



A Touchstone Energy® Cooperative

HOMEPAGE

www.enerstar.com | A monthly newsletter for co-op members of EnerStar Electric Cooperative

How do transformers work?

If we were to ask you to describe EnerStar's electric system, you might say, "Poles, wires and those round grey things at the top of a pole." Round grey things? That is often the description given for transformers, the pieces of equipment crucial in converting electricity to a voltage that is safe for use in homes and businesses. So, how do they work?

Electricity loses voltage as it is transmitted due to the resistance in wires and other components. As a result, higher voltages are used to offset these "line losses," as we call them. It all starts at the power plant. There, generators produce electricity at very high voltages and use transformers to step up this voltage, often to between 350,000 and 500,000 volts. Since the power plants are far away, these voltages are necessary to survive the trip over the system to where it is needed.

Transmission lines connect to substations brimming with transformers and other control gear. Here is where the transformers step down the voltage to safer, more manageable levels. Depending upon the distance involved to the furthest member and the amount of load served, distribution voltages can range from 4,000 to 15,000 volts. A couple more step-downs and the electricity arrives at your home at 120 or 240 volts. This is quite different from the original voltage.

Regardless of the shape and size

of the transformer, they all work in the same manner. Transformers have two sides, a high-voltage side and a low-voltage side. In normal operation, electricity flows into the transformer on the high-voltage side, where it goes into a coil of wire usually wound around an iron core. As the electricity flows through this coil, it creates a magnetic field that "induces" a voltage in the other coil. Here is where the magic (aka physics) of transformation takes place. Each coil has a different number of turns. The greater the number of turns, the higher the voltage. The coil on the high side will have more turns than the one on the low side. As a result, the voltage induced on the low side is less. Then transformation occurs.

Transformers aren't just limited to utility use. They can be found everywhere in our daily lives, even if not so obvious as those on EnerStar's electric system. The best example of a miniature transformer is the charger that all cell phones and many other electrical devices come with. These small cousins of utility transformers basically perform the same function. Charging your cell phone with 120 volts will fry it instantly. So, the charger converts the voltage to a more tolerable 5 volts or so.

It is important to note that transformers work in both directions. Electricity flowing in on the low side is stepped up to the voltage of the high

side. This is why EnerStar educates members on proper connection of home generators. A generator feeding 220 volts into a residential transformer will produce whatever voltage the transformer is rated for on the other side (7200 volts), creating a deadly risk for our line crews and your neighbors. So please, connect your generators according to the manufacturer's recommendations. Or give us a call at 800-635-4145 for advice. It's always best to be safe!



To learn more about how transformers ensure that voltage is delivered to your home at a safe, manageable level, check out a quick video on EnerStar's Facebook page at www.facebook.com/enerstar.

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7:30 a.m. to 4:30 p.m.

Serving the Illinois counties of Edgar, Clark, Vermilion, Douglas and Coles.

PowerText to be eliminated for more powerful Smart Hub

Several years ago, EnerStar introduced PowerText, a service where members could receive text alerts regarding power outages. The alert advised that the cooperative was aware of their power outage and phone call to the cooperative was not necessary, unless there was something unique to their outage. With newer, more advanced options available through the co-op's billing software provider, PowerText is being phased out.

"PowerText worked well at the time but it had its limitations," said Angela Griffin, EnerStar's Manager of Member Services. "It was effective during major outages like substation or feeder outages, but could be confusing when no text was sent for line or individual outages."

In January 2014, EnerStar introduced a new online solution, which also offers a mobile communications app, called SmartHub. The service is much more robust offering members many different useful services. Members can view their account history, securely pay online, and view their consumption history through SmartHub.

In addition, one of the more effective tools is that SmartHub is tied to the co-op's Outage Management System and members can report a power outage with a simple push of a button. It is not necessary to call the office.

"Reporting power outages in this

manner appeals to a lot of members," said Griffin. "Over the years, we have made strides in reducing busy signals and hold times during a power outage but SmartHub takes that out of the equation." Griffin added that she believes even those members not using SmartHub benefit from it because it reduces the number of calls during power outages, therefore reducing chances of busy signal and long wait times.

Griffin advised the best way to sign up for SmartHub is to visit the co-op's website at www.enerstar.com and click the "Manage My Account" button and then the "New User" hyperlink. Members will need the name and last four digits of the primary account holder as well as an email and a password.

Once an online profile is established, members should go to the "Notifications" tab to select the communication methods. "You have the option of email, text alerts, or both, and can add more than one of each," said Griffin. Members then select the type of notifications they wish to receive.

Outage Reporting

But back to the original point of this article – getting information to our members regarding power outages. There are three notification options from which members can choose:

Power Outage – Once a power outage has been verified by the co-op, an alert will go out informing the member that a power outage has occurred.

Power Outage Restored – Informs the member when power has been restored.

Planned Power Outage – Sometimes it is necessary for a power outage when our crews are repairing or upgrading our electric lines. With this notification, you will be informed in advance of a power outage.

Transition from PowerText to SmartHub

As accounts are transitioned from PowerText to SmartHub, those members should see improved alerts. "Some of these accounts were already enrolled in Smart Hub and are already experiencing the benefits," said Griffin. "It is those not using SmartHub that will notice the difference."

"I highly encourage members to sign up for SmartHub. Members are really pleased with it," Griffin concluded.

To sign up for SmartHub, visit www.enerstar.com and to download the free mobile app, visit either the Apple or Droid app stores. For more information regarding any of these services, call EnerStar at 800-635-4145.



The advertisement features a blue background with a central graphic of a grey sphere labeled "smart hub" surrounded by white squares connected by lines. To the right, there are images of a smartphone, a tablet, and a laptop, all displaying the SmartHub interface. Text on the right side reads: "Powerful, efficient, streamlined, secure" and "To sign up, visit www.enerstar.com". At the bottom, a green banner contains the text: "Receive \$5 bill credit with paperless billing".

EnerStar offers money-saving Co-op Connections® Card

Are you benefiting from the Pharmacy Savings Option?

The Co-op Connections card, available free of charge to members of EnerStar Electric Cooperative, can save you 10 percent to 60 percent on prescriptions at participating pharmacies including CVS, Walgreens, Walmart, K-Mart and Kroger. Better yet, there are several local pharmacies that participate in the program as well!

We are proud to report that through this program **EnerStar members have saved over \$50,000** since the program began July 2008. But we think there is much more potential! Are you using the Co-op Connections card?!

Use your card to purchase prescriptions not covered by your insurance plan. And in some cases, the prescription cost using the Co-op Connections card could be less than your insurance card. Simply present your card along with your prescription at any participating pharmacy and they can help you determine which option would be best. There is no additional forms or paperwork needed.

Local Participating Pharmacies:

- Medicine Shoppe, Marshall
- Pearman Pharmacy, Paris
- Paris Clinic Pharmacy, Paris
- Martinsville Pharmacie Shoppe, Martinsville
- The Pharmacie Shoppe, Casey
- A P & S Pharmacy, Terre Haute

If you want pricing before you head out to the pharmacy, visit www.rxpricequotes.com to look up drug prices by location. There is also a section to view a complete list of all participating pharmacies.



Call EnerStar at 1-800-635-4145 today.



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Youth To Washington

Students represent EnerStar at Youth to Washington

Leanna Keeney, Mackenzie Martin and Vanessa Zimmerman represented EnerStar Electric Cooperative in Washington, D.C., during the annual “Youth to Washington” Tour, June 12-19. This event, sponsored by the electric and telephone cooperatives of Illinois since the late 1950s, is an introduction for rural youth to our democratic form of government and the cooperative business model.

The students met with Congressman John Shimkus and were among 65 rural Illinois youth leaders selected for the trip. The Illinois students joined more than 1,660 young leaders from across the country from 44 states. In addition to the Capitol, they also visited Gettysburg, Arlington National Cemetery, the Washington National Cathedral, several Smithsonian Museums, The U.S. Supreme Court, the U.S. Holocaust Memorial Museum, the World War II Memorial, memorials to Presidents Lincoln, Jefferson, Washington and Roosevelt, the Royal Embassy of



Pictured from l-r: Vanessa Zimmerman, Congressman Shimkus, Leanna Keeney and Mackenzie Martin.

Saudi Arabia, the Newseum and a number of other historical sites.

Sophomores and juniors in high schools that are within the service area of EnerStar Electric Cooperative are eligible to participate in the annual program.



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