

Fuel Price Recovered, Power Cost Adjustment Lowered



Last fall we reported in the *Alabama Living* magazine that the runaway rise in cost for fuel used to generate electricity over the summer of 2008 had spiked and left our power supply cooperative, PowerSouth Energy, with a nearly \$90 million

short fall. Contributing in a primary way to the Cooperative's higher costs were the market speculation with natural gas and the escalating price of coal. Although the speculation bubble burst later in the year and gas prices began coming down, as stated in my September 2008 article, the cooperatives still had to deal with the production expenses incurred during that period of high fuel cost. You may recall we reported that the member systems of PowerSouth chose to recover the money over an extended period of time, rather than having your electric rates spike in the short run, and this approach took almost one year to recover the deficit.

Better technology in mining natural gas, additional production and the reality that some folks got burned in their speculation effort all contributed to the drop in natural gas prices.


At a recent PowerSouth Board meeting, it was determined that adequate recovery through a combination of sufficient retail sales and lower fuel cost had occurred, and the power cost adjustment (PCA) could be dropped. Even better than that, the projected lower fuel cost allowed us to give a credit through the end of this year.

On your bill the recovery has been displayed as a PCA adder of 0.004270 per kilowatt hour (kWh). Beginning with the Sept. billing, the PCA shows a 0.002670 credit, which translates into a decrease of 6 percent for an average home.

As I thought about October being Cooperative month, this seemed an appropriate example of how cooperatives work. Our goals as a not-for-profit business are to provide high quality service and simply cover our cost.

Co-ops are member-owned and democratically controlled businesses, created for member-owners to provide goods and services. In our case the service we deliver is electricity. CAEC, like other co-ops, operate for the benefit of our member-owners. Our roots come from the rural farmer who was accustomed to dealing with cooperatives. Today, about 30 percent of farmers' products in the U.S. are marketed through cooperatives. Of all the cooperatives, more than 20 have annual sales in excess of \$1 billion, including such well known names as Land O' Lakes, Inc., Ocean Spray and ACE Hardware. Credit unions have over 76 million members and assets in excess of \$100 billion.

There are approximately one million cooperative housing units serving households with a range of income levels and housing needs. More than 50 million Americans are served by insurance companies owned by or closely affiliated with cooperatives. Electric cooperatives operate nearly half of the electric distribution lines in the United States and provide electricity for 34 million people—one in 10 Americans.

As a cooperative business, we have to cover the cost of buying the wholesale power we deliver as well as the expenditures to deliver it, but we also consistently drive to lower the charges when possible. 

Tom Stackhouse, CAEC President/CEO

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2009 Annual Meeting — *Focusing on the Future of Energy*

Our Energy, Our Future was the theme of CAEC's Annual Meeting and Member Appreciation event held on Friday, Aug. 14, at CAEC's Prattville headquarters. Highlighting the many ways people can save energy, members



received two free energy-efficient CFLs, and they were able to obtain information in the energy efficiency expo about CAEC's Peak Shaving Program as well as dual fuel, geothermal and weatherization assistance. Members also had an

opportunity to join the dialogue with Congress about affordable energy costs through the Our Energy, Our Future program.



During the business meeting, Wayne Gruenloh, CPA and Owner of Gruenloh and Associates of Robertsdale, Ala., presented the Cooperative's audit. Additionally, Patsy Holmes, Wetumpka, District 3; Van Smith, Billingsley, District 7; and Chase Riddle, Prattville, District 8, were re-elected to three-year terms on the ten-member CAEC Board of Trustees.

In his address to the membership, CAEC President and CEO Tom Stackhouse touched on the effects of increased costs that current federal legislation may have on all electric consumers



if it passes both houses of Congress. He asked the members to get involved with the ongoing

dialogue with Congress through the Our Energy, Our Future email campaign.

A total of 2,936 members registered by mail and



more than 600 members registered in person. Attendees of the meeting enjoyed live entertainment, children's activities, healthy lifestyles information, prize drawings and tasty food.

The meeting concluded with the grand prize drawing of \$500 won by John Mulligan of Prattville. Next year's Annual Meeting is scheduled for Friday, Aug. 13, 2010. ☺



Hydropower - Using Water to Generate Electricity

At an early age we were taught that electricity and water do not mix. True as that may be, did you know that water is used to generate your electricity? Sounds weird but one of the oldest sources used to produce energy, that has been around for hundreds of years, is **hydropower** – using water to power machinery or make electricity.

In last month's issue of *Alabama Living* we discussed natural gas and this month we will focus on the energy of the hydrologic water cycle (moving water) and how it can be tapped to produce electricity.

The United States is the second largest producer of hydropower, surpassed by Canada. In

the U.S. hydropower is the most used form of renewable energy, comprising 75 percent of renewable energy generation and approximately 8 percent total electricity generation. The total hydropower capacity in the U.S. is about 95,000 megawatts (MW) – enough to power 37.8 million homes. Additionally, in the U.S., hydropower is produced for an average of 0.85 cents per kilowatt-hour. This is about 50 percent the cost of nuclear, 40 percent of coal and 25 percent of natural gas.

Hydropower became widely used in the early 1880s when technology to transmit electricity over long distances was developed.



HOW HYDROPOWER IS GENERATED

- **Dam** – Most hydropower plants rely on a dam that holds back water, creating a large **reservoir**.



- **Intake** - Gates on the dam open and gravity pulls the water through the **penstock**, a pipeline that leads to the turbine. Water builds up pressure as it flows through this pipe.
- **Turbine** - The water strikes and turns

the large blades of a turbine, which is attached to a generator above it by way of a shaft. Modern hydro turbines can convert as much as 90 percent of the available energy into electricity.

- **Generators** - As the turbine blades turn, so do a series of electro-magnets on the rotating portion of



the generator. The giant magnets rotate past copper coils, creating electricity. After the generators produce electricity, it is transferred to an electrical power substation and then transmitted to your home. (June issue of *Alabama Living*, pgs. 6-7).

- **Outflow** - Used water is discharged from the turbine and is sometimes carried through pipelines (tailraces) and re-enters the river downstream.

The water in the reservoir is considered stored energy. The level of the reservoir above the turbine is referred to as “head” and determines the amount of pressure and volume available to generate electricity. A greater amount of head translates to more available energy for electrical generation. When the gates are open, the water flowing through the penstock becomes kinetic energy because it's in motion. The rotating turbine in turn drives the generator.

TYPES OF HYDROPOWER PLANTS

There are four types of hydropower facilities:

1. *Impoundment* - The most common and typically a large hydropower system, it uses a dam to store river water in a reservoir.
2. *Run-of-River Project* - Uses water within the natural flow range of the river, requiring little or no impoundment. PowerSouth's



(CAEC's power supplier) Gantt Hydroelectric Plant in Gantt, Ala., on the Conecuh River and the Point A Hydroelectric Plant, about five miles

downstream near the town of River Falls, Ala., operates as a run-of-river project.

3. *Diversion* - Channels a portion of a river through a canal or penstock. It may not require the use of a dam.
4. *Pumped Storage* - When the demand for electricity is low, this facility stores energy by pumping water from a lower reservoir to an upper reservoir. During periods of high electrical demand, the water is released back to the lower reservoir to generate electricity.

These plants are operated and monitored using modern technology and can be operated from on-site control rooms or a centralized control room.

SIZES OF HYDROPOWER PLANTS

- Large - Projects that generate more than 30 megawatts (MW) - enough electricity to power nearly 30,000 households.
- Small - Capacity of 100 kilowatts (kW) to 30 MW. For example, PowerSouth's Gantt and Point A Hydroelectric plants have a combined generating capacity of 8 MW.
- Micro - Capacity up to 100 kW - enough electricity for a home, farm or village.

BENEFITS OF HYDROPOWER

- Domestic energy resource that is not subject to disruptions from foreign suppliers, cost fluctuations and transportation issues.
- Fuel is abundant.
- Well developed technology.
- Climate-friendly and does not produce air pollution or create any toxic by-products.
- Capable of rapid response to peak demands and emergency needs.
- Systems are very efficient and they convert 70-90 percent of water energy to electricity.
- Average lifespan of a hydropower facility is 100 years.
- Existing hydropower facilities only have costs associated with monitoring and maintaining the facility.
- Non-power benefits include creating wildlife conservation lands, supporting healthy fisheries, improving water quality, controlling floods, irrigating land for food production and creating recreational opportunities.



CHALLENGES OF HYDROPOWER

- Some dams take up large areas of land and can cause fish and other animals to relocate.
- Plant life can be affected.
- The power stations are expensive to build, heavily regulated and take up to eight years to license.
- Vulnerability in times of drought.

Using hydro electric power as an alternative source of energy offers you many advantages. These facilities contribute to grid reliability and help lower peak energy prices, which is a cost benefit to you. We know the need of alternative energy sources is growing and hydro electric power is one of the many considerations for renewable energy sources in our future. ☪

Cowboys ...

by CAEC Journeyman Lineman

and Line Inspector Michael Longcrier



What time is it? It looks like a little after 3 a.m. I'm tired and it's just the middle of the week, but it seems like this on-call will never end. I guess it sounds like I've been out here doing this work all by myself; I haven't. There's a great bunch of guys willing to come help me whenever I call.

They say cowboys are legends of the past; I say they are still just as alive as they were over a century ago. I recognize them today as the men and women who bring power to the homes and businesses we serve. They drive line and bucket trucks, instead of horses. They don't wear spurs and a gun belt; they wear hooks and a climbing belt. Times have changed though and we don't all live together at a ranch house, we work together out of a warehouse. And when I say "work together," I'm serious; it seems like every one of those cowboys have bailed me out during one storm or another.

In days gone by, most ranch houses had a strong woman who cared for, fed and prayed for the cowboys. We're fortunate to have Ms. Donna because when we're out working late into the night, she's just a radio call away—especially if we need help. Sometimes as we roll into the warehouse and start to head home, she hands us a cup of coffee for the road. And when we sense we have extra company on that ride back home, that's God because Ms. Donna prays for our safe trip home. She always tries to stay till we get home—God Bless her.

Carl is the foreman of our ranch house, and a good one too. He's crossed the river when it's been up and rough, and ridden trails just as rough. So when we come across trouble, he knows that we know there's more than one way to get a job done; he just expects us to do it safe and right. Now every foreman needs a right hand man, and for Carl that man is Wade. If Wade had lived years ago, I believe he would have been faster with a knife than a gun because his words are sharp and quick—always making us think.

Greg and Bart do their best to have us stretching wire and poles from one end of the county slap into the next. On one hand, Greg is always wrestling with a thought, turning it over and tying it down, and when he's through, he has it roped and tied off, just like a steer ready for branding. Now Bart—he's another story—good at his job and with a bit of charm and a quick smile, he can get others to rope and brand for him.

Besides the folks who run the ranch, we've got some cowboys who make the ranch work. There's Buster and Danny who not only live by their kind words and patience, they work by them too. There's also Gary and Ronnie whose appearances are different but their work ethic is identical. With those two, the job is never too small or too big because when they ride away from a job, the work is done and done right. Two of our "old timers" are Lawrence and Robert. Now there's probably not a single guy who hasn't gone to Lawrence for some kind of advice, and he's always been there to listen, tell them what they already knew, but in a way that helps them find that confidence again. And Robert is always there cheering us on with assurance and support. He's a man willing to give us the shirt off his back, asking nothing in return. Then there's Tim and Kevin, both eager to tackle all work, and just as eager to tackle it at the end of the day. Both work hard and play hard.

Now every ranch has at least one bull, but our ranch is lucky because we have two; their names are Ted and Heath. Ted, the older and wiser cowboy, has just as much enthusiasm as the younger cowboy Heath. Both men are always there in a pinch, and their only question is, "Where's the work?" Once they get the assignment, the rest of us had better look out—or hold on for the ride. The two newer men are Nathan and Thomas, and although neither has been around long, their eagerness is evident. Both are quick to smile, quick to listen and quick to work.

At the end of the work day I'll make my way back to the warehouse where some of the guys will be sitting and standing around. As I walk in, they'll look up and we'll lock eyes, and they'll measure my character and quality in that instant. I might see a glimmer of "you did good," but I won't hear any words. Just knowing that I'm a part of the past, the present and the future is what matters. That—and the fact that the guys I work with all measure up to the character and quality that so few strive or even desire to achieve in their life.

So the next time the lights are out and the weather is cold as ice, wet as a lake and windy as a hurricane, just know the guys have cowboy'd up and are headed your way. 🐾

This reflection highlights CAEC's Prattville crew and the full version can be found at www.caec.coop.





Too Much of a Good Thing


Electricity can operate many things simultaneously, but overloaded outlets can quickly become dangerous. Overloaded outlets are a major cause of residential fires and can be a potential hazard to you and your family. Be safe: never overload any outlet.

Safety tip:

If an appliance has a three-prong plug, use it only in a three-slot outlet. Never force it to fit into a two-slot outlet or extension cord.



Central Alabama
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Recipe for *Efficiency* from CAEC

Insulating Electrical Outlets and Switches

Air infiltrates into and out of your home through every hole and crack. Sealing the air loss within your home is critical and one of the often forgotten areas is under the covers of electrical wall outlets and switch plates.

While most people don't consider this to be a major source of energy loss, keep in mind that behind every faceplate that covers a light switch or electrical outlet is a gaping hole through which cold air leaks into your house. Don't

believe it? On a cold, windy day, simply hold your hand near your outlet or light switch and you're likely to feel that cold air seeping in from the wall.

A simple, inexpensive, energy-saving method of stopping air leaks and drafts around wall outlets and switches is to insulate them. Adding insulation allows you to create a tight seal between the wall and the faceplate, eliminating where heat can escape or cold can creep in.

Utensils (tools):

Screwdriver (flat head)

Ingredients (supplies):

Foam Electrical Outlet Sealers/Gaskets

Foam Light Switch Plate Sealers/Gaskets

Directions:

1. Turn power off at the circuit breaker box located in a metal box inside or outside your home.



2. Remove the cover plates on the electrical outlets and light switches with a screwdriver.

3. Punch out the perforated holes or cut outs from the foam sealers/gaskets. A pack of six or eight can be purchased at any hardware or home improvement store for under \$5.



4. Place the foam inserts securely over the outlet plugs and light switches.



5. Screw the cover plates back on so it fits snugly against the foam insulation.

6. Switch the power back on and inspect each outlet to ensure it is working properly.

It's just that easy!

Although insulating electrical outlets and light switches may not seem like a worthwhile energy-saving effort, these little steps can make a noticeable difference in your monthly utility usage. For more energy tips, visit us at www.caec.coop. 