

Country News



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Touchstone Energy®

K.C. Electric Association Welcomes New General Manager

I am Timothy J. Power, the new general manager of K.C. Electric Association. I replaced John Huppert, who retired in April 2010. I will assume his duties on May 3.



Timothy J. Powers

Previously I was director of energy services for Freeborn-Mower Cooperative

Services in Albert Lea, Minnesota. In that position I was responsible for all energy efficiency, conservation, renewable energy and key accounts programs. Prior to that, I worked as a home energy rating system rater in Des Moines, Iowa. In that capacity, I served as a third-party energy rater for utilities and consulted with builders on how to build more energy-efficient homes.

In the early 1990s, I was a program manager at the Iowa Association of Municipal Utilities. I have more than 10 years of experience working with investor-owned, municipal and electric distribution cooperative utilities. In addition to

my work in the electric utility industry, I also served as manager of business development for an Internet firm in Des Moines for nine years.

I graduated from the University of Nebraska in 1990, with a masters in business administration. I also hold a bachelor of science in business


administration from the University of Nebraska. (Win *Paula Wortham, acct. 518377011)

I am native of North Dakota. My wife, Shelly, and I have three children: Landon, 7, Ellie, 5, and Carson, 4. Shelly holds a degree in education from Iowa State University and is certified to teach Spanish from kindergarten through college level. Shelly and I look forward to relocating to the Hugo area and becoming involved in the local community.

We are excited about coming to Colorado and delighted to be a part of K.C. Electric Association, Inc. We look forward to meeting as many of you as possible.

Stay Clear!

A downed power line may not be a dead line. It could cause serious injury or death.



FOLLOW THESE TIPS FROM YOUR ELECTRIC COOPERATIVE TO STAY SAFE:

- Assume all power lines are energized and dangerous. Even lines that are de-energized could become energized at any time.
- Never touch a downed power line! And never touch a person or object that is touching a power line.
- If someone is injured as a result of contact with electric current, do not try to assist him or her. You could be injured or killed. Call 911.
- If a power line falls across your vehicle while you are in it, stay inside until help arrives.
- Call 911 immediately to report a downed power line. Then call your electric cooperative.

Tankless Water Heaters Have Hidden Costs

An unlimited supply of hot water definitely sounds like a sweet deal to many home owners. So do reduced water heating costs, instantaneous hot water on demand and more space in the utility closet.

(David Worden 1103795006)

These are all promises made by companies selling tankless water heaters. But does the technology really deliver?

Unlike traditional electric resistance or gas-fired water heaters, tankless models do not store hot water — they heat water only as it's consumed. One or a series of heating elements within a tankless water heater are activated when a hot water faucet or valve is opened. The unit heats water until the faucet or valve gets closed.

“Unlimited” hot water?

An unlimited supply of hot water sounds great but generally doesn't make for responsible water use, particularly in areas of the country suffering from drought or chronic water shortages. Moreover, even the largest whole-house unit may not supply enough hot water for simultaneous, multiple uses.

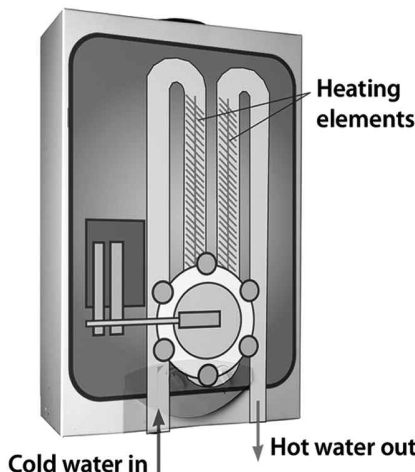
For example, such a unit may be able to supply only two showers simultaneously or perhaps one shower, a dishwasher and a sink. If users demand too much water, temperatures will drop. As a result, a tankless system probably won't meet the needs of a large family.

In addition, water temperature depends on the volume coming out of a faucet. If you turn on the faucet only a trickle, water runs cold. If you open the faucet further, you will trigger hot water — the hottest possible. If you open the faucet to maximum, the temperature will drop back a bit. If you open more than one faucet, temperatures will drop even more.

Hidden costs

Generally, tankless water heaters do not require a lot of space (a large unit can fit in an area no larger than 24 inches square and extend from the wall about 8 to 10 inches). But they do require an upgrade in electrical service — something most

A tankless water heater at work



Source: U.S. Department of Energy

Unlike a traditional water heater, a wall-mounted tankless model does not store hot water. It heats water only as it is used, with heating elements inside the water heater that are activated when a hot water faucet or valve is opened. Consumers can generally save more on energy costs by using traditional water heaters (with a tank) efficiently.

home improvement stores often don't mention and one reason electric co-ops generally don't recommend the appliances. This means consumers who want to replace an existing conventional water heater with a tankless unit or add one as part of a home-remodeling project will incur additional costs.

For example, a traditional tank water heater with 4,500-watt elements operates on No. 10 wire and a 30-amp circuit breaker. One whole-house tankless model boasts four 7,000-watt elements for a total electrical load of 28,000 watts. This requires wire and a circuit breaker that will handle at least 120 amps.

If a tankless water heater is installed in an existing home without upgrading the electrical service, low voltage or sudden voltage drops are likely. This will cause dimming lights, blinking lights and other problems.

The extra load also necessitates a larger and more expensive meter loop and main breaker panel for the house. In some cases, consumers also must pay for new wiring between the distribution transformer and electric meter. Check

with a licensed electrician or your local electric co-op to determine if you must improve your electric service connections to support a tankless water heater.

While gas-fired tankless water heaters generally do not need basic service upgrades, the same considerations must be made when determining how many hot water faucets will be turned on at any given time and how far away the tankless heater remains from sinks and showers.

Other options

Consumers looking for an efficient water heater should consider a heavily insulated electric resistance unit. These appliances are often the most cost-effective option over the long term. And because of their hot water storage capabilities, many electric co-ops employ electric resistance water heaters as a key component of load management programs that shave power costs during times of peak demand — a proven way to help keep electric bills affordable.

To reduce home water heating costs, the Oak Ridge National Laboratory suggests simple and inexpensive measures, such as tank insulation, temperature setback, timers, heat traps and low-flow showerheads. All of these are more practical and provide a greater return on investment than putting in a tankless water heater.

Courtesy of the National Rural Electric Cooperative Association's Cooperative Research Network, which monitors, evaluates and applies technologies that help electric cooperatives control costs, increase productivity and enhance service to their consumers.

**IRRIGATION
METER READING**

Irrigation meters will be read on:
June 1 and July 1

KILOWAT



Capturing Wind on the Colorado's Plains

BY BEN ORRELL, MEMBER SERVICES REPRESENTATIVE

Many of you may have visited a wind farm and experienced the sheer magnitude of these wind towers. I had not. Recently, I was on my way to Burlington to speak to a delightful group of ladies from the Burlington Women's Club and took a side trip to the new wind-farm going up northwest of Burlington. I drove into the area where the offices and construction trailers were and was absolutely amazed at the amount of work that was going on. Perhaps I could have obtained permission to drive out to the area where the towers were being erected, but I decided not to bother the workers. Instead, I drove north on County Road 44 and then took Road BB back to the east. This took me right by several towers that were up and several more that were being erected.

This detour is well worth your time. These towers are incredibly huge. It is hard to quantify but I took a picture of one and then realized that the small dot at the base of one tower was a pickup truck. It looked like a toy. Whether you are a fan of wind power or not, the drive is worth it just to experience the magnitude of the project. When I was there, five towers were up and two were being erected. I dare say that when you read this there will be dozens. The workers are moving fast.

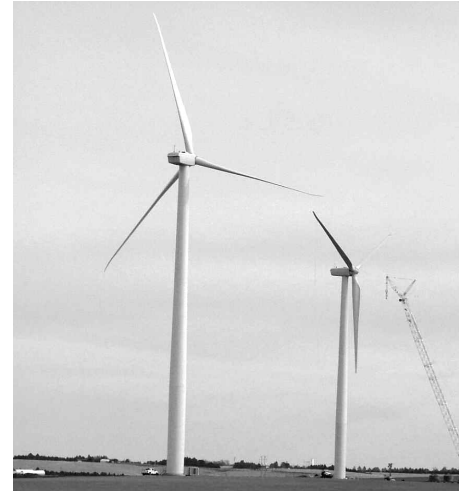
In July 2009, Tri-State Generation and Transmission entered into a 20-year agreement with a subsidiary of Duke Energy Corporation to purchase the output of a new 51-megawatt wind farm to be built in eastern Colorado. The project is called the Kit Carson Windpower Proj-



Wind towers dominate the rural landscapes.

ect and will be composed of 34 1.5-megawatt General Electric turbines currently being erected on a 6,000-acre site. As you know that is within the service territory of Tri-State and K.C. Electric Association. The facility is projected to generate enough electricity to power 12,000 to 14,000 homes and is scheduled to be fully operational by December 2010.

Each tower stands 262.47 feet tall and the diameter of the blades is 252.62 feet. At the top of the rotation, the tip of the blade would be 388.78 feet in the air. To put that in perspective, it is more than twice the height of the chapel at the U.S. Air Force Academy. Cut-in speed for the generators is 7.83 miles per hour. Storm cut-out speed is 62.63 miles per hour. Optimum speed for the turbine is 31.32 miles per hour. When the wind is at optimum speed (31.32 miles per hour), the blades are turning at 14.6 rotations per minute. Through a series of gears, that will turn the generator at 1,440 rpm. Sev-



Find the truck in the photo — a full-sized truck looks like a toy.

eral people have asked me how fast the blades turn. I had a friend of mine compute the data. At 14.6 rpm the tips of the blades are moving 131.68 miles an hour. At that set of optimum conditions, the generator will be producing 1.5 megawatts of electricity.

What does 1.5 megawatts mean? Watts are the yardstick for measuring power. A 100-watt lightbulb, for example, is rated to consume 100 watts of power when turned on. If such a lightbulb were on for four hours, it would consume a total of 400 watt-hours of energy. Watts, therefore, measure instantaneous power, while watt-hours or kilowatt-hours measure the total amount of energy consumed over a period of time.

A kilowatt is 1,000 watts. A megawatt is 1,000,000 watts. Both terms are commonly used in the power business when describing generation or load consumption.

For instance, a 1.5-MW rated wind generator is capable of producing 1.5 MW during optimum winds. That means it is producing 1.5 million watts. To put that into perspective it will power 15,000 100-watt bulbs. Obviously, it will produce much less than its rated amount when winds are too light or too strong.

Drive by and take a look if you have the time. These will be a part of our landscape for many years to come. It is worth your time to go take a look.

CLAIM YOUR CREDIT

Each month, K.C. Electric offers consumers a chance to earn a \$5 credit on their next electric bill. If you recognize your 10-digit account number in this magazine, call 719-743-2431 and ask for your credit. It couldn't be easier.

In February the following called to claim their savings: Coty Arthur of Stratton, Steve Meyer of Arapahoe and Warren Campbell of Flagler.

Get acquainted with your account number, read your *Colorado Country Life* and pick up the phone. That's all the energy you'll need to claim your energy bucks.

You must claim your credit during the month in which your name appears in the magazine (check the date on the front cover).

Watch for Electrical Hazards During Planting Season



Those who live on a farm know that not only is it hard work, but it can also be dangerous, too. Each year, farmers are electrocuted when large farm machinery comes into contact with overhead power lines. (Mark Crouse 922050002)

Often, the situation occurs because a newer, bigger piece of equipment no longer clears a line the way a smaller one did. In addition, shifting soil may also affect whether or not machinery avoids power lines from year to year.

The following tips will help keep everyone on a farm safe:

- Look over work areas carefully for overhead power lines and utility poles.
- Make sure you have ample clearance when moving large machinery, such as combines, grain augers, pickers, bailers and front-end loaders. Check the clearance every year as equipment sizes or soil conditions may change.
- Store large equipment properly if near or under power lines. When planning new construction, factor in existing power lines.
- Be extra careful when working around trees and brush; they often make it difficult to see power lines.
- Train all farm workers to keep an eye out for overhead power lines.

SEEK SHELTER WHEN YOU HEAR THUNDER

According to the National Weather Service, lightning kills an average of 62 people each year in the United States. In 2008, 27 people died from a “bolt out of the blue.” The majority of these fatalities occurred outside, but caution must be taken indoors as well.

Follow the tips below to keep you and your family safe from lightning this summer:

- Seek shelter immediately if you hear thunder; lightning is not far away.
- Find shelter in a substantial building or in a fully enclosed vehicle with the windows rolled up. (James McKean 1118750000)
- Do not seek shelter under trees, in picnic or rain structures or in open-frame vehicles. Avoid objects like electric wires or metal fences.
- If you cannot find shelter in a building or closed-frame vehicle, keep your feet together and crouch on the ground using the “lightning crouch.” keep feet together, squat low, tuck head and cover ears.



YOUR NEIGHBOR'S KITCHEN

Cherry Chip Cookies

- 2 eggs
- 1 1/4 cups sugar
- 1/4 teaspoon salt
- 1/2 cup shortening
- 1 teaspoon vanilla
- 2 teaspoons baking powder
- 2 1/2 cups flour
- 1/2 cup mini cherry chips
- 1/4 cup milk
- 1/4 cup cherry juice or
1/2 teaspoon cherry flavoring

Mix all ingredients well, roll dough in foil into a fairly thin roll, place in freezer 10 minutes. Remove and slice to 1/2 inch thickness, place on greased cookie sheet, bake 12 minutes in 350 degree oven. (Kerry Gardner 641872200)

Instead of cherry chips you can use chocolate, butterscotch or M& Ms and omit the cherry juice.

CLARA MEYER, BETHUNE

Turkey Rice Soup

- 1/2 cup sliced fresh mushrooms (optional)
- 1/2 cup chopped onion
- 2 teaspoons vegetable oil
- 2 cans (14 1/2 ounces each) chicken broth
- 2 cups water
- 1/2 cup apple juice (optional)
- 1 package (6 ounces) long grain and wild rice mix
- 2 1/2 cups cubed cooked turkey
- 2 cups frozen mixed vegetables

In a sauce pan, sauté mushrooms and onion in oil for 3 minutes. Stir in broth, water and apple juice if desired. Bring to a boil. Stir in rice mix. Reduce heat, cover and simmer for 20 minutes. Stir in turkey and vegetables, cook 5 minutes longer or until rice and vegetables are tender. Serves 6 people.

ETHEL FERRIS, HASWELL