



Automated Meters Equal Better Service to CVEA Members



Above, the photo above depicts the flow of information using automated meters. Opposite, a picture of an automated meter, similar to what will be installed on the CVEA system

Copper Valley Electric Association will be installing new, automated meters over the next two years to increase the efficiency and reliability of the electric system in CVEA's service territory. Improving the efficiency of both operations and electricity delivery within the existing electric distribution system can help keep down costs for members.

The impact of the installation will be minimal. Co-op members should only expect to lose power for a few minutes on the day of the installation.

The biggest change? The new automated meters will enable the Cooperative to perform several functions remotely, such as reading meters and reconnecting power. Remote meter reading will save time, labor and money. In fact, the metering system is expected to pay for itself within 8 years.

In addition to reducing operational costs, the new meters, which can receive and send information to computers at the dispatch center at Solomon Gulch and to the Co-op headquar-

ters, will help improve the reliability of our system. The new technology allows CVEA to detect problems more quickly and to locate outages more precisely. In some cases, problems may be fixed before members even know their power has been out. The new meters will also report when power has been restored, CVEA will know if there are single member outages without relying solely on a phone call from that member.

The new technology allows the team to monitor the electric system in almost real-time. This information can be used to make the process of delivering power much more efficient. Members can also expect to experience fewer blinks, surges and spikes as a result of the upgrade.

The meters, which provide daily information about power use will help consumer members understand how and when they are using electricity. Armed with this information, CVEA's customer service representatives will be better able to help members address unusual circumstances and billing inquiries.

Taking advantage of this new technology is one more way CVEA is looking out for the members, and the Co-op is eager to get this project under way.

Installation will begin in Valdez in July 2018. Once Valdez has been completed, crews will begin installing the new meters in the Copper Basin. Members will receive progress updates through Ruralite Magazine, cvea.org, and CVEA's Facebook page.

See below for frequently asked question and answers regarding this project.

Q: When will my meter be installed?

A: Substation equipment needed to communicate to the meters will be installed beginning in June 2018 with the Valdez meters to follow. The meters in the Copper Basin will start to be installed in Q1 of 2019.

Q: Will I lose electrical service during the installation?

A: Yes, for a few minutes. You will need to reset electronic clocks and other devices that have no backup power.

Q: How does my new automated meter work?

A: With these new meters, CVEA can read the meter remotely from either district office. Information from the meter is transmitted back to the co-op in daily, hourly, or in 15-minute increments depending on the information. Transmitting this information electronically means that a meter reader no longer comes to your house in person.

Q: Why is CVEA changing to the automated meters?

A: The meter upgrade provides CVEA members with numerous benefits:

- Money savings by eliminating the labor and transportation costs of in-person meter reading— a savings we pass on to our members
- Improved billing accuracy, eliminating misreads or inaccurate readings
- Faster outage response time as meters can pinpoint the exact location of outages more quickly
- More accurate information about outages and restoration times will be provided that can then be communicated to members
- Improved troubleshooting of high-bill problems by providing information about power consumption patterns, outage and blink count history, and voltage information, reducing usage questions

- Improve electric service reliability and power quality – fewer outages, blinks and surges
- Help secure the overall safety of the cooperative employee team

Q: What other additional installation parts will I need?

A: No additional parts are anticipated or required. However, if something is identified as faulty or hazardous with member's equipment, the co-op will address it at that time.

Q: Who will be changing out the meters?

A: CVEA employees



Q: Do members have a choice in getting a new meter?

A: No. New meters will be installed on all accounts. The cooperative is embarking on a system-wide program that will change 100 percent of existing residential and commercial meters in order to acquire more accurate information, without the need to enter a member's property.

Q: What's the difference between the new meters and the old meters?

A: The new meters are digital electronic devices while the old meters were a mix of digital and electro-mechanical devices. The new meters will display the meter reading in a digital LCD format.

The biggest difference is that the new meters will have an electronic circuit board module installed. The module receives and stores the kilo-watt-hours (kWh) recorded by the electronics in the meter, and is able to transmit securely this and other system data back to the cooperative's computers over the existing distribution lines.

Q: Will I keep the same rate after the conversion?

A: Yes, members will continue to stay on the same rate class as they have in the past. There will be no increased cost to the member as a direct result of this project.

Q: What if my bill reports more kWh usage than normal or I think my meter is not working correctly?

A: Contact CVEA right away to discuss billing concerns. Electronic meters are more accurate than analog or mechanical meters. The new meters installed have been tested and meet American National Standards Institute (ANSI) regulations. The new meters allow for accurate readings and a consistent billing period.

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Automated Meters

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Q: Will meter readers ever need to come to read the meter manually again once the new meter is in place?

A: Probably not. Meter readers will no longer regularly need to spend valuable time traveling to every meter for a monthly read. All meter reads will be digitally transmitted back to the co-op headquarters. However, to ensure the meters are functioning properly, CVEA will perform inspections annually on the meters.

Q: What information does the new meter record?

A: The new meter records an electronic kWh reading, the date and time of energy usage, the overall peak demand of the electric account (for commercial accounts only), if the meter has rotated backwards, and the number of times the meter has experienced a loss of power for any reason. In fact, the meter will record the date and time of light blinks and the length of the power outage.

Q: What day of the month will the meters be read?

A: All of the co-op's new meters can be read at a variety of times to obtain a history of account information. However, for billing purposes member bills will be read on a monthly schedule similar to current readings.

Q: Once co-op employees no longer need to read the meter, can obstacles be constructed that may make the meter inaccessible?

A: No. Reasonable access to equipment still must be maintained. This allows for cooperative personnel to either read or maintain the meter if necessary at reasonable times.

Q: How will the co-op read the meters?

A: The cooperative's computer will communicate with the substation-installed equipment, which sends a request for one or more meter readings over the existing distribution lines. The meter reading is sent back to the co-op via a secure network.

Q: Will someone other than the co-op be able to read the new meter?

A: It's very unlikely but not impossible that some very sophisticated "bad actor" could access information from the cooperative's automated metering system. Meter manufacturers are incorporating security features and encryption technology into their meters, as recommended by national security experts.

The goal of this project is to upgrade the electric distribution system to make it safer, more secure, and more reliable. The new digital meter is part of this effort. Once the new digital meter is installed, the cooperative will be able to tell if someone "tamper" with the meter because the meter will report any tampering attempts to the cooperative.

Q: Are there any potential health impacts from a meter that can receive and send data?

A: No. Research conducted by the Electric Power Research Institute, the Utilities Telecom Council and others has revealed no health impacts from digital meters.

Q: Will the co-op continue to do service inspections?

A: Routine inspections of all meters and services will continue in order to look for safety hazards, theft or other problems.

Q: How secure will the new meters be?

A: The meter display is visible for members to be able to check their consumption the same as the current meters. All other information and data stored in the meter is secure and the meter is sealed.

Q: Can the cooperative disconnect electric service using the new meters?

A: Yes, meters can have remote disconnect and reconnect capabilities.

Q: Will the new meter notify the co-op when the power goes out?

A: The meters will be able to record outages allowing the cooperative to verify whether the outage is either on the member's side of the meter or the Co-op's.

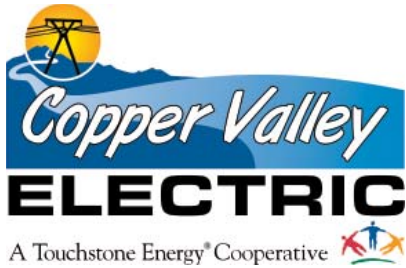
Q: Will the co-op notify me prior to installation?

A: Yes. CVEA will be posting an installation schedule and additional information on cvea.org and the CVEA Facebook page as the installation date gets closer.

Q: How will I know if my meter has been changed?

A: The co-op employee will leave a door hanger on the front door to let members know the meter has been changed. CVEA will work with businesses to minimize any inconvenience. Members do not have to be present during the meter change.

For additional information on this project, please contact Sharon Crisp at 907-822-5506, 907-835-7005, or email crisp@cvea.org. ■



CVEA Makes Expansion Possible for South Harbor Drive in Valdez



Above, crews using a heater to thaw the area around a power pole so it could be extracted and replaced

Since early 2015 Copper Valley Electric Association (CVEA) has been in discussions surrounding what it would take to serve additional loads on South Harbor Drive. During that time, multiple engineering studies were performed to determine what changes were necessary on the system to serve additional electrical load and still maintain reliability and system stability for the members of CVEA. It was determined that to accommodate the additional electric load required to operate the new Silver Bay Seafoods processing plant, the largest and most well known expansion taking place on South Harbor Drive, the distribution system required a number of upgrades.

The additional load expected from the project has the potential to reach nearly 8,000 kW, which is a projected increase of nearly 4,000,000 kWhs of additional electricity. To put that in perspective, the existing load for all of downtown Valdez is around 5,000 kW, making the increase nearly double the current load. According to Travis Million, CVEA Chief Operating Officer, “there hasn’t been much of a load increase within Valdez proper in the last decade or more. While the current configuration was designed to accommodate some increase, it

just wasn’t designed to this scale. The size of the electrical conductor, or wires, limits the amount of energy they can deliver, and there were sections of line that were undersized for this load increase and had to be upgraded.”

In the fall of 2017 agreements were made to move forward on this project with Silver Bay, at which time the larger equipment needed for the upgrade was ordered. CVEA and Electric Power Constructors (EPC), CVEA’s contractor, began replacing poles and conductors in late February between the Bear Paw RV Park at the corner of Meals and Kobuk, following Kobuk Drive until it turns into South Harbor Drive. This was completed in early April. Large capacitor banks, to ensure efficient energy delivery, and voltage regulators, to ensure proper voltage is maintained throughout the system, are being installed and should be complete by the time this article goes to print.

As mentioned earlier, construction on this project began in February 2018. CVEA recognized that the work could not be done during the summer as the outages scheduled to perform much of the work would severely disrupt the activities on South Harbor Drive. In addition, Silver Bay needed the work done



**Left, crews replacing conductor to a newly set pole on Kobuk Drive
Above, crews installing a new transformer at Silver Bay Seafoods**

before their season began, making this project very unique.

Construction in the winter is extremely unusual due to snow depth, cold temperatures, and frozen ground. This was no easy task for the Cooperative. In order to accommodate for the winter construction, a large heater was utilized to thaw the ground surrounding the utility poles. Crews thawed the ground around the pole overnight and begin the process of removing the old pole and setting a new one the next morning. While this work was being completed, the heater was set up on the next pole and ran through the day and night, allowing work to be performed each following day. This sequence was completed on 17 poles.

In total, the upgrade is a two-phase project. The second and final phase will begin in the fall of 2018, and continue through spring 2019. The majority of that work will take place on the Richardson Highway, near Bear Creek. Nearly two miles of line will be constructed and larger conductor will be installed. The new line will be built adjacent to the existing line to minimize any scheduled power outages needed to energize the new line and remove the existing lines. There will also be additional equipment needing to be upgraded along South Harbor Drive. Once those tasks are complete, CVEA will convert the voltage feeding South Harbor Drive from 12.5kV to 25kV to ensure the required loading in the future.

It is significant that the additional load required on South

Harbor Drive corresponds very well with the co-ops hydro generation season. Thankfully, with the addition of Allison Creek, this additional load is possible. Allison was built with additional capacity, and CVEA was looking for a way to maximize Allison's output; this additional load will do just that. Without the capacity of Allison, in combination with Solomon Gulch hydro, this project would not have been cost effective.

Based on calculations for the additional loading of Silver Bay and the load the new boat harbor will require, hydro generation, under a normal water year, will be very close to fully subscribed. As the electrical cooperative serving Valdez, CVEA can provide additional power to other businesses looking to develop or substantially expand. However, each business will need to be reviewed on a case by case basis to determine the work that would need to be performed, if any, prior to providing power.

As indicated above, it can be a multiple year process to accommodate consumers' needs. It's also important to keep in mind, that the costs to serve incremental loads will be paid by the party responsible for the load growth. Any business that is interested in developing or expanding business in Valdez that would require a substantial load, should contact CVEA. The co-op's staking technician, who handles all new service requests, will assist you. You are encouraged to contact CVEA early in your planning stages, and early in the year. New service requests come in as early as February. The later in the summer requests are submitted, the more difficult it is to complete projects prior to the end of construction season.

For additional information on this project or any CVEA project, please contact Sharon Crisp at 907-822-5506, 907-835-7005, or email crisp@cvea.org. ■



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P.O. Box 45
 Glennallen, AK 99588
 www.cvea.org

Copper Basin District
 (907) 822-3211
 (907) 822-5586 (fax)
 Mile 187 Glenn Hwy.

Valdez District
 (907) 835-4301
 (907) 835-4328 (fax)
 367 Fairbanks Dr.

After hours outage line
 (866) 835-2832

Important Dates

May

Annual Meeting: The CVEA Annual Meeting will be Tuesday, May 1, in the Valdez District and Thursday, May 3, in the Copper Basin District; registration begins at 5:30 p.m. and the meeting begins at 6

CVEA Board Meeting: The May meeting of the Board of Directors is 1 p.m., Thursday, May 17, 2018, in Valdez

CVEA Offices Closed: The CVEA offices will be closed, Monday, May 28, 2018, for Memorial Day

June

CVEA Board Meeting: The June meeting of the Board of Directors is 1 p.m., Thursday, June 21, 2018, in Glennallen

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When the power goes out, so do CVEA's line crews. Lineworkers are the first to respond after an outage occurs, and they work tirelessly to restore power to the communities in CVEA's service territory.

Additionally, when the lights are on, crews work daily throughout the community making repairs and performing maintenance work on the system.

If you're traveling and see crews on the side of the road, CVEA kindly asks that you move over if possible and give them a little extra space to work. Safety of everyone involved is top priority, and this extra precaution ensures just that.

If you approach a crew while traveling on a two-lane road, moving over to the next lane might not be an option. In this case, please slow down when approaching roadside crews.

Utility crews aren't the only ones who could use the extra space. Emergency responders, such as police officers, firefighters and emergency medical technicians, often find themselves responding

to emergency situations near busy roadways. Please follow the same procedures mentioned above to help keep these crews safe.

There's plenty of room for all. Let's work together to keep everyone safe on our local roadways. ■

