

Staying Grounded with GFCIs

JUNE 2012

A Touchstone Energy® Cooperative 

Alabama

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Electric
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Plugging into the future?

A look at the role of electric cars

Generating Safety

Using portable electric
generators safely

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The future of
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Economic Development Results Energize Growth and Progress

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It was Benjamin Franklin who said “Without continual growth and progress, such words as improvement, achievement and success have no meaning.”

During good and bad economic times, Franklin’s quote reminds us all that success is the result of an investment. Whether the investment is in human capital, improvements in critical infrastructure or regional competitiveness, thriving communities have a vision of success for the future.

At Central Alabama Electric Cooperative (CAEC), we are committed to helping our communities grow and progress in a successful direction. After all, concern for community is one of the seven cooperative principles by which CAEC and the other co-ops around the country operate.

Successful economic development efforts rely on alliances among the business community partnering with local, state and federal governmental leaders. When public/private partnerships are developed, the focus on job creation is strengthened, and many times those new jobs can best be created through the synergy that comes from a business park where appropriate infrastructure is planned and provided so businesses can be clustered and meet the needs of their customers.

The most recent example of this type of partnership is the Chilton County Business Park located off I-65 near Verbena. With its strategic location providing key access to the state’s only north/south interstate corridor, it will attract the attention of business decision makers. This partnership model was previously successful



Groundbreaking for the
Alabama Baptist Convention
Disaster Relief Center.

in Autauga County’s first business park. The Interstate Business Park, located in Prattville, has yielded more than \$2 million in federal and state grants to bring employment opportunities and tax dollars to that park, and it serves as home to an automotive supplier as well as the soon-to-be-built Alabama Baptist Convention Disaster Relief Center.

When businesses and industries locate in our service territory, it is a positive accomplishment for everyone. Not only does the community thrive, but your cooperative has the opportunity to stabilize its load factor by selling electricity in the middle of the day when residential use is low. Ultimately, this is a benefit to our members because energy sales that occur during non-peak times help spread the cost of operating and maintaining our electrical system, resulting in the long-term as cost savings for all members.

Economic development can and should be a win-win situation for our members and region. By building an economic development product and showcasing our communities to prospective businesses and industries, we are investing in much more than just a location on the map. ■



Tom Stackhouse
President/CEO





Keeping an Eye on Energy Issues

Each year, as many as 500 plus electric cooperatives from nearly every state in the nation collectively send 2,500-3,000 representatives to Capitol Hill for a Legislative Conference. These people, who have regular jobs, take time from their occupations and families to serve as the voice for more than 42 million cooperative members concerning issues that could directly affect the price we all pay for power.

This year the cooperative initiative on Capitol Hill took on a different tone as both houses of Congress were on recess. Not to be dissuaded from the goal of reminding those in Washington that rural America needs to be considered in pending legislation, the co-op representatives held a Grassroots Summit to discuss important policy issues with Capitol Hill staffers. One of the key issues discussed was directly held over from last year's Conference—the Coal Residuals Reuse and Management Act (H.R. 2273/S. 1751).

The bill, modeled after existing regulations for municipal waste disposal, concerns Coal Combustion Residual Materials (CCRs), which are the remaining products from coal that is burned to produce electricity. CCRs, sometimes referred to as 'coal ash' or 'fly ash', when properly managed, offer environmental and economic benefits without harm to public health. More than 40 percent of CCRs are recycled and/or put to beneficial use in the production of materials such as roof shingles, wallboard, asphalt, concrete and bricks. By supporting the bill, CCRs would continue to be treated as non-hazardous materials—in direct contrast to the Environmental Protection Agency's (EPA) 2010 proposed regulation that would place CCRs under hazardous waste rules.

The debate as to whether CCRs, or coal ash, should be declared as hazardous has been researched for nearly three decades and the overwhelming conclusion is that CCRs do not warrant hazardous regulatory treatment.

The EPA itself, in two prior reports to Congress and two related regulatory determinations, confirmed that regulating CCRs as a hazardous material under the Resource Conservation and Recovery Act is not necessary to protect public health and the environment.

While co-ops agree with the EPA's goals to protect the public's health and the environment, as discussed in the March issue of *Alabama Living*, making such a critical change with CCRs could be viewed as giving that agency unnecessary control and artificially raising the cost of electricity that is tied to coal generation. By deeming CCRs as hazardous materials, the National Rural Electric Cooperative Association (NRECA) predicts the likely result of a cost increase, due to new and expensive regulation, would leave utilities no option but to pass these costs to their consumers.

The EPA is expected to issue a final rule regulating the management and disposal of CCRs by the end of 2012.

This subject is just one example of the type of legislative activity that NRECA continuously monitors on behalf of the nation's cooperatives.

And while that is their job, the Association's staff members take every opportunity to thank the local co-op ambassadors who come to Washington, D.C., each year because when elected officials come face to face with several hundred "folks from back home," they listen. They also respond to constituents who contact them on subjects of concern.

While we urge the U.S. Senate to follow the House's lead by taking up and approving the Coal Residuals Reuse and Management Act to resolve the regulatory uncertainty associated with this issue, we also ask that you contact your elected officials in Washington. Let them know your stance – even when you agree with their position. It helps them to know they have support at home when working on the hill to find a balance between the environment and keeping electricity affordable. ■



Coal plants, such as Lowman which supply power to CAEC, are directly impacted by issues such as the Coal Residuals Reuse and Management Act.



Plugged in to Electric Vehicles?



Since we've had automobiles in America, we've been discussing the pros and cons of electric vehicles. In fact, long before the Chevrolet Volt came along, electric cars hit their peak in America during 1900, as they outsold all types of cars.

At the time, steam cars had less range before needing water than an electric car's range on a single charge, and with the majority of roads being concentrated in small areas and towns, it was a perfect situation for electric vehicles since their range was limited. But as our country's roadways became longer and vaster in the 1920s, the need for long-range vehicles increased, as did the price difference between electric and gasoline cars (\$1,750 for an electric roadster compared to \$650 for a gasoline car in 1912), making electric cars all but disappear by 1935.

Now, almost 100 years later, it seems we're still discussing the same issues we had in 1920—can the electric vehicle meet our transportation needs for today? Each political party seems to have its own philosophy on the role electric and plug-in electric hybrid vehicles (PHEVs) will play in the auto industry, and controversy, as usual, surrounds both sides.

The hottest political point surrounding

today's need for electric and PHEV's is that while they may aid in the reduction of pollution and our nation's dependence on foreign oil sources, they do so at a cost to the consumer.

Much like their counterparts in the early 20th century, electric vehicles and PHEVs carry higher price tags than comparable conventional gas-fueled versions—typically \$10,000 to \$15,000 more, even after fiercely debated federal tax incentives ranging from \$2,500 to \$7,500 are included.

A study by the Cooperative Research Network (CRN) compared the gasoline model 2012 Ford Focus (manufacturer's suggested retail price \$18,300) and the electric Chevy Volt (\$31,645 after tax credits) to analyze the savings of a PHEV, with both vehicles being four-door sedans roughly the same size.

According to the Bureau of Travel Statistics, the average American drives 40 miles per day. Chevy estimates the average Volt driver will spend \$1.50 per day for electricity (based on a price of 12 cents a kWh) and a small amount of gas. Meanwhile, the average Focus owner will spend almost \$5.16 on gasoline daily. At \$4 per gallon for gas, the average Volt driver would save \$1,335 annually--but would need to accumulate that amount for almost 10 years to equal the differ-

At \$4 per gallon for gas, the average Volt driver would save \$1,335 annually--but would need to accumulate that amount for almost 10 years to equal the difference in sticker price.

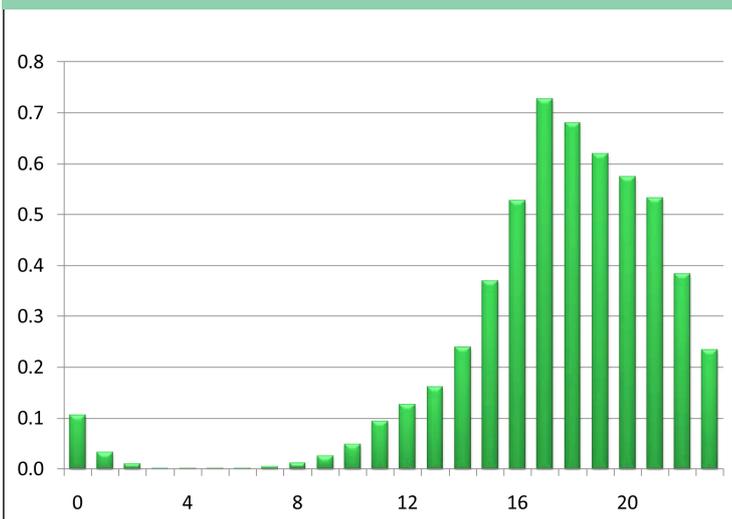
ence in sticker price. Of course, actual savings depends on the number of miles driven and car options. It should be noted that using electric accessories such as air conditioning, heat and defroster will drain electric car batteries faster and impact mileage.

Another cost concern is the electricity needed to power electrics and PHEVs. If recharged with a traditional 120-volt outlet (referred to as Level 1 charging), it takes at least eight hours to charge a Volt and more than 20 hours for the Nissan Leaf, another electric vehicle that came onto the market in December 2010. Consumers can opt for faster, Level 2 charging, which can recharge a battery in three to four hours, but requires a 240-volt charging station which costs between \$1,200 and \$1,500 and must be installed by a qualified electrician. The power usage between the Level 1 and Level 2 stations is also more dramatic—the Volt’s Level 1 charging at 1.4 kilowatts is roughly equivalent to the load of a toaster—a toaster running for 8 straight hours; its Level 2 charging, estimated to be 3.5 kilowatts, is similar to the load of a heating and air conditioning system running for three to four consecutive hours.

Also vehicle recharging will place new strains on electrical systems within homes and on the distribution grid. While the Level 1 charging systems use low amperage, the faster charge of Level 2 systems could raise technical and cost issues for the homeowner and utility. The concern is about mass-recharging during peak hours, causing higher rates and strains on an already aging electric grid.

A study by the Idaho National Laboratory found that the greatest recharge time for PHEVs was between 7-9 p.m.—corresponding with many utilities’ peak usage times. With electricity costing more

Hourly Demand per PHEV (kW)



75% of charging occurs between 4-9 p.m.

Electric Power Research Institute

during peak times, PHEV owners could find themselves paying rates much higher than the national average per kilowatt-hour and the electric industry would have to greatly increase the amount of peaking power plants needed to sustain this new demand. With this in mind, utilities and electric cooperatives are investigating ways to control time of use and encourage charging during non-peak times.

As politicians debate our country’s dependency on foreign oil, carbon emissions and the use of tax dollars for promoting new technologies and utilities still try to gain a better perspective on what an influx of these vehicles will mean to the way they produce power—when it comes to electric automobiles and PHEVs, only time will tell if the American public will once again embrace the electric vehicle sitting in their driveways and the price they’re willing to pay for it. ■

Use Portable Electric Generators Safely

As we enter hurricane season, many of us are reminded of the images and news stories of people rushing to find portable electric generators before or after a storm hits due to their many benefits when a long-term electrical outage occurs. However, if generators are not used properly, the situation could turn deadly.

After Hurricane Katrina, for example, many people relied on generators. But the misuse of them caused five deaths, according to the Centers for Disease Control and Prevention (CDC). Follow these tips to prevent the misuse of portable electrical generators:

- To prevent electric shock, make sure your generator is properly grounded. The operation manual should provide correct grounding procedures.
- Operate electric generators or other fuel-powered machines outside where deadly carbon monoxide fumes cannot enter the home.
- Use the generator only in a well-ventilated and dry area located away from air intakes to the house and not in an attached garage.
- Do not overload the generator by operating more appliances and equipment than the generator can handle. The operating instructions should have an output rating for the generator.
- Individual appliances should be plugged directly into the receptacle outlet of the generator using appropriately sized extension cords to carry the electric load. The cords should be rated for outdoor use, have a grounded, three-pronged plug and be in good condition.
- Never connect generators directly to your home's wiring. The reverse flow of electricity can electrocute an unsuspecting utility worker or pedestrian. Have a qualified electrician install a UL Listed Manual or Automatic Transfer Switch to connect to your home's wiring.
- Never plug a generator into a household outlet.
- Do not refuel a generator while it is running.



As always, be sure to follow manufacturers' directions for installation and operation, and always keep children and pets away from generators. And when the power does come back on, turn off all the equipment your generator is powering before shutting it down. ■

CAEC offices will be closed

Wednesday, July 4 for Independence Day



Water Heater Rebates

CAEC offers rebates for water heaters. Purchase your new electric water heater from any store and receive a rebate for meeting the following criteria:

*Electric water heaters only
(cannot be tankless)*

Minimum energy factor of .92

*Participation in CAEC's Peak Shaving Program**

Water heaters will be inspected to verify:

Installation at member's address

Manufacturer's Information:

Name and spec information (which includes model and serial numbers and the energy factor)

Proof of purchase:

Copy of receipt and store name

Rebates are available in the following amounts:

Under 80 gal:	up to \$235
80 gal & up:	up to \$375

For more information about our rebate program, call (800) 545-5735, ext. 2118 or (334) 351-2118.

**To learn more about CAEC's Peak Shaving program, visit www.caec.coop.*



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Staying Grounded with GFCIs

Last month, we talked about arc fault circuit interrupters (AFCIs) and how important they are when it comes to electrical fire safety in your home. This month, I'd like to discuss another important safety feature—ground fault circuit interrupters, or GFCIs.

You may ask, what is the difference between AFCIs and GFCIs? As previously discussed, AFCIs help prevent fire hazards caused by arcing faults in damaged or deteriorated wires and cords. But when it comes to electrical-shock hazards, that's where GFCIs play an important role.

According to the Electrical Safety Foundation International (ESFI), GFCIs have cut the number of home electrocutions by half. By detecting ground faults--an unintentional electric path between a source of current and a grounded surface; essentially, current leaking to the ground--a GFCI protects you from severe or fatal electric shocks.

If you have ever experienced an electric shock, it probably happened because part of your body contacted an electrical current and provided a path for the current to go to ground. If your body provides the path, you could be seriously injured.

For example, if a bare wire inside an appliance touches its metal case and that case is then charged with electricity, you would get shocked if you touched the appliance with one hand while another part of your body is touching a grounded metal object, such as a water faucet. If the appliance is plugged into an outlet protected by a GFCI, the power will

be shut off before a shock can occur.

A GFCI does this by constantly monitoring electricity moving through a circuit. If it detects a difference in the electrical current, the device quickly switches off power. They are typically installed around areas with water hazards such as bathrooms or kitchens and are also appropriate in outdoor spaces near pools, gardens and garages.

According to the National Rural Electric Cooperative Association (NRECA) and the Electrical Safety Foundation International, a portable GFCI is easily installed with little effort at a low cost (\$12-\$30). Electricians however, should be consulted to guarantee proper installation.

To determine if you already have GFCIs in your home, look at your outlets. The standard U.S. socket with three prong holes is 120-volts. The left vertical slot of an outlet is "neutral" and slightly larger than the right vertical slot, which is "hot." The bottom circular hole is referred to as "ground." A GFCI outlet can be identified by its test and reset button in the center.

When the reset button is pressed on, power can freely flow to the outlet. Pressing the test button disconnects or interrupts the current and shuts down the circuit to the outlet. The test button will automatically trigger when the GFCI detects that a decrease in current has shifted the flow of power out of balance.

Having GFCIs in your home is an important way to keep you and your family safe when it comes to the dangers of electric shock. ■



Darren Maddox is CAEC's Training and Safety Coordinator and is responsible for the co-op's safety program.