South River EMC
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A Teacher with Bright Ideas

Teachers love to talk about their students' achievements.

Janelle Cochran, a teacher at Midway High School, has been teaching for 20 years.

"I entered the teaching profession because I had a desire to positively impact the lives of students," said Cochran. "I chose special education because while studying education courses, that area is where I found my greatest passion."

As a teacher, Cochran has received approximately 13 Bright Ideas grants from South River EMC to engage her students.

"My grant ideas come from everywhere," said Cochran. "Some come from TED talks that I have seen about innovative technology I want to use in my classroom, from ideas that students have about things they would like to learn about, and other ideas come from things that I think the kids would enjoy seeing in the classroom."

Her most recent grants included: "Welcome to the BOARDroom", "Designed 4-it" and "It Only Takes A Little."

"Welcome to the BOARDroom" brought board games into the classroom to help improve the social skills of her self-contained classroom students.

"Students used games to develop social and emotional skills and interact with others," she said. "They strengthened bonds with peers, and increased communication and team building skills."

One of Cochran's projects.

The grant, "It Only Takes a Little," purchased littleBits kits, which make programming and coding simple for students.

"Kits were used during an enrichment period in the school day for the entire student body," said Cochran. "Students learned coding and programming, and kits will continue to be used with lessons developed for the self-contained classroom to continue to build those skills."

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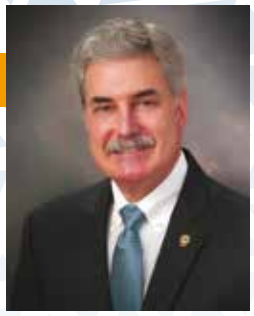
Keep Alert

School starts back this month, keep your eyes on the road.

What's Inside

Message from CEO Chris M. Spears



There has been considerable discussion in the news lately about the electric grid, most of which is related to the clean energy transition. There have also been news stories about grid security as well. The electric grid is a key component to the ability to provide reliable electric power.

The electric grid itself is made up of transmission lines designed for moving high voltage electricity across the country. It connects power plants, which provide dispatchable base load generation, renewable/intermittent resources, substations, and distribution lines that deliver electricity to homes, farms and businesses.

We all depend on the grid every day and it has proven highly reliable for many decades. Nonetheless, the grid is facing some challenges. It was engineered to support dispatchable base load power. It was not originally designed to handle significant amounts of intermittent power from renewable resources, but it is being utilized increasingly in this way today. Parts of it are also aging and parts of it need to be expanded. South River EMC and other utilities are constantly adding, replacing and or upgrading transmission lines, but it has become increasingly costly, time consuming and difficult to site new transmission lines since most people do not want to see large transmission lines and structures located on or near their property.

Utilization of the grid involves a significant amount of coordination among different utilities. Some own and operate their own generation, transmission, and distribution facilities, while others do not. Some make power available only to their own consumers and some do not. Some are involved in competitive markets while others are not.

South River EMC is a distribution cooperative. We own and maintain our own distribution system as well as some local transmission lines. We do not generate our own electricity. Consequently, we take delivery of electricity that we purchase through a generation and transmission cooperative, North Carolina EMC (NCEMC). NCEMC is an outstanding partner and it owns generation facilities and purchases power from other providers to make up its portfolio of resources.

Reliability is extremely important to you, and I can assure you it is just as important to your local electric cooperative. Extreme weather certainly has an impact on the distribution system and the grid. Furthermore, cyber and physical attacks on critical utility infrastructure have been on the rise in America as well. Another concern is a lack of dispatchable, baseload generation at a time when we are increasing our demand for electricity.

South River EMC has incorporated multiple layers of cyber and physical security across our systems in recent years to monitor and protect critical infrastructure, including the grid, from natural and man-made threats. Cyberattacks are a real threat. Today we have systems in place to block and monitor for cyber intrusions along with a formal Cyber Security Incident Response Plan. In the same way that we focus on cyber detection, protection and recovery, we have taken steps to protect and strengthen the grid while improving upon system resilience.

In April, Jim Robb, who serves as the CEO for the North American Electric Reliability Corporation (NERC), addressed a group of electric cooperative leaders, and discussed NERC's grid security standards in light of recent grid attacks. NERC focuses on Bulk Power Systems, not distributions systems. Nonetheless, he suggested that distributions cooperatives should focus on the following: increasing redundancy capabilities at substations, increase access to spare substation equipment and take steps to shorten recovery times. South River EMC had already implemented these recommendations previously. Thankfully, our Cooperative can back feed or feed one substation off another at most of our substations, depending on extreme temperatures. However, we are on track to be able to back feed the entire system within 8 years, regardless of the temperature.

I believe the biggest concern today concerning the grid and reliability is related to what NERC considers a disorderly retirement of the existing generation.

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The final grant, "Designed 4-It" purchased materials that allowed students to create handcrafted merchandise, which they could use to connect lessons from the classroom to real-world hands-on learning.

"Students increased their understanding of how to build a business while developing prototypes of a variety of merchandise for retail," said Cochran.

Cochran's goal is to get students comfortable with life skills and experiences that will help them once they leave school and they have been very receptive to these lessons.

"The skills targeted with grants are varied, but the students grow with every grant," she said. "Many of my grants target special population and their learning targets, but I also like to include grants that target social/emotional learning for the entire student population and can incorporate the students with disabilities. Students repeatedly come back and ask when is the next time they will get to do something that has been funded by a grant. "

Bright Ideas grants can help with lessons for all grades and all skill levels. If you are a K-12 public educator who is seeking funding to introduce a new concept to your students, visit **ncbrightideas.com**. Learn about Bright Ideas awarded in the last year at **sremc.com/bright-ideas**.

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Dispatchable generation resources are being replaced with renewable/intermittent resources in an effort to reduce carbon emissions. Many generation assets taken offline in recent years have been replaced with those that have less capacity, no capacity or capacity that is intermittent and not always available.

I shared the following comments at our Annual Meeting in April from Jim Matheson, the CEO of the National Rural Electric Cooperative Association (NRECA). He stated in January: "I fear that people in the policy world are not recognizing the importance of reliability. He added that we are moving in a direction of less reliable supply of electricity in this country. He said I do not think that any agency is fully embracing the idea of how we maintain a reliable grid, which is so central to how this country functions every day. He concluded by saying that as we continue to electrify the economy, the grid is going to be even more important and all the more stressed."

Cooperatives across the state are applying innovative technologies to improve grid resilience and reliability. These innovative energy solutions include 13 solar + storage sites, 10 utility-scale battery energy-storage projects and 5 micro grids that are designed to enhance grid resilience and reliability in rural North Carolina communities.

Locally, we have several innovative projects as well:

- A biogas microgrid at Butler Farms in Lillington
- A 500 kw solar/battery project at Halls Substation
- A 2.5 MW battery energy storage project at Collier Substation
- A 10 MW battery energy storage project at Butler Substation (in progress)

Some experts believe that battery storage will be essential as we go forward. I am confident that in time, the technology will advance and battery storage will allow intermittent resources to become more of a baseload resource on a commercial basis. It is already evolving but I believe we will need long duration storage developed to allow for longer periods of time when fewer dispatchable resources are not capable of keeping up with demand on days such as December 24, 2022, when our state experienced rolling black outs for the first time in our history.

We will continue to work closely with NCEMC to take advantage of the technology available today so that we can better use the grid and hopefully be able to maintain the level of reliability that you expect and deserve. It is a serious challenge and an opportunity but our commitment to providing safe, reliable and affordable power remains strong.

It is our goal to keep you informed of changes in our industry and how they impact us right here at home. I am here to serve you as your CEO and if I can assist you in some way, please do not hesitate to contact me. You can email me at CEO@sremc.com or you can call my direct line at 910.230.2990.

Members Help Keep Communities Safe

In June, South River EMC awarded $56,117 through Operation Round Up.

Members participate in Operation Round Up by rounding up their electric bill to the next dollar.

For instance, if your bill is $98.76, you will pay $99, and the remaining 24¢ will go into the Community Assistance Corporation (CAC) fund.

The CAC is composed of community members who review Operation Round Up applications quarterly.

Applications may be submitted by schools and non-profits, which serve a portion of South River EMC members.

The most-recent funding cycle was in June. The following non-profit organizations and schools were selected:

- Halls Fire & Rescue: $5,000
- Eastover Volunteer Fire Department Inc.: $5,000
- Gray's Creek Volunteer Fire Department Station 24: $5,000
- Simply Girls: $5,000
- Triangle Literacy Works: $5,000
- Salem Preschool and Childcare: $5,000
- Sampson County Emergency Services: $5,000
- Salemburg Volunteer Fire Department: $5,000
- Boone Trail Emergency Services: $5,000
- Dunn Area Ministerial Association: $5,000
- Spivey's Corner Volunteer Fire Department: $3,617
- Overhills High School Future Business Leaders of America :$2,500

The next deadline for Operation Round Up grant applications is August 23.

For details on the program, visit **sremc.com/operation-round**.

All things being Equal.

You might have noticed a line item on your bill. **The Equalizer** allows South River EMC to collect extra revenue whenever the cost of electricity increases.

Likewise, **The Equalizer** enables us to issue a credit to you when less revenue is needed.

This leveling of costs is designed to reduce the impact on you rather than a rate adjustment.

Refund Allocated

As a not-for-profit utility, we give money back! We don't have stockholders. We aren't a sole proprietorship. What we are is a Cooperative, which means that we are owned by each person who has an electric account with our company.

That's you, you're part of something special—you're a member.

So, at the end of each year, after all bills are paid, any remaining amount, called margins, is allocated to be refunded to members as capital credits. Once we completed our audit for 2022, the allocation of the margins was made.

Our end-of-year margins totaled $4,711,616.94 or 0.0474453634 percent of revenues.

What does this mean to you? If your electric bills in 2022 totaled $1,000, then you would be earmarked to receive a refund of $47.44. The refund will be returned as $9.49 in November and the remaining $37.95 in 19 years. The amount that is retained for 19 years is used as operating capital by the Cooperative.

Capital credits are typically retired in November.

Members whose refund is less than $100 will receive a bill credit.

Members whose refund is $100 or greater will receive a check.

If you think you, or a family member, might have an unclaimed capital credit refund, visit **sremc.com/capital-credits** and see if your name appears on the list. If so, download the claim form and submit it to our office.

You can trust that we are always looking out for you, whether it's in our daily work or refunding your money. We are all in this together.

End Of Summer Savings Potential

When you install a pool with a pump, it's often a single-speed pump. A single-speed for energy and water use.

However, Energy Star certified pool pumps incorporate variable speed technology, using more energy only when needed, for tasks like cleaning, and less when doing other low-flow tasks like filtration.

So if you're looking for a way to close out summer vacation with savings, replace your pool pump with a variable or two-speed pump, and go for even bigger savings next year.

This might make you eligible for a rebate from South River EMC, visit **sremc.com/pool-pumps**.

Windows, Is It Time To Replace Them?

Sometimes windows just need replacing.

Maybe due to age, or use, drafty windows mean a lack of comfort in your home that is compensated for by your heating and cooling unit.

Replacing your windows can get costly, but South River EMC is offering a rebate to members who see window replacement helping their energy costs.

The rebate is only available on exterior windows. For full details visit **sremc.com/energy-star-windows**.

HERO Home Boast Savings

The high efficiency residential option, or HERO, home is a more tightly constructed home boasting savings of up to 30 percent.

This is due to requirements of slightly better insulation, fenestration, air sealing, equipment, and lighting packages to deliver those savings, and that can be accomplished in one of two ways.

The performance path, which requires an energy cost analysis (provided by your HERS rater and signed-off on by a Design Professional) as proof that the home will have energy costs less than or equal to the same home built to the HERO code's prescriptive requirements.

The prescriptive path involves complying fully with a list of specific requirements for things like insulation, window U-factors, and duct leakage testing, among other things.

For details on HERO code requirements, visit **energycodes.gov**. For details on the rebate offered by South River EMC, visit **sremc.com/hero-program**.

Weatherization Can Reward You

Keeping your home cool in the summer is key to comfort, but comfort can come at a cost.

Weatherization, insulation, heating and cooling servicing, thermostats, it all adds up, but it could be covered by the Community Action Program's weatherization package.

The weatherization package for single family or manufactured low-income homes includes: air/duct sealing, improved insulation, an HVAC tune-up or replacement, and a programmable thermostat in a home with a heat pump or an electric furnace/central AC.

If you have this work completed, you could be eligible for a rebate from South River EMC, for details visit **sremc.com/weatherization**.

Making An Affordable Water Heating Choice

When it comes to water heating, you want an affordable appliance to heat your water. But a standard electric water heater uses energy to continuously heat water for use in your home and that adds up.

When you have to replace the unit, you can do so with a like one, or with a more efficient option.

A heat pump water heater moves heat, rather than makes it, so it is 2-3 times more efficient. They do have space and temperature requirements, so be aware.

Solar water heaters use a free resource to heat water, but also have requirements in regard to location and a back-up system is recommended.

Get quotes and compare systems, don't be afraid. If you decide one of these water heaters is right for you, look into the rebates we offer at **sremc.com/energy-efficient-water-heating**.

Keep Cooling Costs From Adding Up

Hot days mean the air conditioning is running, fans are running, and cost is adding up.

The amount of energy being used by your heating and cooling unit is dependent on several factors, foremost being the system itself.

Efficiency is measured by the seasonal energy efficiency ratio 2, or SEER 2 rating. The higher a SEER 2 rating, the more efficient the system is at cooling.

Purchasing such a system could save you some energy, especially if you make changes here and there to energy use. Setting the thermostat a little higher in the summer prevents the unit running constantly.

If you're in the market for a new heating and cooling system, South River EMC offers rebates on heat pumps and central air conditioning systems of 16 SEER2 or greater.

For information and requirements, visit **sremc.com/energy-star-heating-cooling**.

Message from Advise Guy Eric Gainey

Daily Energy Monitoring

At South River EMC, we truly care about our members. We are always looking for ways to implement tools you can use to save energy. One such tool is the SmartView application. This application is a great resource for anyone looking to save energy, money and to catch potential issues early.

The SmartView application can be found on our member portal. To view yours, just login to the portal at **sremc.com**. You will need your South River EMC account number to set this up online. If you don't have a login, you may call our office and speak with a member service representative to obtain it.

Once you are logged in, click on the SmartView option located on the left side of the screen. A graph will appear that shows you the daily energy use in Kilowatt hours (kWh). Along with the usage, it shows you the high/low temperatures and puts it in a text format under the graph. You have the option of selecting a timeframe to view particular dates and export/download the information for your records. If you do not want to log in each day, you can sign up for a daily usage notification. The contact method options you can choose from are e-mail, text and a phone call.

Both the SmartView graph and daily notification are great tools for those who want to see how the weather and their daily routines/habits impact their daily energy use. They give you the opportunity to manipulate appliances and devices in the home to see the difference. You can pick a week where weather conditions are going to be steadily the same and try this. For example, go through one day with your normal routines and normal thermostat settings. Another day, change up your routine and adjust the thermostat accordingly with the season. Then compare that time frame to see the differences it had on your daily usage.

Lastly, these tools can help you find potential issues at your home early. Once you are accustomed to checking SmartView or receiving daily kWh notifications, you will have a better idea of how much energy your home uses on average. If you were to notice a day where the usage spiked without anything changing at the home, it could be an early warning that there is an issue. Finding issues early can help prevent further issues and deter a high electric bill. Issues that go unnoticed happen quite often. One example is when the heat strips on a heat pump are “stuck on”. Heat strips were designed to stage on when weather temperatures dip and the heat pump needs supplemental heat to maintain the thermostat setting. If a heat pump has an issue, sometimes these strips will stage on when they should not. The heat strips (emergency heat/auxiliary heat) can stage on if a system malfunctions and stay on 24/7. When the strips are on, they use a lot of energy. Another example is a water leak. A lot of times leaks are under the home or elsewhere, out of sight. Sometimes the leak is directly at the water heater. A water leak can cause the electric water heater elements to run 24/7 as it is trying to keep the water hot for you.

Both of these examples are the most common issues we find at homes that cause spikes in daily energy usage. Other issues could lead you to a duct that is down under the home or an HVAC condenser/fan not working. For more information and tools on ways to save, visit our website at **sremc.com**.

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