management System where that data will be analyzed and crews dispatched to make repairs.

While CVEC reps wish to be helpful, they do not have the ability to predict service restoration times for an individual service nor a portion of the service area. They are not in direct contact with linemen who are trained to focus on working safely and efficiently under dangerous conditions. A typical outage will only take a few hours to resolve, but widespread, multi-day outages caused by major weather events may affect a member for a few hours or a few days depending on a variety of factors. In that instance, CVEC will share general information received from supervisors in the field about the extent of the damage and the overall progress of restoration efforts in each substation area. 📍

Service Restoration:

While we covered single-fault outages above, major outages deserve a little more attention.

A severe storm will drop hundreds of trees, causing multiple fault locations along every circuit out of many substations. Personnel are dispatched to patrol lines and the OMS identifies the fault locations closest to the substation on the major lines.

As crews work along the primary circuits, starting near the substation, they clear trees, make repairs, and re-energize the line, hoping the electricity will flow to the end. During this event, crews often find that when they re-energize a line, the electricity doesn't flow to the end, more likely it travels only a few hundred feet down line until it reaches another downed tree, exposing another fault location and causing another protective device to operate. On tap lines and far away from the substation, the same amount of effort likely will restore service to fewer members.

As work progresses and primary circuits are cleared, more than half of the members will likely see power restored in the first day. Crews also proceed down single-phase lines, using the same clear and re-energize process that occurred on the main circuits. While necessary, the same amount of effort restores power to only a few people.

In the final days of the outage restoration process, crews are working multiple hours near the periphery of the system to restore service to small neighborhoods or even to single family homes. The work is just as hard but progress is slower given the distance from the substation and fault locations that affect small clusters of members. 📍

How to win \$500 (without leaving home!)

Every year, in conjunction with the CVEC Members' Annual Meeting, we offer a chance for cash prizes to all members who can't attend, but who send in their proxy ballot. The drawing is for \$100 credit on the electric bill of 10 members whose ballots are drawn. The 2014 winners are:

- ♦ **Ms. Maribeth Mills** | Afton
- ♦ **Mr. Ernest A. Talbert** | Dillwyn
- ♦ **Ms. Barbara Connelly** | Dillwyn
- ♦ **Mr. & Mrs. A. W. or Emma F. Brown** | Keswick
- ♦ **Mrs. William Johnson** | Keswick
- ♦ **Mr. G. Neil Means** | Keswick
- ♦ **Ms. Nancy Avery** | Nellysford
- ♦ **Ms. Brenda Morris** | Palmyra
- ♦ **Ms. Brenda Richardson** | Pamplin
- ♦ **Mr. & Mrs. Curtis or Susan McIver** | Roseland

Further, we annually offer one **Grand Prize**. The winner receives **\$500 cash!** This year's lucky recipient was:

Mr. Steve W. Barnett
Faber, VA

Congrats to all,
and thanks for participating in
your membership cooperative! 🍷



SHORT BURSTS

Bill payment tips

Remember that your account number has changed. Be sure to use the new one to ensure having your payments credited to your account. It's on the mail tab of this newsletter!

Also note, we have discontinued one of our PO boxes that has been used to receive payments. This box was chiefly used by those of you who have arranged for **automatic bank payments**. If you use your bank's bill pay service, please check and be sure your bank is using the right address.

- Use P.O. Box 7417**
- Don't use P.O. Box 7405**

Better yet ... just always be sure your payment is noting the account number and going to the address on your monthly invoice. 🍷

Keeping the cards and calls coming

Because reliability is our goal, new upgrades and work projects become necessary. Our linemen are doing some of the work, but they also have maintenance and service work to keep up with. So contracting some of the rebuilding work becomes essential.



You will see many trucks and crews working in our rights of way and on our poles. The trucks are seldom red like ours! So we are trying to inform our members when there will be contractors in their area.

We will also inform you when there is a planned outage, whether due to localized work being done by CVEC and its contractors or by one of our energy suppliers that could affect the whole substation.

We are sending postcards, making phone calls, and sometimes knocking on doors. Keep your eyes and ears posted for mail and pre-recorded phone messages coming from CVEC so you'll know if we'll be working in your area.

As always, if you have questions, feel free to contact us at

800-367-2832 or
ms@mycvec.com

 CENTRAL VIRGINIA ELECTRIC COOPERATIVE P.O. Box 247 Lovington, VA 22949-0247 800-367-2832 www.forevec.com		ACCOUNT NUMBER 123456-7	STATEMENT DATE 8/25/14
<input type="checkbox"/> Check this box for address/telephone correction or message. Please print on reverse side.		PAY PAST DUE BALANCE BY	PAST DUE BALANCE
TOTAL CURRENT CHARGES DUE BY 9/25/14	TOTAL CURRENT BALANCE DUE 185.83	TOTAL CURRENT BALANCE: THIS MONTH 185.83	
AMOUNT ENCLOSED \$		07963886388000003755771474	
CENTRAL VIRGINIA ELECTRIC COOPERATIVE PO BOX 7417 MERRIFIELD VA 22116-7417 			



CAPACITY CHARGES: ...A New Aspect

As you know, CVEC began a transition from a ten-year, all-requirements, flat-rate wholesale energy contract in June of 2012 to a diversified energy portfolio comprised of multiple contracts and energy sources of various durations. As CVEC assembled our wholesale energy portfolio, we bridged the three-year period with a contract from Constellation Energy who serviced our previous ten-year contract.

CVEC's goal is to ensure that members have a reliable and reasonably-priced source of energy with the expectation that the expiration of one source will not have a significant impact on the overall rates as might happen with a single-source all-requirements contract.

Charges that were once included in a flat-rate energy contract present a new consideration with which CVEC must contend. One of those charges is a "capacity charge," which is determined by totaling and averaging the five coincident peak hours of energy use across the 13-state Pennsylvania, New Jersey and Maryland Regional Transmission Organization (www.pjm.com).

CVEC started paying separately for capacity charges in June of 2012 and passing that charge through to CVEC members as a Power Cost Adjustment (PCA) line item on the CVEC bill, along with other factors that cause wholesale power costs to fluctuate from month to month. During some months, the PCA is less than a penny per kilowatt-hour. In the early fall of 2014, the PCA will be about 1.5¢ per kilowatt-hour. It is then expected to fall beginning in June of 2015.

Look for more information about Wholesale Energy in other CVEC newsletters and online at www.mycvec.com.



CVEC DELIVERS VALUE: COMFORT & CONVENIENCE

Energy Saving Tips | **Ceiling Fans:**

Use Them!

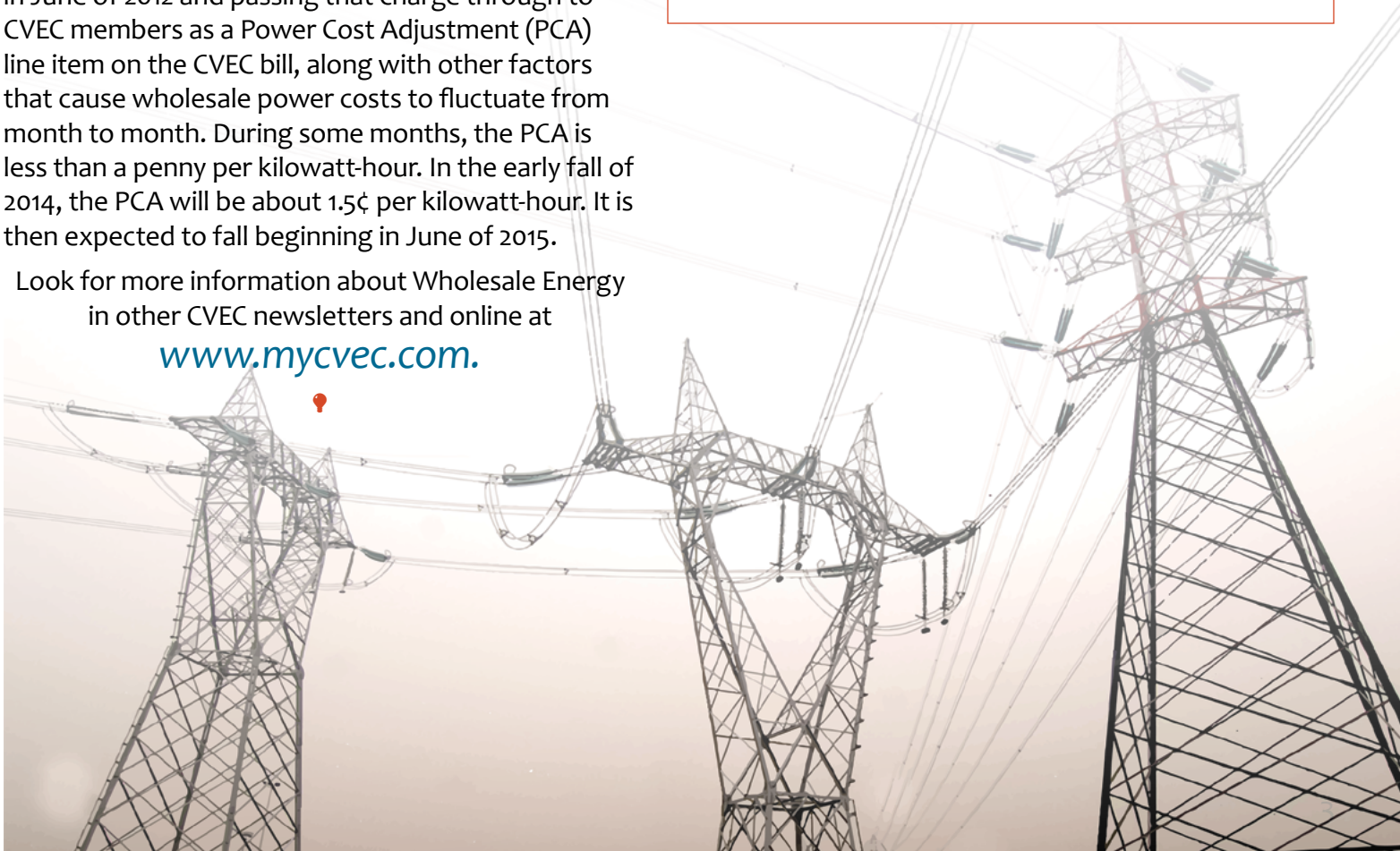
A ceiling fan allows you to raise or lower your HVAC thermostat setting about 4-5°F with no reduction of comfort. 1° thermostat change can save you 2% on your energy bills.

Switch the direction

In summer, be sure your fan blows down to create a breeze. Switch direction in the winter to blow gently, moving warm air off the ceiling and down the walls to your cooler floors.

Don't cool empty rooms

Turn off ceiling fans when you leave the room. Remember that fans cool people by creating a wind chill effect. They don't cool rooms!





AT THE 2014 CVEC ANNUAL MEETING

Four Directors Elected

CVEC members returned 1659 proxy ballots by mail and 108 in person as part of the June 25 Annual Members' Meeting. **Did you vote?**

Those who did vote chose three fellow members to lead our Cooperative for three-year terms:

- » **Jace A. Goodling**, from Afton/Nelson County, serving the West District
- » **R. Kinckle Robinson**, from Appomattox, serving the South District
- » **George N. Goin**, from Scottsville, serving the East District

Also, **Frank H. Baber III**, from Cartersville/Cumberland County, was appointed to the Board in August of 2013 to fill the seat of K. M. Beasley, Jr., who passed away in May of 2013. Mr. Baber served until this year's Director election, at which time members chose to elect him for a two-year term.

Thanks to all of you for your continued counsel and service to CVEC. 📍



Jace A. Goodling
West District



R. Kinckle Robinson
South District



George N. Goin
East District



Frank H. Baber III
South District