



### Manager's Corner

Can you believe we are over half-way through 2018? Time flies when you're having fun!

#### AIS Fee

Even though the Montana Legislature isn't in full session this year, there has been a lot of work being done in the background to get ready for the upcoming session. If you remember at the end of 2017, the Legislature saddled the cooperatives with an Aquatic Invasive Species (AIS) fee that expires after two years. The good news is the interim committee has worked with us so far, and will recommend that once the fee expires that the cooperatives do not fund this fee. The bad news is that this recommendation still must go through the process to be put into law. But, every journey starts with the first step and this step is in the right direction.

### TransCanada Update

We are still waiting for the Montana Department of Natural Resources and Conservation and the Federal Bureau of Land Management to issue permits for the TransCanada project. TransCanada re-submitted the new route through Nebraska and the Department of State is scheduled to rule on this route in September 2018. The outlook is more positive that this project will be a reality at this time, but as you are well aware, the political nature of this project means things could change and nothing is guaranteed. We continue to monitor the progress on this and will keep you updated!

### NorVal Mid-Year Update

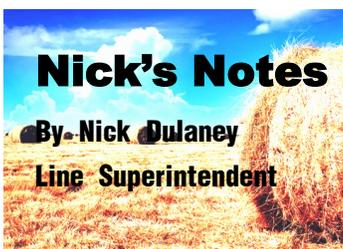
As far as your Cooperative is concerned, we are having a good year so far. Our construction season is well underway and we are performing system upgrades, retiring idle line extensions to get them off of our books, and adding new services just as quickly.

This is all I have for you at this time. Please be safe when you are out and about. ■



**Co-op Day at the Fair will be July 30th at the Daniels County Fair in Scobey, and August 3rd at the Northeast Montana Fair in Glasgow!**

**Join us for free ice cream sundaes, milk Nemont Nellie and enjoy the fair fun! We'll see you there!**



August means harvest, fairs, and the start of school. Remember to be safe while moving equipment and give us a call if you need a line lifted to safely get from one field

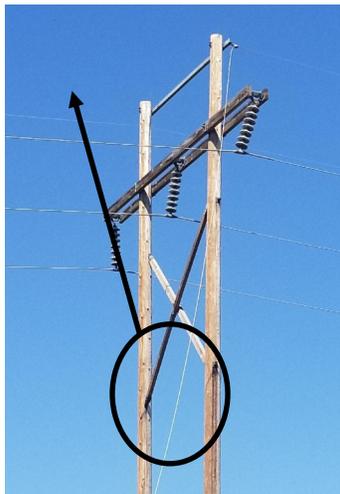
to the next!

Each substation on the system must be checked bi-annually to ensure that the oil in the transformers we use meets specifications. This oil testing ensures that we are in compliance for insurance coverage.

We have been from North to South on the system! The equipment on the South Valley line has been upgraded to stabilize voltage. Upgrades include voltage regulators and two reactors to improve reliability. In the North country, we have trenched primary underground line along the North Bench, North of Opheim. The two spans totaled 3,305 feet of new wire to

replace aging cable. We have also added some new line extensions for cell phone towers.

On page 2 we discuss OCR's, and the important role they play on our system. This month the crews will be testing this important equipment to ensure that it's working properly. This "tune up" is similar to getting your car serviced, it's an important maintenance issue for safety and security.



*This static wire broke and needed to be spliced and repaired in July.*

Finally, during the first week in July a static wire on the transmission line feeding the Lustre and Volt areas broke. The crews were able to assess the situation, and repair the line quickly. This is a great time to let our members know that we appreciate your patience during planned (and unplanned) power interruptions. Additionally, we are unable to patrol every mile of line throughout our service territory, so we appreciate your help to report anything out of place. Reports of broken wires, fallen insulators and guy wires that need to be replaced are extremely helpful, as are reports of any trees that may be in the line. These repairs improve reliability and reduce outage time. ■

## Recipe Corner

### Dill Pickle Potato Salad

3 lbs baby red potatoes (halved or quartered of large)

Kosher salt and freshly ground black pepper

3/4 c chopped dill pickles, plus 5 tbsp. brine

2 tbsp. red wine vinegar

3 celery ribs

1/4 c chopped fresh flat-leaf parsley

3/4 c mayonnaise

Place potatoes in a saucepan; cover with cold salted water. Bring to a boil, reduce heat to low, and simmer until tender, 4 to 6 minutes. Drain. Gently toss hot potatoes with pickle brine and vinegar in a bowl. Let cool 15 minutes, stirring occasionally. Stir together celery, parsley, mayonnaise, and pickles in a separate bowl. Add potatoes and any remaining brine mixture and gently toss to combine. Season with salt and pepper. Serve immediately, or chill up to 2 days. ■

## Outage Management Technologies Improve Reliability

By Tom Tate

The only things certain in life are death and taxes, as the old saying goes. Well, we can add another to the list: power outages. An outage can range from annoying to dangerous, depending upon its timing and length.

NorVal's primary goal is to deliver the highest possible quality of electric service at the lowest possible price. Perhaps the key measure of quality in the eyes of members is the number of times their lights blink or go out.

Let's talk a bit about how the grid is designed as a backdrop to how technology is improving reliability by reducing blinks and outages. Along the power lines that bring electricity to your home, NorVal installs protective devices in the form of fuses and reclosers (high-voltage circuit breakers). Fuses and reclosers serve the same purpose as the fuses and circuit breakers in your home.

A fuse is a one-shot device. When a fault occurs, the fuse blows and everyone downstream from it loses power. Reclosers are multi-shot devices, meaning they can operate a certain number of times before they stay open and an outage occurs. A common setting is what's known as a triple-shot. Here's how that works. A tree limb contacts the power lines and creates a fault. The recloser senses it and opens, creating the first blink.

Here's where a recloser differs from your home circuit breaker. It waits a certain amount of a time (typically a few seconds), then recloses to try and complete the circuit. If the fault is still there, it opens again. This creates the second blink. Triple-shot settings allow the device to reclose a third time and if the fault is still there, it stays open and the members downstream experience a power outage.

Blinks are a nuisance, but they eliminate a lot of extended outages by protecting wires and equipment from serious damage.



A NorVal Oil Circuit Recloser (OCR)

So, what kind of technology is improving service reliability? The Smart Grid is spawning an amazing array of equipment and software that are already improving reliability. When combined with field construction practices, like building multiple ways to feed power loads and the deployment of advanced metering systems (AMI), the future of reliability is bright—pun intended.

Electric co-ops are starting to use more of what are called Intelligent Electronic Devices. "Intelligent" basically means a co-op can program the device to behave a certain way when a specific event occurs. It also means the co-op can remotely command the device to take an action, either preprogrammed or ad hoc.

Eventually, there will be a power outage despite our best efforts. That is where AMI and outage management systems (OMS) earn their keep. The basic element of an AMI is a meter that can communicate with your electric co-op. The OMS maps system data and meter locations into a piece of software that models the electric grid. When a device on the grid reports loss of power, the OMS runs calculations to determine the exact location of the fault and the number of members impacted.

Now, the whole suite of systems your co-op uses comes into play. The co-op dispatcher can call out or redirect a crew to the exact location of the problem. A map of the outage and number of impacted members is generated and member service reps are notified that an outage is in progress. For members who have signed up for it, they might receive a text stating there's an outage and another when power is restored.

The end result of all this technology is the minimization of outages and their length, plus more availability of up-to-date information for the member.

Mother Nature is a tough opponent, and it's impossible to eliminate outages and blinks altogether. But with the way technology is advancing, we can expect to see some remarkable improvements. ■

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## Energy Efficiency Tip of the Month

Here's a cool tip for your fridge! Cover liquids and wrap foods stored in your refrigerator. Uncovered foods release moisture, causing the compressor to work harder.

Source: energy.gov

