A good question deserves a good answer

I'm fortunate to have the opportunity to speak to our members on a regular basis. It gives me the chance to put my passion for Southern Pine on display. For our people, for the service and the help that we are able to provide, and for this business model that brings the power to its members.

Jason S. Siegfried
President/CEO

Recently I was approached about an appeal that we made to the membership to take steps to conserve electricity due to what was termed to me as a "power shortage." I knew exactly what the question was in reference to, and I tried my best to articulate the appropriate answer without hijacking the remainder of this gentleman's afternoon. On the way back to the office I reflected on the exchange, as I was sure that it was a question a lot of our members had after the experience. In light of providing a better answer than the condensed version that I presented at that moment, we reached out to our generation and transmission cooperative, Cooperative Energy, to help us provide a better understanding of the role that they play in our members' service and the events of that day.

A Cooperative Energy employee monitors generation and transmission at its Control Center in Hattiesburg.

Who is Cooperative Energy and how is it related to Southern Pine?

Cooperative Energy is a not-for-profit electric cooperative based in Hattiesburg that generates and transmits electricity purchased by 11 local electric distribution cooperatives in Mississippi:

- **Coahoma Electric Power Association**
- **Coast Electric Power Association**
- **Delta Electric Power Association**
- **Dixie Electric (Dixie Electric Power Association)**
- **Magnolia Electric Power**
- **Pearl River Valley Electric Power Association**
- **Singing River Electric Cooperative**
- **Southern Pine Electric Cooperative**
- **Southwest Electric Cooperative**
- **Twin County Electric Power Association**
- **Yazoo Valley Electric Power Association.**

Together these cooperatives distribute electricity to 423,000 homes and businesses across the southern and western portions of the state.

Where does the electricity come from?

Electricity is generated instantaneously; as soon as someone flips a light switch, a power plant must immediately respond. The technology to store electricity on a large scale is not economically feasible, so electricity is generated practically on demand, traveling at the speed of light from generating plants to the point where it is delivered to the object using the electricity.

The electricity for members of Southern Pine most often comes from eight power plants owned by Cooperative Energy. Other times, Cooperative Energy purchases electricity from other power companies when those companies can generate it and sell it to Cooperative Energy at an economical price. This ensures that the cost of electricity is as affordable as possible for the members of Southern Pine and the 10 other local electric distribution cooperatives served by Cooperative Energy.

National connection, local service

Cooperative Energy and other power companies across the United States are connected by the national electric grid. When the demand for electricity and the availability of electricity for one power company is out of balance, it impacts the balance of the electric system for other power companies. Cooperative Energy is a member of Midcontinent Independent System Operator (MISO), a power reliability coordinator, which helps to balance the electric system for its members.

On Jan. 17, several major power plants in the MISO system experienced problems and became unavailable. The loss of these power plants, combined with the extreme weather conditions, threatened the balance of the electric system. As a result, MISO requested that Cooperative Energy and other power companies across Mississippi and the southern U.S. ask their members to voluntarily reduce their electricity use. When a power reliability coordinator, such as MISO, issues requests like this, the North American Electric Reliability Corporation requires Cooperative Energy and other power companies to respond.

Members of Southern Pine and the 10 other local electric cooperatives served by Cooperative Energy responded by conserving their use of electricity, and the situation was resolved by 1 p.m.

Electricity is not an infinite resource. Although Cooperative Energy's power plants were producing 450 MW of electricity more than members were using at the time, as a member of MISO, Cooperative Energy is required to help keep the electric grid balanced. In fact, Cooperative Energy's generators performed well that day and its system operated reliably, which played a tremendous role in stabilizing the situation.

So, it is not that Cooperative Energy or Southern Pine was unprepared for this weather; rather, the weather in combination with the loss of power plants in other parts of the country affected us. The 11 local electric cooperatives in Mississippi worked with Cooperative Energy to resolve this issue as quickly and efficiently as possible.

Learning about voltage conversions

In the spring or fall of this year, you might receive an automated call or a letter from Southern Pine Electric notifying you of a pending "equipment upgrade" in your area. This scheduled system maintenance is more accurately described as a voltage conversion, and it plays a valuable part in our ability to meet your expectations of providing reliable service.

Why do rural electric utilities perform this work? A voltage conversion, in its simplest form, is increasing the operating voltage to the electric power system. Many factors are analyzed to determine the necessity for a voltage conversion, but the three key factors are service reliability, conductor loading and economics.

Richie Matson
System Engineer

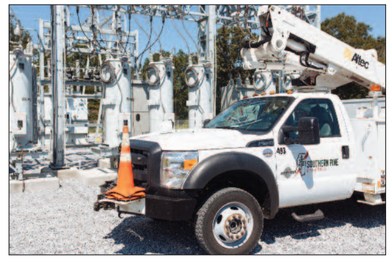
Reliability is addressed in the beginning stages of a voltage conversion by inspecting each power pole and upgrading the equipment to allow for the voltage conversion. The upgrade of the equipment helps to ensure each member's service reliability improves.

For numerous rural electric utilities, a major factor for deciding to perform a voltage conversion is the amount of load being served by wires coming from the local distribution substation. As time passes, geographical areas experience growth. Due to this growth, the electric current carried by the wires coming from a substation is increased. As previously mentioned, a voltage conversion increases the operating voltage of the power system but reduces the amount of current carried by the wires. When the operating voltage is increased, the wires can serve the increased load.

In deciding to complete a major project such as voltage conversion, economics plays an important role. The cost of voltage conversions is expensive. The payback can come in several ways, however. The reduction in current along the wires saves the company money in the form of a reduction in power costs. This payback is exponential and occurs over a long period of time. Voltage conversions can also prevent the expensive alternatives of increasing wire size or constructing new substations.

A Southern Pine crew member works in a substation during a recent voltage conversion.

What does all this mean to a rural electric member? Lower rates and more reliable service. But it doesn't come without a sacrifice. A planned power outage is required in the geographical area of the voltage conversion. The conversion to a higher voltage cannot be performed while the power lines are energized. Typically, the planned outage is limited to a few hours, and affected members are notified well in advance. In addition, the planned outage takes place during normal business hours, when most members are away from their homes.



In the end, these conversions are another positive step in continuing our cooperative mission, which is to enhance the quality of life of our members and community by safely providing reliable electric energy at an affordable price.

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We use Facebook, Twitter and LinkedIn to post information on how to become more energy efficient, offer safety tips and inform members about special events throughout the year.

During weather-related events, these sites provide storm preparation details and outage information.

Southern Pine is an Equal Opportunity Provider and Employer

If you wish to file a Civil Rights program complaint of discrimination, complete the USDA Program Discrimination Complaint Form, found online at http://www.ascr.usda.gov/complaint_filing_cust.html, or at any USDA office, or call (866) 632-9992 to request the form.

You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter to us by mail at U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at program.intake@usda.gov.