



ADVANCED METERING
Planning for the Future

Advanced Metering Infrastructure (AMI)

Frequently Asked Questions And Responses

Updated February 2012

GENERAL BACKGROUND INFORMATION

What is Advanced Metering Infrastructure (AMI)?

AMI is an advanced technology that will enable energy usage information to be more effectively and efficiently transmitted directly between end user meters and KREMC's office. This enhanced communication will provide a variety of benefits and service improvements for members.

Why is KREMC installing AMI technology in our service area?

- KREMC is replacing old, dial mechanical meters that work with a technology that is nearly 100 years old and are no longer adequate to meet members' service needs. Advanced meters are every bit as accurate as the old meters.
- AMI technology will enable KREMC to serve our members even better through remote meter reading, improved outage management and enhanced sharing of information with members.
- At some point in the future AMI technology will be required to stay current with upcoming advances in appliances, electric automobiles, renewable energy, and communications.
- Advanced meters will be necessary to prepare for future energy demand. There is a nationwide implementation of advanced meters underway to comply with legislative and regulatory initiatives to prepare for the Smart Grid. KREMC wants to be ready for these new technologies to ensure seamless delivery of reliable and affordable electric power for our members.

How does the AMI technology work?

KREMC will install an electronic advanced meter at members' homes and businesses to begin energy data collection and two-way information sharing. Information will be transmitted intermittently from the meter using radio frequency (RF) transmissions to a KREMC substation where data collection equipment is installed. The meters transmit for only about 90 seconds each day. The data collected then flows to the KREMC office, where it is used to analyze energy usage, outage data, and voltage information as well as be merged into the co-op's computerized billing system – all in order to better serve our members.

BENEFITS OF ADVANCED METERS

What are the benefits of advanced meter technology?

- **Improved information about power use.** Members will have access to more information about energy usage at their homes or businesses. This will help members to make better-informed decisions about how to use and conserve energy. If a member has a question about their usage, the more timely information that is collected can better verify their electric usage.

In addition, because KREMC will be able to read meters throughout the day and on demand, KREMC representatives will be able to help members better understand their electric usage such as by pinpointing peak usage times and dates.

- **Improved accuracy and convenience of meter reading.** Members will no longer have to read and report their monthly meter readings. Besides the convenience, this will virtually eliminate estimated bills and meter reading fees.
- **Improved power quality.** The advanced meter technology will allow KREMC engineers to monitor the system better, which will help them to better balance the electric load on our distribution lines and analyze voltage information to reduce spikes, blinks and surges.
- **Improved reliability.** KREMC experts will be able to better examine outage data trends and to pinpoint and identify trouble areas affected during outages to more quickly restore power.

Will advanced meters lower members' electric bills?

Not directly. Wholesale electric costs are increasing and we expect that trend to continue. However, advanced meters will be able to provide members more information to make informed decisions about their energy usage, and will create operational efficiencies in providing electric service. This will help both members individually and KREMC on a cooperative basis to better manage energy costs.

Through more accurate system monitoring, advanced meters also will be able to better detect potentially costly and dangerous power theft. This will benefit all KREMC members because this stolen power ultimately results in higher costs for all members.

PRIVACY ISSUES

Will advanced meter data be kept private?

- **Yes.** KREMC, which is a not-for-profit organization, will not sell or share individual metering data with outside organizations unless requested to do so by the member.
- **Remember, KREMC always has securely maintained private member information.** KREMC has a well-defined privacy policy in place that all employees and third party affiliations must strictly follow. This policy is reviewed annually to ensure it addresses all potential security issues, including those that could relate to the installation of advanced meters.
- **Even with advanced meters, KREMC will not have the ability to detect individual appliance or other such specific usage at an account.** The advanced meter will only record and transmit time-sensitive aggregate use trends for the home or business.

It should be noted that KREMC has had the ability to offer this level of monitoring for many years, so while this is not new it previously required placement of an expensive special meter at the account. Therefore it was only used at a member's request in specific circumstances of abnormal usage, and

then only on a delayed basis after the abnormal usage was noticed as part of the monthly billing cycle. With advanced meters KREMC will be able to routinely offer this level of monitoring both on a more cost effective and timely basis. This may save members money by more quickly detecting abnormal usage resulting, for example, from a defective well pump or other device, which previously may not have been noticed until the monthly billing.

- KREMC may share co-op aggregate data only with Wabash Valley Power Association (WVPA) to forecast electric load growth so that ample electricity supplies can be maintained. WVPA is our wholesale power supplier and is partially owned by KREMC.

SAFETY ISSUES

How common are radio frequency (RF) waves?

People are continuously exposed to very low levels of natural and man-made radio frequency (RF) fields. Even the earth's surface and the human body are constant sources of RF fields. Many common household devices, such as baby monitors, cordless phones, cell phones, microwave ovens, and remote-controlled toys and medical monitors, emit RF waves.

How do advanced meters use RF waves?

Advanced meters use RF waves to intermittently transmit data from a home or business to the cooperative's information collection system. The meter actually transmits for only about 90 seconds each day.

Are advanced meters radio frequency (RF) waves safe?

Yes. The Electric Power Research Institute (EPRI) tested advanced meter systems that emit wireless RF waves when transmitting data to the utility and found that they are safe based on standards set by the Federal Communications Commission (FCC). The metering products we selected underwent testing by an accredited lab to verify that they met all FCC requirements.

RF levels associated with advanced meters are in fact much lower than those emitted by microwave ovens, cordless phones and cell phones. For example, one independent study found that measured in a standard time frame of 30 minutes of exposure, typical cell phone use produces more than 12,660 times the exposure level of advanced meter transmissions. *(This study is posted in the Advanced Metering Information Resource Center on the KREMC website at www.kremc.com.)*

Why are RF levels associated with advanced meters much lower than other common household devices?

For three reasons:

- **Infrequent signal transmission.** On a daily basis, the cooperative's meters emit radio waves only on an intermittent basis – the meter actually transmits for only about 90 seconds each day;
- **Distance.** Typically meters are located outdoors, with a wall separating the meter from the living space; and
- **Direction.** Since most meters are outdoors, radio frequency transmissions from the meter typically are directed away from the home.

This combination of placement and infrequent operation means that you would need to be within one foot of 7,000 digital advanced meters all communicating at the same time to reach the FCC dangerous exposure level.

INSTALLATION PROCESS

Will KREMC be installing advanced meters throughout the entire service area?

Yes. All KREMC members will be scheduled for advanced meters installation. It will take approximately 18 months to fully complete the changeover in our service area.

How will members know when their meter is to be changed?

KREMC will use a variety of methods to inform members about general progress on the advanced meters project. These will include:

- Progress postings in the Advanced Metering Information Resource Center on our website.
- *Electric Consumer* will feature regular updates.
- Bill inserts and lobby displays will also include general installation dates.
- Recorded phone messages may be available giving general installation dates.

Specific dates for meter change outs will not be provided.

How long will it take for a new advanced meter to be installed?

A typical single advanced meter installation will take approximately 15-20 minutes to complete. During this time, the home will experience a brief power outage as the new meter is installed.

Will the homeowner have to be there for the advanced meter installation?

No. It isn't necessary for the member to be at home. KREMC representatives will leave a notice when the meter has been changed.

Will advanced meters interfere with members' radio, phone, computer or other equipment?

No. Advanced meters will not conflict with other equipment on the premises.

Who will install the advanced meters?

Installation will be completed by KREMC employees equipped with an official KREMC photo identification card. Vehicles will be marked with the KREMC logo.

Will members still see KREMC service technicians doing meter readings?

Yes. Although the new meters will be read automatically, they will still need to be periodically inspected, monitored and serviced. As a result, members may still see KREMC service technicians from time to time.

COST ISSUES

How much will this cost for members?

There will be no additional fees, charges or rate increases for members to have an advanced meter installed at their home.

Will I see any change at all on my bill from the advanced meters installation?

Depending upon when you have read and reported your monthly usage in the past, a member **may** experience a one-time increase in the first monthly billing as part of the transition to the advanced meters process. This is timing issue only and is not reflective of additional costs due to the advanced meters installation.

In preparation for the advanced meters installation, members may wish to consider enrolling for the Budget Billing service option offered by KREMC to help smooth out any spikes in billing.

WHERE TO GO FOR MORE INFORMATION

Who should members contact with additional questions?

Members with online access can consult the Advanced Metering Information Resource Center on the cooperative website at **www.kremc.com**. Additional questions may also be sent to KREMC through Email to **mail@kremc.com**. Members may also call the co-op office at 574-267-6331 or 1-800-790-7362.