



The Power of Water

BY SHIRLEY DUKES

Water is mesmerizing. Anyone who has ever sat on the beach or beside a babbling brook can attest to that. I have always wanted to go to Mississippi and experience life on the water on one of those steam-powered paddle boats. When you see them in the movies or on brochures they just look so serene and romantic. And rain ... there is nothing more soothing than a gentle rain.

So what is it about water that draws us and makes us want to be a part of it?

Water is powerful. It is one of the most basic elements; without it, we cannot survive. But it can also have a catastrophic and destructive effect when it is released too quickly, either by man or nature.

For thousands of years, humans have used water to our advantage. It has been a means of travel, trade and power. It is one of the oldest sources of energy and was used as many as 2,000 years ago to turn water wheels for grinding wheat into flour. In the 1830s, hydropower was used to transport barge traffic up and down steep hills using inclined plane railroads.

The first industrial use of hydropower to produce electricity in the U.S. came in 1880 at the Wolverine Chair Factory in Grand Rapids, Michigan. And on September 30,

1882, the first U.S. power plant opened on the Fox River near Appleton, Wisconsin. By 1886, there were about 45 water-powered electric plants in the U.S. and Canada, and by 1889, that number had jumped to 200. According to the U.S. Department of Energy, in 2003, about 10 percent of U.S. electricity was supplied by hydropower.

Today, hydropower provides us with cost-effective electricity from a proven renewable resource with no greenhouse emissions. Of the renewable energy sources that generate electricity, hydropower is the one most often used. Hydropower, or hydroelectricity, is the conversion of the energy of moving water to some useful purpose.

According to the Wisconsin Valley Improvement Company, about 20 percent of all electricity worldwide is generated by hydropower, and hydropower provides about 10 percent of the electricity in the U.S. Canada is the largest producer of hydropower in the world, with the U.S. coming in second, producing enough electricity to serve the needs of 28 million residential customers.

So just how do we get electricity from water? Most conventional hydroelectric plants include four major components: a dam, a turbine, a generator and transmission lines. These plants capture the energy of falling

water to generate electricity. First, a turbine converts the energy of falling water into mechanical energy, then a generator converts the mechanical energy from the turbine into electrical energy. The amount of electricity a plant produces depends on two factors: the amount of falling water and how far that water has to fall.

Actually, hydroelectric and coal-fired power plants both produce electricity in a similar way. In both cases, a power source is used to turn a propeller-like turbine, which then turns a metal shaft in an electric generator, which is the motor that produces electricity. A coal-fired power plant uses steam produced with heat from the burning coal to turn the turbine blades, whereas a hydroelectric plant uses falling water to turn the turbine. The results are the same.

Brazos Electric Power Cooperative, the wholesale power provider for Comanche Electric Cooperative, uses two sources of hydroelectric power generation in its generation portfolio. They are the Whitney Dam and the Morris Sheppard Dam. Brazos Electric purchases all the energy generated from both plants for distribution to its members.

The Whitney Dam is on the Brazos River, about 30 miles north of Waco on the Bosque County line at the western edge of Hill County. Managed by the U.S. Army Corps of Engineers, Lake Whitney was originally built for flood control, stream flow regulation, hydroelectric generation and other beneficial purposes. Hydroelectric generation at the Whitney Dam began in 1953. The power plant has two 15,000-kilowatt (kW) hydroelectric turbine-generating units.

The Morris Sheppard Dam is on the Brazos River west of Mineral Wells in Palo Pinto County and impounds Possum Kingdom Lake. Managed by the Brazos River Authority, this dam and lake were built for water conservation, hydroelectric generation and other beneficial purposes.



Lake Whitney Dam has two 15,000-kilowatt generating units.



Possum Kingdom Dam is equipped with two 12,000 kilowatt hydroelectric generating units.

Hydroelectric generation began here in 1942, and the plant currently has two 12,000 kW hydroelectric turbine-generating units.

“Brazos Electric typically uses the Whitney Dam and Morris Sheppard Dam capacity and energy only a few hours per day to serve peak demands, because the water available for hydroelectric generation is usually limited,” said Hugh Lenox, vice president of power supply and marketing at Brazos Electric. “During high rainfall years like 2007, the generation may run 24 hours per day for several weeks.”

As with any fuel source, hydropower has its advantages and disadvantages. It is clean, producing no greenhouse gases or other air pollution, and leaves behind no waste. It isn't subject to rising or unstable fuel costs, it is renewable, and it is not subject to the whims of foreign suppliers. Hydropower is the only energy source that offers a whole range of added benefits, such as dams that control floodwaters and reservoirs that provide recreational opportunities. On the down side, however, hydropower does present a few environmental problems. Damming rivers may destroy or disrupt wildlife habitat and natural resources. Also, during years of limited rainfall, the amount of generation is

sometimes reduced according to the amount of available water.

Hydroelectric power has been an important part of the world's electricity supply for more than a hundred years. It provides reliable, cost-effective electricity and will continue to do so in the future. Hydropower has environmental impacts that are very different from those of fossil-fuel power plants. The actual effects of dams and reservoirs on various ecosystems are only now becoming understood. The future of hydroelectric power will depend upon future demand for electricity, as well as how societies value the environmental impacts of hydroelectric power compared with the impacts of other sources of electricity.

With the strong push from our government for more renewable energy by 2025, there is a good chance that we could begin to see hydropower, as well as all other sources of renewable energy, playing a much more prominent role in the future of the power industry.

Comanche Electric Cooperative continues to strive to stay abreast of such issues and keep the membership informed concerning all aspects of electric energy. It is part of our commitment to you, the member-owners of Comanche Electric Cooperative.



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This section of *Texas Co-op Power* is produced by Comanche EC each month to provide you with information about current events, special programs and other activities of the cooperative. If you have any comments or suggestions, please contact Shirley at the Comanche office or at sdukes@ceca.coop.

COMANCHE ELECTRIC COOPERATIVE



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The Big Screen Comes to Gorman

BY SHIRLEY DUKES

Gorman is a small town with a population of about 1,300. It is located at State Highway 6 and FM 8 on the southeastern edge of Eastland County. I have been told that a good slogan for Gorman is “Where Yesterday Meets Tomorrow,” which fits this laid-back and quiet town with lots of front porch visiting, but which also has many modern conveniences, such as broadband Internet, for those who want to remain connected to the faster-paced, outside world.

Along with the usual grocery stores, pharmacies and hair salons, Gorman is also home to Our Father Antiques in the historic Higginbotham’s building and the famed Z.J.’s Steak House, where people come from miles away to partake of succulent steaks and onion rings. It is also home to the Gorman Panthers, and although enrollment has dropped in recent years, Gorman High School still has about 400 students. When not in school, the kids can hang out at the swimming pool or at the newly refurbished city park or the basketball courts.

Gorman is mostly a farming and ranching community. At one time, it was known as the Peanut Marketing Capital of the Southwest and was the headquarters for the Southwestern Peanut Growers Association, the Texas Peanut Producers Board and the Texas Co-op Inspection Program.

However, with the end of the peanut program, that title was relinquished, and of the three peanut boards, only the Southwestern Peanut Growers Association is still headquartered in Gorman. Birdsong Peanuts was also at one time a thriving industry here, but the center of its activity has moved to Brownfield, with only a cold storage plant still in operation in Gorman.

Today, the farming and ranching industry involves mostly the running of a few head of cattle and the pro-

duction of a small hay crop. The area also offers seasonal hunting leases for deer, doves and hogs.

Gorman still hosts the annual Peanut Festival, Tour of the Peanut Country Bike Ride and the Doodle Bug Train Excursion. The Peanut Country Bike Ride is held the second Saturday in June and is hosted by the Gorman Lions Club. This year marked the eighth annual ride, which has been named by some of the riders as “one of the best-kept secrets” on the bike-riding circuit. Several riders said it was one of the smallest but most pleasant and scenic rides with the nicest people that they had ever encountered.



Assistant Director Jolie Mayfield and actor Amanda Branham prepare actor Lauren Doxey for a scene in ‘Trial by Self,’ which is being filmed in Gorman.

The Peanut Festival is held the second Saturday in September and is as close to an old-time country fair as you can find in this modern day and age. It still centers around the election of a peanut queen, a cooking contest featuring peanut recipes and a carnival.

The Doodle Bug Train Excursion

is probably the most popular Gorman event. Held twice a year in May and October, the one-car train boards in Dublin, stops over in De Leon for lunch, shopping and a visit to the Terrell Antiques Car Museum, then rolls on to Gorman for a party, after which it heads back to Dublin for a visit to the famous Dr Pepper Plant and Museum. This event is so popular that by the end of the 2006 ride, the 2007 rides were already sold out, so if you are interested you might want to go ahead and purchase tickets for 2008!

Gorman also is home to the Frank Grey Memorial Park, one of the few parks left that does not require a reservation. The park has a lake, picnic tables and electricity.

A typical day in Gorman is slow-paced and quiet. Most days, the only action you will see is on the main thoroughfare when residents do their shopping or at the Dairy Queen about coffee time. But this past June and July, “action” was an uncommon word used commonly in an uncommon situation in this common little town. That is because for two months, writer/director and former resident Brandon Powell was in town with a cast of performers to shoot scenes for his upcoming movie, “Trial by Self.”

Powell grew up in Gorman, where there were not a lot of activities for a teenager on a Friday or Saturday night. This left him with little to do but obsess over movies. However, this could have been to his benefit. His mother said that if there had been more to do growing up, he probably would not have as good an imagination.

It was while attending high school that Powell first realized he wanted to spend his life making movies. “Most people would watch a movie simply to relax and get their mind off their problems. I would dissect every scene shot for shot, analyzing the construction and shot choices,” he said. Powell grew very interested in the work of



Director Brandon Powell and Assistant Director Jolie Mayfield prepare to shoot Scene 7 of the movie 'Trial by Self.'

Alfred Hitchcock and was fascinated by his use of montage and expressionism. He read every book he could get his hands on and has taken every class offered at Howard Payne University related to filmmaking. He is, without a doubt, a film junkie.

After making a few short movies for practice, Powell decided he was ready to try his first independent film. "Trial by Self" is his first attempt at making a feature-length movie, but what he lacks in experience he makes up for in vision.

"I know what I want and why I want it," he said.

He envisions a very gritty, yet formalistic look for the movie.

"I feel that the low-budget nature of the movie will actually benefit the style I am going for," he said.

Powell realizes that "not everyone is going to like this movie. It has been drained of all formula and it will be a much different movie than many are

used to. It may actually make some people angry or uncomfortable, and I make no apologies because that is what art does. It challenges people. I sort of dressed it up to look like a popcorn flick but it won't take long for the audience to see through this disguise and notice that there is a lot more going on. It is impossible to make a movie that every soul on the earth will love."

He also says that he "wouldn't call it a 'slasher' flick because the only 'slasher' conventions that are actually there are played out in such an abstract way. I only use these conventions as metaphors, so the payoff one expects in a horror flick isn't really there. It will be somewhat suspenseful, but my goal isn't to scare anyone. Hollywood can do that."

Powell feels that the movie will probably be rated PG-13 for mild violence. People will die of stab wounds in this movie, but you will not see the

actual act on screen. Most of that will be left up to the individual's imagination. In fact, he says that for him, it is "more interesting and fun to come up with ways to do it without showing the actual penetration of the knife. I'm not trying to disgust the audience. I'm trying to make them think."

Assistant Director Jolie Mayfield said the film is "a thriller, with a human-interest twist. There is nothing pointless in this movie. Every action and dialogue plays an important role in the outcome of the film."

So what is the movie actually about? Unfortunately, I am unable to say. Not because I don't want to but because I truly don't know. Powell was very vague on this issue, so I suppose we must all wait for the movie to appear in theaters to find out.

I spent time on the set with Powell, Mayfield and two of the performers: Amanda Branham, who plays Sarah, and Catherine (Cat) Angle,



One of the biggest challenges in filming a movie is the lighting. Here, actors Amanda Branham and Cat Angle wait while Director Brandon Powell checks the lighting. The confined space of the hallway where shooting is taking place is an additional challenge.

had ideas for his next movie, he and Mayfield laughed. Apparently Powell has a folder about two inches thick that is full of new ideas. I asked him whether he would like to share any of those ideas with us, and he just smiled and said, "Just know that they will be good."

Visiting a movie set was certainly a new and exciting experience for me. What I enjoyed most was the camaraderie, the friendly chatter, the fun they all had on set. Powell takes directing seriously, and when it is time to get serious, everyone knows what they have to do, and they all pull together to get it done in a very professional way. But he also believes that if you cannot have fun doing a thing, you should not do it. So, while a day on the set is a serious thing, it can also be fun and extremely funny.

Once Powell and his crew leave, Gorman will revert to the quiet little town. The kids will still hang out at the park or the school, the men will still meet at the DQ for coffee, and the domino crowd will still play 42. Even though it has given up the title of "Peanut Marketing Capital of the Southwest," it continues its traditional Peanut Festival, Bike Tour and Doodle Bug Train Excursion.

Go ahead and pull out your 2008 calendars and mark these events so you don't forget them. The entire town is sure to turn out and show you a peanutty good time!

who plays her mother, Keri. But even after a day on the set, the only thing I really know is that it involves a dysfunctional family with an alcoholic father, and someone will die.

According to Nicole McKenzie, who plays Detective Gina Garrett, "The script brings up the point of how one person's actions can drastically change their life and the lives of others around them." Lauren Doxey, who plays Lindsey Dodson, says, "This movie is the story of a man being awakened by his grief."

Michelle Lamelza, who plays Lisa Grayson, says, "Some of these scenes sparked emotions that I haven't expressed in a long while."

Kevin Crank, who plays Detective Jack Preston, says, "I'm very impressed with his [Powell's] vision, and I expect great things from this up-and-coming writer/director in the future."

Angle says, "With such a great script, this movie can't help but be a hit."

Powell says there are two questions he is always asked and that he hates to answer: "What's it about?" and "What exactly does it mean?"

"Why rob people of the most important and powerful aspects of film perception? No one is going to interpret this the way I do, because they don't have the same experiences. This doesn't make them wrong at all, because what makes movies so powerful is that people interpret them in ways that mean something to them. It would be rather arrogant of me to tell them what to think."

When I asked Powell whether he

THANKS FOR EXCELLENT SERVICE

Johnny and I would like to say "Thank you and God bless" to the two young men from Comanche Electric Cooperative who came out and helped our family during our electrical crisis. We had just returned from a stay in the Abilene Hospital

and came home to find that we had no power.

These two young men came out on a weekend and worked in the pouring rain and lightning. They refused to quit until our power was restored. They went above and beyond the call of duty to help us in our time of need, and for that we will be forever grateful.

God Bless You,
Mary Perkins

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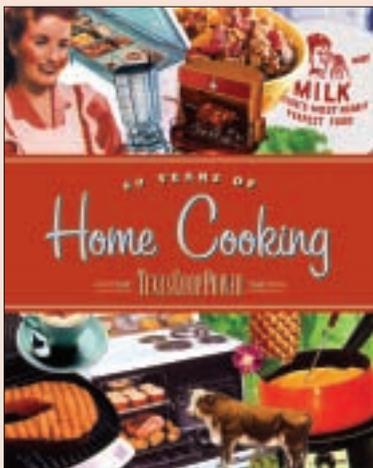
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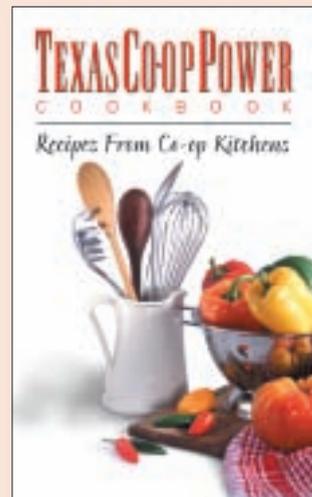
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