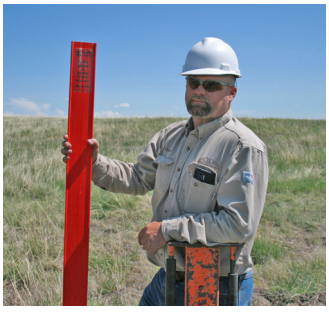
PARK SPARKS

JULY 2021 PARK ELECTRIC COOPERATIVE, INC.

Touchstone Energy® Cooperatives

UNDERGROUND POWER



On a recent trip to see our crews at work, I was able to visit with Ryan Harms and Dave Hanisch. They were working on a new underground service installation outside of Big Timber. While we can see how electricity is brought to our homes on poles and wires, miles and miles of lines exist under our feet as well. It is important to understand how these services are installed so that we can live and work around them safely.

Ryan and Dave were happy to share their experience and knowledge about the installation process and also to remind everyone to be safe around underground lines.

For this particular project, Ryan and Dave were installing just over 800 feet of new underground cable to a proposed build site. They were bringing the line across an old pasture from an existing service. Their method involves a very large piece of equipment known as "the Cat" which is a Bron plow. Imagine a cross between a bulldozer and a plow. The machine holds a large spool of wire in front which is fed over the top and down the back into the ground through a large plow blade. It moves at a little slower than a walking pace and Ryan is careful to monitor the depth of the blade as well as the straightness of the lines as it goes. The project they were working on seemed very straight forward, but Ryan was quick to point out that quite a bit of Park Electric's service territory involves rocks, trees and a wide variety of terrain that can make installing wire challenging.

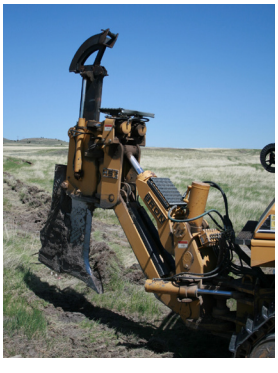
The process takes more than one pass through the proposed route. The Cat's first pass is with the blade down and no wire. This prepares the trench and gives the operator a better look at any unseen obstacles, such as rocks. During the second pass, the wire is fed through the blade at the back where it is buried 40" below ground. The Cat can hold a variety of wire including ground wire and even fiber optic cable for communications. After the wire is installed, the Cat runs one more time over the trench to flatten and repair the tear in the earth. What's left is nothing more than a dirt track where the line was installed.

As we were discussing the process of cable installation, Ryan brought up the need to remind everyone that there is underground power everywhere. For this reason, people need to be sure to call 811 before they start any kind of digging project. It may look like you are safe to dig, but underground power can run hundreds of feet from the nearest pole or

junction box. Exposed or cut lines can pose significant danger to humans and animals as well as cause an unforeseen outage. Not to mention the expense associated with having to call in a crew to make the repairs. Sometimes power lines run under creeks and streams. When the water level rises in the spring, it can erode the banks and end up exposing our power lines along the banks. While the wire may look like a black irrigation pipe, it is not. Exposed lines of any kind pose an extreme danger to everyone. Please be sure to alert Park Electric any time you see lines that are exposed for any reason.

Park Electric started installing underground services back in the mid to late 1970's. By the 1980's when the Glastonbury subdivisions were being built, underground installation was in full swing. Ryan joined the crew in the late 1990's as an apprentice and was selected to learn the job of underground installation from the Journeymen at the time. The cable they were installing back then had a life expectancy of about 40 years. Now, the cable being installed has a much longer lifespan thanks to modern technology. (See next page for cable cross section.) When the older cable ages, its protective cover becomes weak and can cause outages that take a long time to isolate and repair. Park Electric keeps track of all of our power outages. If a certain section of underground line is faulting on a regular basis, we look to replace that line (called a replow). In 2020 alone, Park Electric installed over 10 miles of underground line, bringing the miles of overhead lines and the miles of underground lines to nearly a 50/50 split. Another factor to consider with underground cable installation is the cost. Thanks to modern technology and years of experience, the cost of installing an underground service is now less than an overhead one. This is partly due to the size of the crew, generally only 2 linemen are needed for most underground installations, and partly due to the materials involved.

Watching the installation gave me a better appreciation of the work involved with installing underground services. Ryan has mastered a craft and the newest Park Electric crew members will be spending many years learning from him. Going forward, it appears that the miles of lines that were in the sky will end up underground.



MANAGERS COMMENTS by Matt Haggerty

I would like to review our Residential and Net Metering rate structures this month. On your monthly bill you will see that we charge a base rate and a kilowatt-hour charge (Also called KWH). We charge a set base rate for each size and type of service, as listed in the chart below. Also in the chart are the block rates for KWH. The first 1,500 KWH's are at a higher rate, then anything after that is at lower rate. This is because after the first 1,500 KWH's our fixed costs have been recovered. Both the base rate and the higher first block of our KWH charge are in place to ensure that we collect for operating,

Residential Rates	
Base Rate - Small	$23.00/month
Base Rate - Large	$28.00/month
0-1500 kWh	$0.086 kWh/month
All over 1500 kWh	$0.059 kWh/month
Heat Rate	$0.054 kWh/month

Net-Metered	Base Rate
Base #1	$32.00
Base #2	$63.00

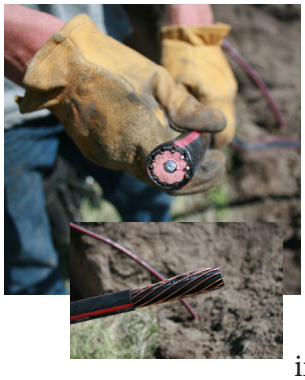
maintaining and upgrading our system each month. In this issue I am going to discuss our net metering program and hopefully help you understand how we arrive at the base rate for those who choose to install distributive generation systems and connect them to our system.

Currently we have around 60 members that take advantage of our net metering option. Net metering is when a person connects a small, 15,000 watt or smaller, renewable energy generating system, also known as distributive generation systems, to their service. The goal of these systems is to Net Zero, which means to produce the same amount of energy that is used in a set time period. The system is then capable of not only providing power for the owner but can also deliver power back to Park Electric at times. In most cases, the power delivered back onto our lines is a very small amount. The consumer ends up being billed for the net difference between what they use and what is delivered.

Because our residential rate is designed to collect some of the cost of having the service in place through a higher kilowatt-hour cost for the first 1,500 and the net metering consumers have the capability to produce nearly all of the energy they may need, the monthly base rate for net metered services is about $9.00 higher. This helps offset our cost of maintaining the infrastructure to provide power when their generator is not producing enough energy to meet their needs. Frequently the distributive generation system is not producing any energy during our highest peak times.

If you are considering connecting one of these systems to your service, please contact our office. We have a considerable amount of experience with several types of distributive generation systems and would love to discuss what you are considering. We want to make sure you understand all of the requirements, safety concerns and expenses of interconnecting before you make the purchase.

Cross section of Okonite cable shown here:



Electricity flows through the aluminum wire in the center. It is surrounded by a pink layer of insulating rubber. The interior black layer is a semiconductor that bonds the copper neutral together as seen in the side photo. The outer black layer is the insulating jacket.

Trustee Board Nominations due August 2nd!

District 3 and District 4 are up for election in 2021. We have new deadlines this year due to the by-law changed passed at last year's annual meeting. If you are interested in becoming a trustee please contact our General Manager, Matt Haggerty, to have your name passed on to the nomination committee.