

# FEC POWER

## Source

Vol. 23 No. 08

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## What Causes Power Outages?

Equipment failure, storms, wildlife, tree limbs, and public damage cause power outages. Farmers' Electric Cooperative works diligently to identify areas we can improve service quality.

### Equipment Failure

Many components make up the electrical system. Electrical equipment, like any piece of equipment, can fail due to age, exposure to the elements, and other factors. Electrical equipment is often weakened by lightning strikes and transient faults, such as those that happen when a tree limb comes into contact with a line. Over time, equipment becomes more susceptible and can not withstand the increased flow of electricity during times of high demand. Recently, perhaps purely by coincidence, Farmers' Electric Cooperative (FEC) has experienced several substation regulators showing signs of early failure. This causes problems because they sometimes have to be temporarily bypassed and/or electricity has to be routed to loads from an alternate direction. Anytime a utility routes power from an alternative direction, they open themselves up to other possible problems. Experiencing an equipment failure on an alternative route can cause nuisance outages for longer periods of time.

### Wildlife

Snakes, birds, foxes, and others can come in contact with equipment such as transformers and fuses and cause equipment to momentarily fail or shut down completely. Often times, equipment can be damaged to the point that it has to be replaced. These types of incidents will happen when you least expect it, when the weather outside seems perfect causing many of our members to wonder, "why is the power out?" Many times, these critters are looking for a warm spot (in the winter) or for food. FEC uses cover-up material to lessen the number of these types of incidents. Additionally, in some areas, FEC has installed "critter-guards" fence to keep small animals and snakes out of areas with sensitive equipment. At several areas, where birds have proven problematic, we have installed propane-powered noise makers to scare birds off. These are on timers and will project a loud "bang" in intervals. These steps taken by FEC have helped a lot, but

nothing is fool proof, particularly when you are dealing with wild animals.

### Trees

Outages are caused when trees interfere with power lines. FEC's tree trimming program is running in parts of our service territory year-round. FEC sets a goal to try and trim trees on a four to five-year cycle. Of course, some years are worse than others. During very wet years, particularly with Chinese Elm or their variants, trees will grow at a rate that makes it very hard to keep up. Not only do trees growing into power lines cause power quality issues, they can become a very real public safety issue. If you notice trees growing close to our power lines, particularly our primary lines, those power lines carrying very high and dangerous voltages, please call us and let us know. We will check it out and take the necessary steps to make the situation safe.



### Weather

Lightning, high winds, and ice are common weather-related power interrupters. Severe weather can cause outages that last for several hours or even days. Lightning can directly strike equipment or can strike trees that then fall into power lines. Lightning can also strike and cause wildfires that can jeopardize FEC electric equipment. To decrease the effects of a lightning strike, FEC installs lightning arrestors at substations and on high voltage equipment. The idea is to safely send lightning strikes to the ground; hoping to avoid damage to our equipment. Storms and high winds can cause lines to come into contact with trees or other power lines. Straight line winds and tornadoes can knock down poles and tree limbs, causing them to fall or break under the weight. FEC lost two transmission poles between Fort Sumner and Santa Rosa earlier this summer during a storm causing a particularly long outage in Fort Sumner. Under normal circumstances we would have been able to feed both towns from another direction, but we had a redundant or back up transmission line that was under reconstruction at the time. We were able to isolate Santa Rosa and feed from another direction, but unfortunately, because of the location of Fort Sumner and the

*Manager's Message...***Lance Adkins, GM****Big Announcement - 700MW Big!**

**N**ear the end of July, our wholesale power supplier, Western Farmers Electric Cooperative (WFEC), issued a press-release announcing new renewable energy projects. We last reported on WFEC's commitment to renewable energy in the April/May issue of this newsletter. WFEC's interest in and commitment to renewable energy is based on developing energy resources that make good economic sense for the WFEC membership, including Farmers' Electric.

WFEC, working with NextEra Energy Resources, is planning the largest combined wind, solar, and energy storage facility to date in the United States. Identified as "Skeleton Creek", the 700-megawatt combined project is scheduled for construction and is expected to be available to serve load in two phases:

- Skeleton Creek Wind (previously announced), 250 megawatts (MW) of wind energy is expected to begin commercial operations by the end of 2019.
- Skeleton Creek Solar, a 250 MW solar energy facility is expected to begin commercial operations by the end of 2023, and
- Skeleton Creek Storage, a 200 MW battery energy storage facility, capable of providing four-hours of stored capacity, is expected to begin commercial operations on the same schedule as the solar project.



It is important to understand that, at a time when the cost of fuel for conventional generation resources, such as natural gas and coal, are at a historic low cost, WFEC has been able to "lock-in" long term pricing for renewable energy at historically low prices as well. This will provide a good hedge against fossil fuel price volatility in the future. One of the drivers in the low cost of renewable energy from these specific projects are state and federal production tax credits. Future projects may or may not receive similar tax treatment depending on future state and federal legislative action.

It has been our experience, when it relates to wholesale electric energy, it is best to have a diverse portfolio of resources rather than rely on one or two resources for all of our needs. A diverse portfolio was in place with our previous supplier, Xcel Energy, and was a key factor in our decision to join WFEC. Like Farmers' Electric, WFEC is an electric cooperative, owned and controlled by 21 member cooperatives, including Farmers' Electric. Combined, the 21 electric cooperatives are able to work together to achieve certain economies of scale to

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**POWER SOURCE**

is published monthly by Farmers' Electric Cooperative, Inc. Questions or article ideas should be directed to :  
 Thom J. Moore,  
**POWER SOURCE**  
 P. O. Box 550  
 Clovis, New Mexico  
 88102-0550  
 Phone (575) 762-4466  
 or (800) 445-8541  
 thom@fecnm.org

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We are on-call 24 hours each day, 365 days each year, to serve **your** electric power needs.

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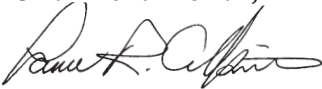
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develop competitively priced generation resources that would be unavailable to us individually.

According to the WFEC press-release, “Skeleton Creek wind, solar, and energy storage projects, once commercial, will help further diversify WFEC’s generation portfolio to consist of 521 MW of solar generation, 955 MW of wind generation, and 270 MW of hydroelectric generation. Also, when completed, some 50 percent of WFEC nameplate capacity will include facilities generating electricity by wind, solar, or hydroelectric power.”

The Skeleton Creek projects, located in Garfield, Alfalfa, and Major counties in Oklahoma are in addition to the “Tip Top Solar Energy Center,” to be built in southeast New Mexico, with a rated

Until next month,




# Summer Sizzler!

**Charbroil Patio Bistro Electric Infrared Grill**

**Save \$50!**

**\$179**



**\*While supplies last**

capacity of 220 MW. Tip Top Solar is scheduled to be operational by December of 2022. We believe WFEC and Farmers’ Electric are well positioned to significantly increase the amount of renewable energy in our portfolio, provide a significant hedge against price volatility of coal and natural gas used to generate electricity, with minimal additional cost impact to the membership.

It is certainly worth mentioning, the recent development of renewable energy projects in the Farmers’ Electric service area has had significant economic impact to the local economy by creating hundreds of construction jobs, full-time operational jobs, as well as additional revenue for landowners and the local communities.

# Grady

## Community Garage/Estate Sale, Swap Meet & Fundraiser

The Village of Grady will be having a community wide garage sale on Saturday, August 24th, 8:00 am – 2:00 pm. This first ever event will include 2 garage-style estate sales and several private yard sales.

The Senior Center will be selling breakfast burritos for \$3 as long as supplies last and will be having a Spaghetti Dinner beginning at 11:00 am priced at: Adults \$7, Children \$4. If you would like to help with this fundraiser financially or by volunteering, please contact the Grady Village Hall.

Coffee, tea, water, Kool-Aid and restrooms will be available and free ALL DAY. Come shop, eat, or just hang out and visit!

Remember to stay and support our Lady Bronchos at 2:00 pm in their first volleyball game of the 2019 season.





**OUTAGES** from PAGE 1

redundant line being down, what would have been a relatively short outage turned into a lengthy outage lasting several hours. Ice can be problematic but has a smaller impact within the areas served by FEC than it might in other parts of the country. However, that being said, it hasn't been that many years ago when a good part of our service area in and around Logan was out of power for many days. During that ice storm, FEC lost in the neighborhood of 250 poles.

**Public Damage**

Damage by vehicle accidents, tall farm implements, or construction equipment can cause broken utility poles, downed power lines, and equipment damage. Outages can be extended and affect a large number of members. If you are ever involved in a vehicle crash or make contact with electric equipment in any other way, keep electric safety in mind and stay inside the vehicle. Contact FEC and the Sheriff's department. Once on scene, FEC line crews will determine when it is safe for you to exit your vehicle.

Another, but not as prevalent problem regarding the human factor, is people choosing to use FEC equipment for target practice. Recently, a station serving several communities and a large number of FEC members was shot-up by someone that frankly, "had no sense." We were fortunate that these perpetrators didn't do more damage than they did. Even so, the damage caused outage time for members and several thousand dollars in damage. As members, what can you do to help FEC when it comes to this kind of vandalism? Keep your eyes peeled for anything out of the ordinary. If you routinely pass by one of our stations and see vehicles on the grounds that are unmarked and out of place, call FEC and ask if we have anyone working there? Additionally, you could also contact the local Sheriff's department and they can look into it. Whatever you do never, never confront anyone in this type of situation. You never know to what lengths someone might

go to stay out of trouble. Assume they are dangerous and stay away. Along those same lines, if you live near one of our stations and you hear gun shots coming from that direction, never put yourself or your loved ones in jeopardy. We would simply ask you to call the Sheriff and leave the investigation to the authorities.

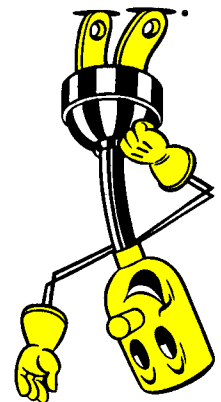
**Outages Caused by Tracking**

Outages caused by "tracking" can occur when dust accumulates on the insulators of utility poles and then combines with light moisture, usually caused by fog or drizzle. When there is a long dry spell, dust builds up on equipment. Light moisture combining with dust acts like a "bridge" for electricity to track across. It is possible that sparks from such event can cause equipment or poles to catch on fire. If you ever see a pole or electrical equipment on fire, please don't try and fight the fire. Keep a safe distance away and keep others away after having called 911.

**Momentary Circuit Interruptions**

FEC knows that blinks or short duration interruptions can be annoying at the least. A momentary outage is defined as a brief electrical service interruption lasting no longer than five minutes. While these interruptions can be irritating, they also serve a valuable purpose; they demonstrate that the electrical system is working properly and that it has prevented an even longer power outage and perhaps avoided damage to our equipment. When an object comes in contact with electric lines, it causes a fault. Breakers, similar to a circuit breaker in your home, sense the fault and interrupt power momentarily in an attempt to clear the line and check the system. This action helps prevent further damage to equipment and prevents longer-duration outages requiring our personnel to respond. If you have blinking lights or lights that go dim and then bright again, call FEC at 1-800-445-8541 and we will check it out.

**"Owned By Those We Serve"**



**FARMERS' ELECTRIC COOPERATIVE, INC.**  
**OF NEW MEXICO**  
 3701 Thornton St., P.O. Box 550  
 Clovis, New Mexico 88102-0550

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