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Electric Cooperative

A Touchstone Energy® Cooperative

Tribute to the Military and My Dad

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My four brothers and I grew up knowing that our Dad had served in the U.S. Navy during World War II. As with many who serve in battle he did not share much of the details when we were young, but in recent years he had shared more of the “adventure” as he referred to it.

Last May, I was in our nation’s capital visiting with our elected representatives when Dad made an Honor Flight trip along with others who also served in WWII. He traveled from North Carolina unaware

I was in D.C. When their buses arrived at the WWII Memorial, I was among the crowd waiting to greet them. It was humbling to see these proud elderly men and women, who in their youth had done their part to help liberate so many. It was great to surprise Dad and to now have a cherished memory for myself. When he returned home, our family had the emotional experience during the ticker tape homecoming and saw Dad’s source of pride and his love of country. He told us that serving in the military was a great way for a small town boy from Lake View, S.C., to see the world. And he did, from the Pacific to the Atlantic and many points in between, serving in the U.S. Navy Armed Guard and providing protection for merchant ships from U-boats and enemy aircraft.

After the war, he brought that same enthusiasm home and was always looking for ways to help out in the community or assist a neighbor, or even someone he did not know. While raising five sons, managing retail stores for Goodyear Tire Company across North and South Carolina, he always made time to do his part to make the community better. Serving as a Rotarian during his working years and then as a Lion after he retired, he always found others to join forces with -- to help their community. He was a Scout Master, drove meals on wheels, started a Relay for Life event in our home town, carried cancer patients to treatments and always made sure the grandchildren had enough to eat. He was constantly looking for opportunities to help.

It was as a local merchant that he taught us to care about the customer, treat everyone with respect - even if we were collecting past due bills. We learned to “SERVE” customers. His philosophy was sell the customers what they want; sell them anything in the store they want that is not bolted down and if they want that, un-bolt it. Once they purchase, follow up and make sure the customer is satisfied with what was done or purchased.

Dad was not about leaving a mark so everyone knew who he was, he just did what came very naturally to him and ended up leaving a legacy for us to emulate. He had a heart to serve and do what was right, whether it be for his family, a customer, neighbor, stranger or his country. Sadly, we lost my Dad to cancer Nov. 8, 2011 which was just a few weeks before his 87th birthday.

So this Memorial Day, I will not be thinking about the great battles, the noted heroes, the beach, the lake or even the picnics. Instead I will spend time remembering that there are many like my Dad among us; like many I work with every day here at CAEC, as well as others who have gone before, who when called, stepped into harm’s way because it was the right thing to do. And, I will miss my Dad. ■



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Youth Tour 2012

Every four years the U.S. holds its presidential election and this year, nearly 130 Youth Tour students had the opportunity to meet a presidential candidate during the Montgomery Youth Tour. It was an extremely exciting moment for these enthusiastic future leaders — for this is what Youth Tour is about.

Eight high school juniors, sponsored by CAEC, participated in this year's Alabama Rural Electric Association's (AREA) Montgomery Youth Tour, March 6-8. Participants were Morgan Amason, East

Memorial Christian Academy; Kayli Cheeks, Marbury High School; Carolyn Lee, Autauga Academy; Jessie Nichols, Autauga Academy; Carter Singleton, Elmore County High School; Laurel Stephenson, Prattville High School; Rachael

Temple, Prattville High School; and Erin Wynn, Hooper Academy.

Montgomery Youth Tour/ Alabama Cooperative Youth Leadership Conference

Joined by more than 130 other students from across the state, the participants toured the State Capitol, the State House, the Civil Rights Memorial and the Rosa Parks Museum. They also met with State Senator Bryan Taylor and had the unexpected opportunity to have their photo made with Republican presidential candidate Newt Gingrich, who was campaigning in Montgomery during the tour.

All students will be invited to participate in the Alabama Cooperative Youth Conference held at the 4-H Youth Development Center in Columbiana, Ala., July 10-12, where they and students from across the state will learn about different kinds of cooperatives and the unique role they play in our everyday lives. They will also take advantage of leadership development exercises and activities.

Washington D.C. Youth Tour

Another part of the Youth Tour Program is the Washington D.C. Youth Tour, scheduled for June 16-21. After interviewing with a panel of CAEC Trustees, four of the Montgomery Youth Tour participants were selected to attend this upcoming conference: Amason, Cheeks, Stephenson and Temple; Nichols was named as first alternate. These representatives will join approximately 1,500 high-school juniors from electric co-ops across the country.

This tour provides young leaders a life-impacting opportunity to increase their understanding of the value of rural electrification and become more familiar with the historical and political environment of the nation's capital with visits to monuments, government buildings and cooperative organizations. They will also be able to visit with elected officials and increase their knowledge of how the federal government works.

Congratulations to all of our students who participated in this valuable and unique process.

Application information for the 2013 Youth Tour will be available in the September issue of *Alabama Living Magazine* and at our Web site, www.caec.coop. ■



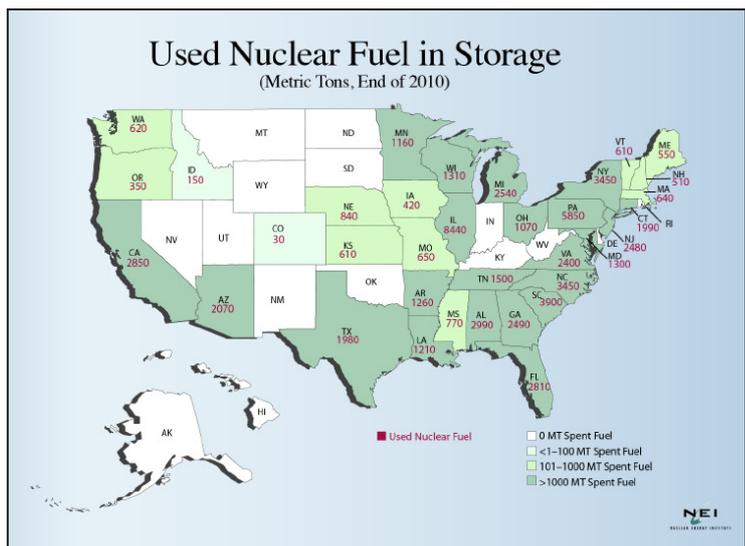
Reprocessing Nuclear Waste

Nuclear energy, first generated in the 1950s, supplies power to one out of five homes and businesses nationally. Nuclear power is seen by many as the most effective type of energy in the world – it’s clean, inexpensive, efficient and safe. But when it comes to the discussion on the subject of nuclear waste, there are a wide range of viewpoints, both political and technological.

and is often referred to as spent nuclear fuel. The spent fuel from nuclear power plants is actually a precious resource; about 96 percent of it can be recycled into new nuclear fuel and the remaining 4 percent – about 2,500 metric tons – is also usable. The reason spent nuclear fuel is so radioactive is because there’s so much energy left in it. The map to the left shows the amount, in metric tons, of the used nuclear fuel stored in each state, representing more than 65,000 metric tons kept at nuclear plant sites across the U.S. The ultimate “waste” product of the breakdown of uranium by-products is non-radioactive lead; it’s harmless and useful. Currently, no other fuel source can make this claim.

“There is no such thing as nuclear waste,” a phrase coined by journalist William Tucker and author of *Terrestrial Energy: How Nuclear Power Will Lead the Green Revolution and End America’s Energy Odyssey*. Tucker points out: The reason that the U.S. has a nuclear waste issue is because we fail to recycle our spent fuel rods. The interior of the earth is heated to a temperature of 7,000 degrees Fahrenheit by the breakdown of uranium and thorium in the layer which is hotter than the surface of the sun. We can tap this as “geothermal energy,” but the easier strategy is to mine a little bit of the source of this energy – the uranium – and duplicate the process, accelerating it a little, in a “nuclear reactor.”

In the Atoms for Peace days of the 1950s and 1960s, it was assumed that spent reactor fuel would be reprocessed into new reactor fuel. The initial plan was for the U.S. and other nuclear nations to have closed nuclear fuel cycles; the same



Nuclear waste is highly misunderstood especially when it comes to nuclear radiation, which comes in different forms and many of those forms are around us every day, such as ultraviolet rays, x-rays, visible light and microwaves.

Nuclear power plants use fission, the process of splitting atoms apart, to produce electricity. When a uranium atom splits, radiation is released along with heat turning water into high pressure steam, which spins turbines to generate electricity. Once used, the uranium, housed in special rods, becomes highly radioactive

material being used many times, leaving limited waste to store. In the closed fuel cycle, uranium is mined, enriched and processed into fuel rods; then it is burned as fuel and reprocessed, to start the cycle again. Burying spent fuel (as was planned for Yucca Mountain) was not in the Atoms for Peace picture. Why bury a fuel source that could be used to make new reactor fuel?

We could reprocess nuclear waste, like other countries do, such as France and Japan. In fact, those countries are now years ahead of the U.S. on nuclear energy production.

The U.S. stopped its reprocessing program in the 1970s and instead now stores spent nuclear fuel, waiting for a long-term burial site, which had been identified to be Yucca Mountain in Nevada; however, this site was defunded in 2009. Alternately, France has many years of experience in recycling spent nuclear fuel, generating approximately 80 percent of its electricity from nuclear power plants and maintaining the world's largest commercial nuclear waste reprocessing plant. More than 1,100 tons of spent fuel are reprocessed in France annually for both domestic and foreign companies. Smaller waste reprocessing plants can be found in India, Japan and Russia.

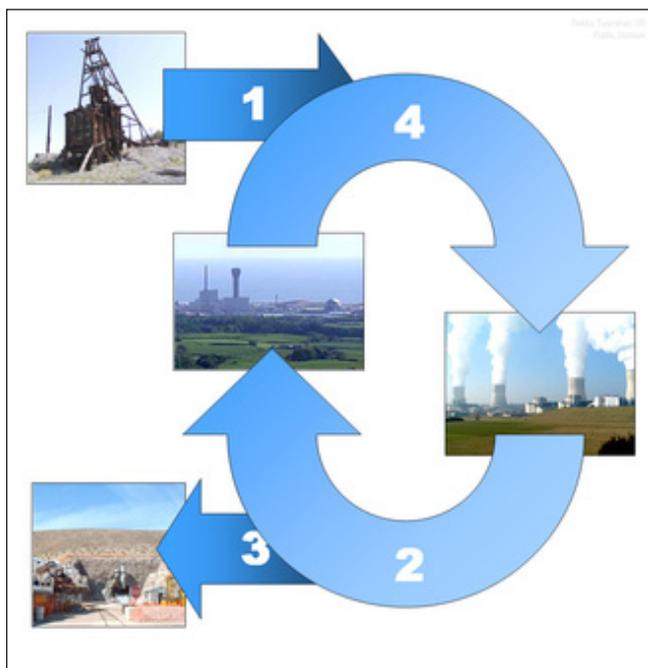
With the upcoming presidential election, there remains a split in what is the best direction for America. We have candidates who understand nuclear technology and recognize its potential, but are challenged in communicating this information to their constituents. Then we have candidates who fully support nuclear power as a "clean energy" - but due to misinformation, have become overly cautious.

There are 104 licensed commercial nuclear reactors (65 sites in 31 states) operating in the U.S. today, together they supply approximately 20 percent of the nation's electricity needs. In Alabama, the Browns Ferry (Limestone County) and Farley (Houston County) nuclear power plants account for approximately 25 percent of the state's electricity generation. The U.S. knows how to reprocess used nuclear fuel, and can do it safely, as this country did for years, and we also know there are new technologies that have improved the procedure.

As a zero-carbon and low cost energy source, nuclear power must be part of our energy mix. ■

Source: William Tucker is a veteran journalist who has covered energy and the environment for 30 years. His latest book, *Terrestrial Energy: How Nuclear Power Will Lead the Green Revolution and End America's Long Energy Odyssey*, was published in October 2008 by Bartleby Press.

NUCLEAR FUEL CYCLE



Nuclear fuel cycle begins when uranium is mined, enriched and manufactured to nuclear fuel (1) which is delivered to a nuclear power plant. After usage in the power plant the spent fuel is delivered to a reprocessing plant (if fuel is recycled) (2) or to a final repository (if no recycling is done) (3) for geological disposition. In reprocessing, 95 percent of spent fuel can be recycled to be returned to usage in a nuclear power plant (4).

Graphic Reference: Wikipedia

Arc Fault Circuit Interrupters

Bringing Safety and Technology Together



*Darren Maddox,
Training & Safety
Coordinator*

In order to hang a heavy framed picture above your couch, you find a stud in the wall and hammer in a large nail to support the size and weight. But hidden behind the wallboard is a wire that provides electricity to a wall outlet located in back of the furniture. Your nail penetrates the wire, tearing the insulation and shorting the electrical circuit to the room.

The wall quickly becomes hot, as a fire explodes behind the wall. This is an arc fault which generates high temperatures in excess of 10,000 degrees Fahrenheit, igniting nearby combustibles such as wood, paper, wallboard and carpets. An arc fault is a dangerous electrical problem often caused by damaged, overheated or stressed electrical wiring or devices.

In the U.S., arcing faults cause many of the estimated 67,800 electrical fires in homes every year, according to the most recent data from the U.S. Fire Administration (USFA) and the Consumer Product Safety Commission (CPSC). To help reduce the number of electrical fires in homes, an arc fault circuit interrupter (AFCI) is a type of circuit breaker that replaces standard circuit breakers in your home's electrical service panel and provides a higher level of protection by detecting dangerous electrical conditions and shutting down the electricity before a fire has a chance to ignite. These devices are equipped with advanced internal electronics that detect arc fault hazards - which traditional breakers are not designed to recognize.

The most common conditions that usually trigger arc faults include:

- Loose or improper connections, such as electrical wires to outlets and switches
- Extension or appliance cords that are damaged or have worn or cracked insulation
- Natural aging, and cord exposure to heat vents and sunlight
- Cables that are improperly nailed or stapled too tightly against a wall stud
- Wires located behind walls that can be accidentally punctured by a screw or drill bit
 - Cords caught in door jams, deteriorating the cable insulation through the action of opening and closing the door
 - Furniture pushed against or resting on electrical cords



Arc fault circuit interrupters can be purchased at any local electrical distributor, hardware store or home improvement center for approximately \$35 - \$45 each. Make sure to have a certified electrician install them for you, ensuring its compliance with the U.S. National Electrical Code (NEC) require-

ments while meeting your home's needs.

Electrical fires can be a silent killer occurring in areas of the home that are hidden from view. Use of AFCI technology could prevent between 50 to 75 percent of these electrical fires, saving hundreds of lives, reducing thousands of injuries and nearly \$1 billion in property damage annually. ■

Derek: The Energy Sleuth

Maintaining Your Home HVAC System



According to the U.S. Environmental Protection Agency (EPA), the average household spends more than \$2,200 a year on energy bills, with nearly half of this going to cooling and heating costs. To maximize comfort and energy efficiency, it's important to perform year-round maintenance on your heating, ventilating and air-conditioning (HVAC) system. There are some things you can do to help save on energy, decrease maintenance repair costs and improve your overall comfort and the air quality in your home.

First, dirt and neglect are the leading causes of system inefficiency and failure. Change your air filter every month, or as recommended by the manufacturer, especially during the summer and winter months when use is more likely to escalate. A clean filter will prevent dust and debris from building up in the system, which can lead to expensive maintenance and possibly early system failure.

It's also important to keep the vents on the outside unit clean. A dirty coil reduces the system's ability to cool your home and causes it to run longer, increasing your energy costs and shortening the life of your equipment. Since the unit is on the outside, gusty winds will cover your unit with debris -- wash the unit off with a water hose when dirt is visible. And be careful when doing yard work, such as mowing the lawn. Direct the mower discharge away from

the unit so grass clippings and dirt don't block or collect on the coil, drastically reducing efficiency. And the same principle should apply when weeding near the unit.

These routine maintenance tips will help your system operate more efficiently; however, they do not replace the importance of having a certified technician or qualified contractor service your system twice a year, in the spring and fall. Every contracting firm has its own maintenance checklist, but here are some general guidelines on what to expect. A biannual system maintenance check may include cleaning the coils, lubricating moving parts, tightening all electrical connections, measuring voltage and current on motors, checking thermostat settings, checking system controls to ensure proper and safe operation and inspecting the condensate drain in your central air conditioner, furnace and/or heat pump (when in cooling mode). Remember to always ask for a written copy of all functions performed and file it with your records. Most contractors offer discounted annual maintenance contracts, including a reduction on parts and labor and priority scheduling. And if you decide to sell your home, these agreements are often transferable.

Routine maintenance on your HVAC system will help improve its efficiency, extend the life of your equipment and ensure peak performance. ■

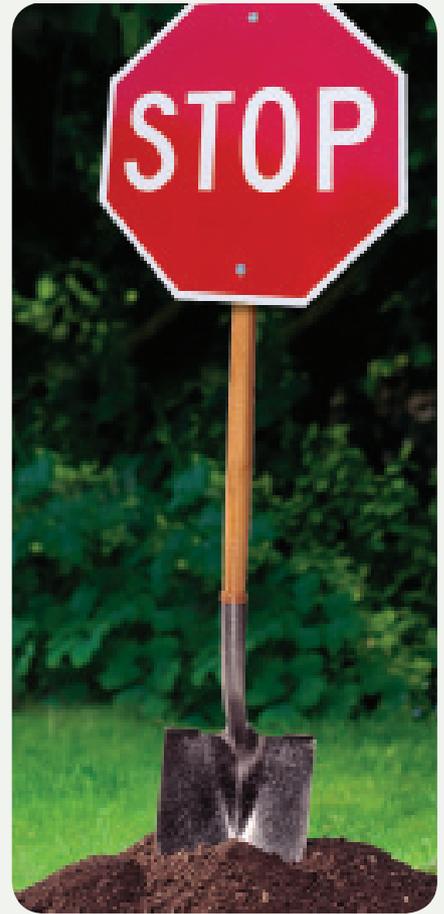


Derek Blankenship is CAEC's Energy Service Representative and Residential Energy Auditor

Electrical Safety Quiz

May is National Electrical Safety Month – test your knowledge about electricity and safety by taking the following short quiz.

1. If you're working on an outdoor project that requires digging a hole of any size, what should you do?
 - A. Dig wherever you want as long as it's a small hole.
 - B. Call 811 before you dig.
 - C. Guess where underground lines are and avoid those areas.
2. True or False: All overhead power lines are completely insulated.
3. If you lose something over the fence of a substation (like a ball) you should:
 - A. Use a stick to poke through the fence to try to get it.
 - B. Climb over the fence.
 - C. Call CAEC or the power provider to have them retrieve it for you.
4. True or False: If you see a power line on the ground, the best way to know if it's energized is to look for sparks or smoke emitting from the line.
5. If you see someone who is receiving an electrical shock or is being electrocuted from an appliance you should:
 - A. Use a piece of wood to push the appliance away.
 - B. Turn off the home's main switch at the circuit breaker.
 - C. Grab them and pull them away from the appliance.



Answers:

1. *B. Calling 811 a day or two before your outdoor project can save time, money and possibly your life. Homeowners often make risky assumptions about whether or not they should get their utility lines marked, but every digging job requires a call – even small projects like planting trees and shrubs.*
2. *False. Not all overhead power lines are insulated. Many overhead lines are partially insulated, making them very dangerous to touch.*
3. *C. Call CAEC. Substations are dangerous; never attempt to enter a substation or reach into the fenced in area. Contact CAEC or the appropriate power provider to come and safely retrieve the item for you.*
4. *False. There is no way for you to know if a power line is energized by looking at it and you should never try to find out on your own. Call the power provider or the local authorities immediately and stay away from the downed line.*
5. *B. Turn off the home's main switch at the circuit breaker. By turning off the appliance's source of electricity, you can safely evaluate the person. Touching them while the item still has power could conduct electricity into your body as well, and while wood may not be a conductor, if it's wet or dirty it could still cause you electrical harm.*

*For more safety tips, visit www.caec.coop.