



The Light Issue

of the Current Communicator

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News for the member-owners of Central Virginia Electric Cooperative



Storm Saturn Recap

The CVEC Board of Directors and the Cooperative employees want to thank you for your patience and understanding during the aftermath of Storm Saturn beginning on March 6.

Life without electricity is uncomfortable and frustrating. Similar to the days before rural electrification, we spend more of our hours tending to basic needs when the lights go out. Losing patience for the return of power to our homes and businesses is understandable.

Storm Saturn was not an impressive weather event to the casual observer.

Unlike a major hurricane, derecho, or winter blizzard that generates a healthy amount of respect if not fear and apprehension, Storm Saturn arrived, caused a few travel delays, and then much of the snow melted away. Unbeknownst to most, the heavy wet snow had dropped thousands of trees, causing massive damage to the CVEC distribution system.



In addition to the damage, the melting snow made off-road locations inaccessible in many areas. Crews had to pack in poles, wire, transformers and other materials to make manual repairs without the benefit of bucket trucks, digger derricks, or material handlers.

Here are a few details:

- The snow caused outages to the Appalachian Power and Dominion transmission systems that deliver energy to the CVEC substations, driving the Co-op's outage totals to over 25,000 at one point in time.
- CVEC had **833 outage locations**, where trees fell on lines and poles and/or wires broke. Each of these locations affected from one to a few dozen to a few hundred people, and each location took hours to reach and repair.
- There were **150% more outage locations** during Saturn than during the Derecho last July. 29,405 member incidents were reported following Saturn (23,073 after the Derecho).

	Saturn Outage Locations	Derecho Outage Locations
• Total for all of CVEC territory	833	508
• Division III (Along and below the Interstate-64 corridor was particularly hard hit.)	474	98
• Division I, in the western portion of the service territory (Amherst, Nelson, western Albemarle)	262	103
• Division II based in Appomattox	97	103

- CVEC received 26,345 telephone calls during the Saturn event, peaking at 600 per hour at one point ... this even with reduced capacity due to phone line problems!
- CVEC had over 80 each of broken poles and cross arms that needed to be replaced as well as over 125 miles of broken lines.
- And our online outage map got 75,000 hits!





About a Distribution System

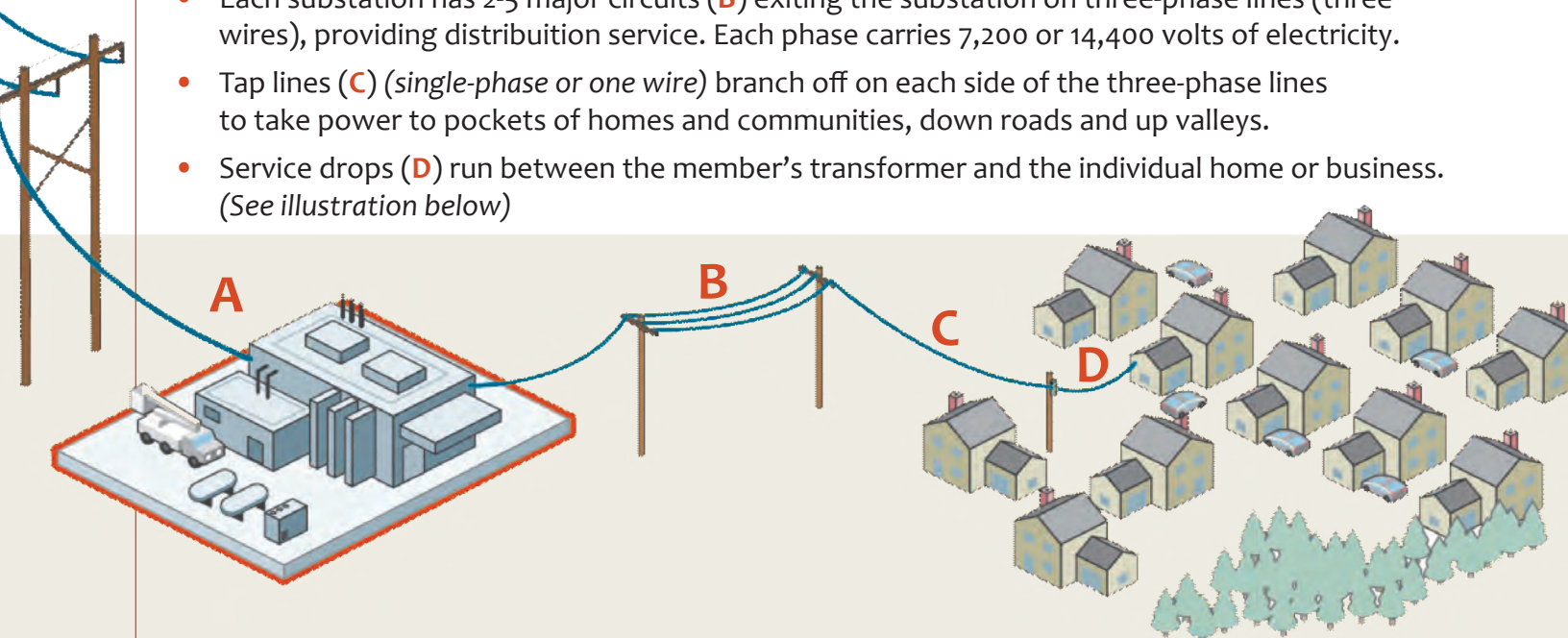
Member FAQs:

Regarding the nature of the distribution system and power restoration following extreme weather events

Q. “I’ve reported a broken pole in my front yard. Why doesn’t the Co-op come and fix it?”

A. In order to answer this fully, here’s a quick recap of how the distribution system works:

- Our Co-op has 30 substations (A) that serve portions of fourteen counties.
- Each substation has 2-5 major circuits (B) exiting the substation on three-phase lines (three wires), providing distribution service. Each phase carries 7,200 or 14,400 volts of electricity.
- Tap lines (C) (single-phase or one wire) branch off on each side of the three-phase lines to take power to pockets of homes and communities, down roads and up valleys.
- Service drops (D) run between the member’s transformer and the individual home or business. (See illustration below)



After a major weather event, there may be a dozen fault or outage locations between the substation and a member’s home. Crews will need to clear **every fault** between the substation and that individual tap line before local repairs will have any benefit.

The final step in the process is to restore tap lines and service drops to individual homes and businesses.

Q. “Other homes in my area who get power from my substation have power, but I don’t. Why not?”

A. During an outage, a downed tree (fault location) may cause a major circuit to trip and a breaker at the substation will operate, de-energizing the entire circuit. When the fault is cleared, power is hopefully restored to the entire circuit, turning the lights back on for hundreds or perhaps thousands of people.

Electricity will flow out along that major circuit to the end, unless it encounters another outage location, such as a tree on the line or broken poles and/or wire. If that occurs, a protective device, such as a recloser, will operate and de-energize that section of line and beyond, affecting a cluster of homes or one member.

Q. “My neighbors have power. Why don’t I?”

A. Several scenarios can explain this:

- » During an outage, one phase may be hot on a three-phase line, while the other two are de-energized, resulting in one side of the road having electric service while the other side of the road is still without power.
- » Often two adjoining farms or homes will be served by different tap lines, and one may have electric service and the other may be without power.
- » The same effect will be seen if a fuse is blown on the member’s transformer pole, stopping power from flowing to the meter.