

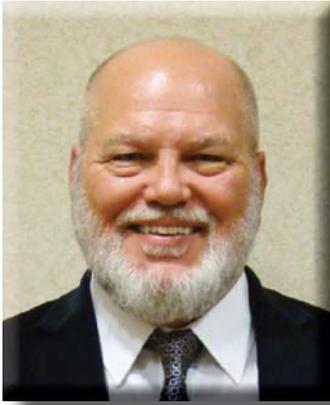


Rio Grande Electric Cooperative, Inc.

Update



March 2016



A Message From The General Manager/CEO

By Dan Laws

Spring Storm Season

Spring paints the landscape with beautiful wildflowers and foliage. It also brings thunderstorms, which inevitably bring outages and damage to distribution facilities. It is the proverbial “bitter with the sweet” thing we always hear about. The rain is needed, and the lightning is a by-product we must accept.

I am asked, from time-to-time, why our system is so susceptible to damage when there are thunderstorms. Covertly hidden between the words that form this question are additional questions like, “Is the Cooperative properly maintaining the system? Are RGEN linemen skilled enough to handle the job of maintaining the system? Does the Cooperative care about the effect outages have on members?”

There is also the nagging issue of other providers with whom members have had experience. We hear things like, “I was with this company or that company and I never had as many blinks, outages or voltage anomalies as I do with Rio Grande”. Exposure is the underlying issue when it comes to our members’ experience with Rio Grande. There is as little basis for comparing Rio Grande to another utility as there is for comparing one person to another.

Rio Grande is an electric utility provider, but with a very unique set of circumstances. Most notable among those differences is what I mentioned previously — exposure. In urban settings, it is indeed unusual if a customer is located more than five miles from the substation (source of supply). In Rio Grande’s system, the opposite is the reality.

The farther a consumer is located from the source of power, the more exposure there will be to things that “go bump” in the night, or perhaps more precisely, things that “go boom” in the night. That exposure, (distance from the source of power), is also the largest contributing factor to why it may, at times, take a long time to restore power once it fails.

Our linemen are among the very best, and they work very hard during storms to restore power. You can have confidence when they are on the job. And, of course, we do maintain our system. This year alone, the rebuilding/upgrading of over 46 miles of line will be conducted, using fiberglass cross arms, and, where conditions dictate, composite poles. Many of these lines will also be heavier weight conductor. Additionally, hundreds of poles and crossarms will be replaced. Needless to say, some facilities are in worse condition than others because of where they fall in the maintenance cycle. Our commitment to our stewardship responsibilities is unwavering, and we care when you are adversely affected by an outage.

When you consider the exposure issue, I hope you can agree that there are truly some differences that must be taken into consideration. Should your lights go out in a spring storm, I hope you will take time to pray for those who will be out in it trying to restore power. They will be doing so under the most difficult of situations. More importantly, they will be doing so because of their commitment to you.

Blinks, Surges, and Brown-Outs

Do you know the difference between a “blink”, a “surge”, and a voltage sag, or “brown-out”?

A blink is normally caused when RGEC’s equipment is working to clear a fault on the line, usually from something like a tree branch contacting the line. In some cases, there may be multiple blinks, two or three, in succession. This is a perfectly normal occurrence. It does not usually mean that there is a problem with your service. However, if blinks happen repeatedly, for more than just a short time span, or at roughly the same time each day, it is worth mentioning to your area office. This type of blink could, in fact, signal that there is more going on with your power supply, which needs to be checked out.

Most of us relate power surges with lightning strikes to the power line. The Co-op provides protection devices on all new meter installations, and this has been the practice for several years. RGEC uses a GE model. These devices reduce an electric line power surge before it can enter your home, but the catch is that they only work once, as they are destroyed in the process of absorbing the surge. If your meter surge protector needs replacing, service crews will do so during their annual meter inspection, or if you have noticed that the device has become blown, notify your local RGEC office. Service crews will replace it when they are in your neighborhood.

There are other ways besides the power line that surges can enter your home. Television cables, satellite systems, phone lines, water lines, and any other type of metal wiring system are susceptible to surges and can act as a gateway for entry into your home. A real surge can be caused by several things, and it may surprise you to learn that some of these things can be on the member’s side of the meter. Have a certified electrician check your home to test the grounding system, and make corrections, if necessary.

It may be that home additions have been made without the proper grounding, or your grounds may have deteriorated with age. Just like other features of your home, they need maintenance and upkeep.

Electronics are very susceptible to damage from surges, and it is for this reason that there are vast numbers of home surge protection products that can protect these devices at their point of use. Remember, there are other ways surges can enter your home, so any devices such as computers or televisions which are connected to cable or satellite systems are vulnerable, as well. Power strips commonly contain surge suppression these days, and are a good way to protect multiple devices.

They cost a little bit more than the multiple outlets without surge suppression capabilities, but are more than worth the investment.

Experts recommend purchasing one rated for at least 1,000 joules, that is warranted, provides a replacement clause for equipment connected to it, and is compatible with digital signals from cable and satellite.

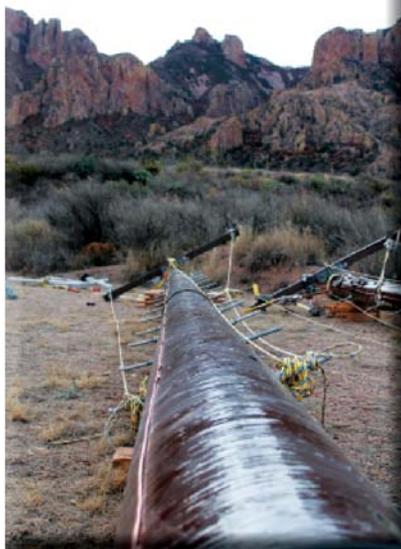
What many people call “brown-outs” are usually evident when a major appliance comes on. If you notice lights dimming when the refrigerator compressor comes on, or when the air conditioning unit comes on, then there’s a good chance that either your home’s wiring system is not designed to accommodate the load, or that the electric transformer serving your home needs to be upgraded to accommodate the load. That’s why it is important to notify the Co-op when you increase the size of your home. The transformer must be correctly sized for the amount of electricity your home needs.

Many of the homes we live in today were built during the “old days”, when rural residents would never have imagined having so many gadgets drawing electrical power. The home wiring systems were simply not designed to handle the load.

RGEC has arrays of sophisticated equipment in place that monitor and regulates the flow of power, beginning at the substation and continuing throughout the distribution system, so true distribution voltage sags are very uncommon. If you believe that your home is experiencing voltage sags, call your local RGEC Area Operations Manager or Supervisor. He or she will be able to help you determine if the source of your low voltage is within your own home wiring system, or if it is an issue the Co-op needs to address.



Big Bend National Park Pole Replacement



There are places in Co-op Country, where it's nearly impossible to take bucket and digger derrick trucks to replace poles, and regulations prevent leaving tire tracks. Big Bend National Park is one such place. Two poles there recently required replacement, due, in part, to bear damage. Composite poles and fiberglass crossarms were used, in an effort to deter bears and woodpeckers from damaging the poles. RGEC hired a helicopter to fly in and lower the poles into place. Holes were hand-dug by RGEC linecrews. *Communications Assistant Sharla Ede accompanied the crews, and hiked to the location to get these photos.*

Home Electrical Safety Checklist

Check electrical outlets for loose fitting plugs that can cause shocks or start fires. Replace missing or broken wall plates so that the inner wiring components are not exposed. If you have young children, make sure safety covers are used on unused outlets and outlets are not overloaded with too many appliance plugs. Consider installing tamper-resistant receptacles which have a built-in shutter system that prevents hairpins and other small objects from being inserted into the outlet.

Check the cords of the appliances in your home as well as the plugs and connectors. Make sure that they are not frayed, cracked or damaged, placed under rugs or carpets, resting on furniture, or located in high traffic areas. Do not nail or staple cords to walls, floors or any other objects.

Extension cords should be used on a temporary basis only. They are not a permanent wiring solution. Have additional outlets installed where you need them. If you are using extension cords, make sure that they have safety closures to protect young children from shocks or mouth burns. Never use an indoor extension cord for outdoor use. Use an extension cord

specifically for outdoors; they are heavier and less likely to be damaged.

Check your electrical panel to make sure that the breakers and fuses are properly rated for the circuit that they are protecting. If you do not know what the correct rating is, have a qualified electrician identify and label the correct size to be used. If you are replacing a fuse, make sure that you replace it with the same size as the one that you are removing.

Check light bulbs and appliances to make sure the wattage matches fixture requirements. Make sure not to replace bulbs with those that have higher wattage than recommended. Additionally, the bulb should be screwed in securely to prevent



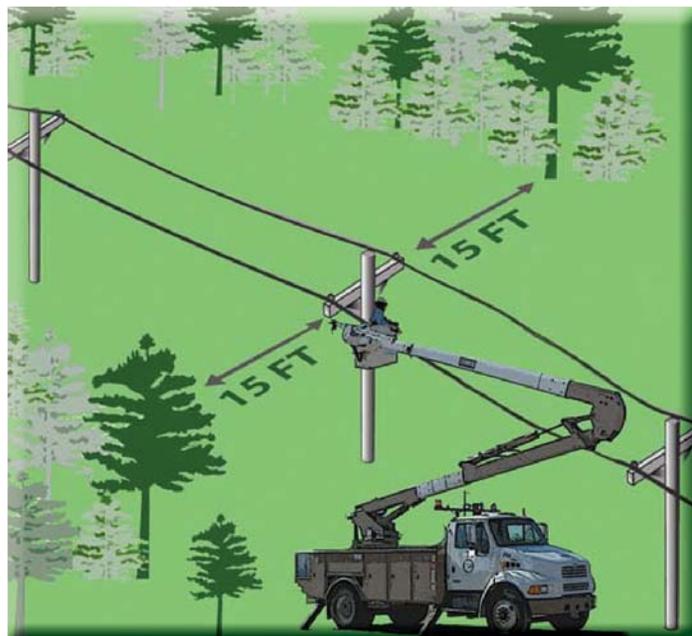
Continued, pg. 7

Spotlight Issues

RGEC Locks On Gates

In the Co-op's early days, landowners would provide us with a key or combination to their locks. As the Cooperative grew, this practice just wasn't practical any longer. There are too many combinations and keys for RGEC to keep up with. While we appreciate your willingness to entrust us with your keys and combinations, it just makes sense for all gates to have standard RGEC locks. These locks are specially manufactured for the Co-op. They contain special key codes, and are issued only to RGEC employees who have a legitimate need to access your property. If there is a need for RGEC to place a lock on your gate, you will be sent a letter prior.

Rights Of Way/Easements



A right-of-way is a legal agreement that allows us access to the property directly beneath, and fifteen feet from the lines and poles in each direction. Sometimes also called an "easement", the right-of-way gives us the authority to gain access to our lines, poles, and equipment at any time to perform maintenance or repairs. We may also need to remove trees and brush that would obstruct our access to, or activities in, the right-of-way. The right-of-way clearance is 15 feet on either side of lines/equipment. Even though this right-of-way or easement allows access to your property, we always try to avoid disruptions to your activities, and make every attempt to avoid damage to your property. However, tire tracks from our trucks are inevitable.

Landowners must also comply with right-of-way rules. As a landowner, or leaseholder, it is your responsibility to insure that the Co-op has ready access to your property. This access is outlined in the Co-op's Tariff, and in the application for membership you signed when applying for electrical service from RGEC.

The right-of-way/easement documents become a permanent part of the property deed and remain with it, even though the property may be bought and sold many times.

Road Block



Very seldom are traffic jams an issue in Co-op Country, but once in a while, linemen meet oncoming traffic on one-lane country roads. This is one of the recent encounters while linemen were conducting repairs in the Dell City Operations Area. Photo by Lineman Apprentice I Stephen Gomes.



Satellite Internet "Saving Of The Green"

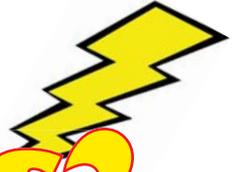
Some areas which had been closed to new satellite internet have reopened to new business. This is according to the National Rural Telecommunications Cooperative, through which RGEC provides Exede Satellite Internet.

Those who are Co-op members in the Brackettville, Del Rio, Dell City, Ft. Stockton, and Carrizo Springs areas, to name a few, may now get Exede Satellite Internet service through RGEC's RioNet Internet Service. Call 800-749-1509 today!

NEW SERVICE PROMOTION: Save \$25 on Exede satellite equipment, when you sign up for Exede or convert from WildBlue! Limited time offer.



What Causes Power Outages?



Every electric utility has similar issues with power outages. The precise reasons may vary from region to region, but if each cooperative and investor-owned electric provider were to compile a list of the most common causes of outages, virtually the same items would be on each list, though possibly in different order.

Each outage is unique in its severity, the amount of time it takes to locate the problem, the weather conditions while linemen are trying to locate the problem, the terrain they are covering in their quest to find the problem, etc. In Rio Grande's service territory, of course there are obstacles not encountered by a utility serving a metropolitan area like San Antonio, Houston, or Austin, where the majority of travel is along a paved and well-lit thoroughfare.

What are the most frequent causes of outages in Co-op Country? The list might look something like this:

1. Lightning/Storms/Weather - Rio Grande's service territory lies in areas which, though subject to prolonged dry periods, also experience intense lightning storms when hot desert air collides with cooler air in the upper atmosphere. Those who frequent the RGECE Facebook page (www.facebook.com/rgece.coop) have probably seen the lightning strike maps posted there. Lightning and severe weather were the number 1 cause of outages in Rio Grande's system last year.

Lightning can impact electric service in a couple of ways. The first is obviously by means of a direct strike to the electric distribution system. The second, less obvious, is through an indirect strike. This occurs when lightning strikes something in close proximity to the electric distribution system and induces a traveling voltage wave on the power system.

Rio Grande utilizes lightning arrestors on poles at regular intervals of every 7th pole on standard 3-phase construction. Depending on construction and line span lengths, there could be more or fewer, but all construction is conducted in accordance with the USDA Rural Utilities Service specifications. (RUS was previously REA). However, lightning arrestors can only mitigate the effects of a single strike. Once an arrestor is blown, lightning could strike the same spot, or a nearby spot, and the arrestor would be ineffective. With almost 9,700 miles of overhead line, including 143 miles of transmission line, there are lots of possibilities for both direct and indirect strikes to affect electric service in a single storm.



Notice the woodpecker holes. This is one of the two poles recently replaced in Big Bend National Park using a helicopter. It also had bear damage at the lower end of the pole.

We don't typically think of ice as being a threat to electric service in desert climates, but the past few years have proven that it can and does happen. When it does, it can be devastating to electric distribution infrastructure, causing millions of dollars worth of damage. In addition to ice, wind, tornadoes, and hail are other frequent offenders.

Even drought conditions can take a toll on electric service. That's because dust can accumulate on insulators, and when the humidity rises, or mist comes in contact with that dust, it negates the insulating properties of the insulators and arcing can occur. This is why poletop fires are a common occurrence during periods of prolonged drought.



2. Birds/animals/snakes - Birds are the most common cause of animal faults on both transmission systems and air insulated substations nationwide. Different types of birds cause different types of problems, but they can generally be classified as nesting birds, roosting birds, raptors, and woodpeckers, according to the Electrical Engineering Portal. Nesting birds often build nests in substations, and even on the tops of distribution poles. Their nests are typically built of combustible materials such as grass and sticks, and bird excrement can contaminate insulators, causing arcing to occur, which in turn can cause pole top fires.

Outages, contd.

Roosting birds perch on electrical equipment, and their wings can bridge electrical conductors, causing faults. Birds of prey use substations and electric poles as a perch from which to spot prey. RGEC places bird guards in areas known to be frequented, and training is provided on how best to protect birds from becoming injured. Woodpeckers are probably the



most detrimental of all the categories of birds. Though all utility poles are treated to resist weathering and insects, woodpeckers drill holes in wooden components to search for food. Once damaged, the pole is more susceptible to the effects of weathering and insect damage. It is for this reason that RGEC has begun using fiberglass crossarms in new construction, and composite or steel poles in areas with high rates of woodpecker damage.

In the same way that an electric fence keeps cattle in a particular pasture utilizing electric current, snake guards in use at RGEC substations help keep snakes out of substation equipment. Cattle photo courtesy of USDA Natural Resources Conservation Service.

In portions of RGEC's service territory, squirrels are a major cause of damage. Members in areas with high concentrations of squirrels have probably observed them scurrying along the electric lines. Problems occur because they cause faults by bridging grounded equipment with phase conductors. Sometimes, the fault will only be evident as a blink or two, but if the squirrel is electrocuted in a location where it continues to make contact, an outage occurs. Remember, squirrels, like rats and mice, like to gnaw anything and everything they can get their sharp little teeth on.

Theoretically, any animal can cause an outage. In urban areas, unfortunately, it is often domestic cats. In Co-op Country, we have seen the occasional cat-related outage, however, it is just as likely to be a bobcat as a domestic cat. Everything's bigger in Texas. A fellow co-op had a lengthy outage when a Big Horned Sheep fell from a bluff and onto a line below. You name it, and it can happen. In the Big Bend, bears are a problem. They routinely use the poles much as a cat would use a scratching pole to sharpen their claws. (See pole replacement story. page 3)



Hardly anyone likes snakes. They certainly aren't favorites of those in the electric power industry. Snakes are responsible for a multitude of outages. They can damage substations, overhead transmission and distribution lines, and have even been known to invade underground utilities. Snakes, lizards, and other creepy crawlies are often drawn to substations in search of prey. Bugs and rodents may like the shelter provided by a substation in an otherwise vacant landscape. Snakes can squeeze through small openings, and many of them have the required length to span phase conductors. We have also seen snakes dropped from the air by birds of prey. This happened a few years ago at the Rosita Creek Substation in the Eagle Pass area.

3. Transmission Provider outages - Rio Grande is primarily a distribution cooperative, and as such, relies on power to be delivered to our facilities by a transmission provider. When there is an outage on the transmission side, it affects Co-op members, even though the RGEC system may not be damaged. When this happens, Co-op crews and members alike must wait until the company providing transmission services is able to repair the damage and restore power. Co-op crews are not permitted to work on another company's lines.



4. Trees - Depending on the part of the country, many electric providers spend more on tree trimming than on any other form of maintenance. That's because trees are continuously growing, and can drop branches onto conductor, be blown over or fall over onto conductor, or they serve as a ladder for animals to access conductor. Live tree branches contain moisture, which is a conductor. As a branch comes in contact with the lines, a small current begins to flow through it, and dries out the wood fibers. When the cellulose carbonizes, the resistance of the branch is reduced, and a short circuit can occur. The Co-op's Right of Way clearance policy states that trees

Outages, contd.

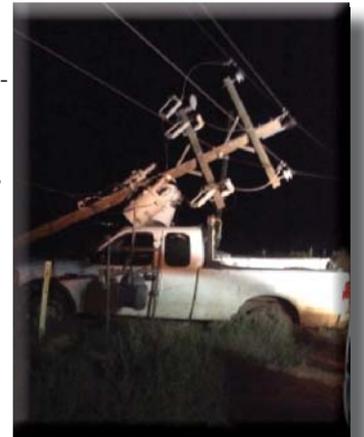
are not to be within 15 ft. on either side of lines. That is because branches could come in contact with lines. Please remember this when planting trees on your property. In the picture, limbs became weighted with ice, and broke, falling onto lines.



A chipped insulator prior to replacement.

5. Transformer/equipment failures/broken insulators. There are always going to be outages from equipment failures. There is no way around the issue, but RGEC is constantly implementing newer equipment as it becomes available on the market, in an attempt to make failures a less frequent occurrence. Broken insulators are very hard to detect. They can become damaged during bad weather. When patrolling lines, it can be almost impossible for linemen to detect a hairline crack or tiny chip from the ground until it allows arcing to occur and causes an outage. When arcing does occur, there is a tell tale black burned area on the insulator. These seemingly insignificant pieces of porcelain cost less than \$7.00 each for the garden variety used on a standard single or three-phase line (requires 3), but they serve an invaluable purpose in keeping power flowing.

6. Traffic accidents/other human-caused outages. Traffic accidents are a relatively common cause of outages. They frequently occur at night, when it's the most inconvenient for our members to be without power. Surprisingly, in Co-op Country, an accident is just as likely to happen on a gravel road in the middle of nowhere, as it is along an Interstate highway. Regardless of where an accident happens, it can damage RGEC equipment and cause an outage. When a traffic accident such as the one pictured happens, it is very important to stay clear for fear of becoming electrocuted.



7. Underground cable failure. Underground line outages are less common in Co-op territory, because only a very small portion of lines are underground, 173 miles, or about 1.74% of RGEC's 9,871 miles of line. RGEC stands ready to detect any underground faults, should they occur, using specialized equipment designed for just such purpose.

**SAFE
DEDICATED
EFFICIENT**

Do you have what it takes?

www.riogrande.coop/employment

Home Electrical Safety, continued from pg. 3

overheating. If an appliance repeatedly blows a fuse, trips a circuit breaker or gives you an electrical shock, immediately unplug, repair or replace it.



Check for or install ground fault circuit interrupters (GFCIs). A GFCI is an inexpensive electrical device that shuts off power instantly if there is a problem. GFCIs should be installed in all "wet" areas of the home such as bathrooms, kitchens, and basements. GFCIs should be tested monthly to ensure they are working properly. The Consumer Product Safety Commission estimates GFCIs could prevent more than two-thirds of the roughly 300 electrocutions that happen each year in the home.

Consider installing arc-fault circuit interrupters (AFCIs) on bedroom circuits, smoke detectors in all bedrooms and in hallways within 15 feet of bedrooms, and at least one smoke detector on every level. Carbon monoxide detectors should also be within 15 feet of each bedroom. As always, check with your local electrical inspector if you have questions or concerns.

Inspect all outdoor connections, appliances and tools for frayed cords, broken plugs and cracked or broken housings.



Board Action

RIO GRANDE ELECTRIC COOPERATIVE, INC.

Summary of Board Meeting Minutes

January 20, 2016

A meeting of the Rio Grande Electric Cooperative, Inc. Board of Directors was held at the Area office in Brackettville, Kinney County, Texas at 8:00 a. m. January 20, 2016. The following directors were present for the meeting: Jimmy Ballew, Warren Cude, Mark Daugherty, Tim Edwards, Billy Foster, Stephen Haynes, Rowdy Holmsley, Jan Metcalf, Margarita Nelson, Keith Richardson, Priscilla Parsons, and Bill White. Also present for the meeting were General Manager/CEO Daniel G. Laws, Director of Administrative Services Theresa Quiroz, Director of Accounting and Finance Shawn Stanley, Manager of Military Utility Privatization Services Roger Andrade, Director of Human Resources Martha Gerardo, and Executive Assistant to the GM/CEO Sonya Cruz.

Approved	December 16, 2015 Board Minutes, As Presented
Heard	Financial Reports
Approved	Naming Director of Administrative Services Theresa Quiroz, As The General Manager/CEO Designee And Director of Accounting And Finance Shawn Stanley, As The Alternate Designee, Pursuant To Board Policy 1.1.3
Began	General Manager/CEO Evaluation & Salary Review
Approved	Board Policy 1.2.6 – Capital Management Along With Recommended Amendments To Include CoBank As A Depository And Eliminate Un-necessary Language
Approved	Board Policy 1.1.5 Harassment Reviewed By Tim Edwards, As Amended
Approved	RUS 790 Contract Award To Urban Electric For Non-Site Specific Work Plan Projects Not To Exceed \$5,000,000 In The Aggregate, Through January, 2018
Reviewed	Safety & Health Program And Safety Trends
Heard	General Manager/CEO Report
Heard	Committee Reports
Approved	GM-CEO/Director Expenses
Approved	November New/Revoked Memberships
Reviewed	Check Register And Arrears Report
Adjourned	2:01 P.M.

Note: The summary above is provided so that members can follow the activities of the board, and is not intended to be exhaustive. Should you wish to know more detail on a particular item or items, please contact the director for your district or the General Manager/CEO's office.

Make A Connection!



You can find us online at
www.riogrande.coop,
and on Facebook at
www.facebook.com/rgec.coop

Rio Grande Electric Cooperative, Inc. is an equal opportunity provider and employer.

BOARD OF DIRECTORS



*Rowdy Holmsley, President P.O. Box 221 Sheffield, TX 79781	District 6 432-836-4350(H)
*Jimmy Ballew, Vice President P.O. Box 559 Brackettville, TX 78832	District 3 830-563-2869(H)
*Priscilla Parsons, Secretary P.O. Box 517 Crystal City, TX 78839	District 2 830-374-9775(H)
*Stephen Haynes, Treasurer P.O. Box 1088 Rocksprings, TX 78880	District 4 830-395-2283(H)
Warren Cude P.O. Box 1686 Ft. Stockton, TX 79735	District 8 432-395-2304 (H)
*Mark Daugherty P.O. Box 744 Alpine, TX 79831	District 7 432-345-2604 (H)
Tim Edwards P.O. Box 3012 Kent, TX 79855	District 7 432-259-3301(H)
Billy Foster P.O. Box 163 Langtry, TX 78871	District 5 432-291-3232(H)
Janice "Jan" Metcalf P.O. Box 366 Brackettville, TX 78832	District 3A 830-563-9943
*Margarita Nelson HC2 Box 53 Carrizo Springs, TX 78831	District 1 830-876-3223 (H)
M. Keith Richardson 10571 US Hwy. 62/180 Salt Flat, TX 79847	District 9 915-964-2838(H)
*William White HCR 3, 253 Packsaddle Circle Del Rio, TX 78840	District 4A 830-775-5053 (H)

Dan Laws, General Manager/CEO
P.O. Box 240, Brackettville, TX 78832
general_manager@rgec.coop 830-563-6112 (W)

* Credentialed Cooperative Director