



ADVANCED METER/AMI FAQ

Beginning in 2009, Inter-County Energy implemented an AMI (Advanced Metering Infrastructure) throughout its service territory. The Advanced Meters that were installed operated on a PLC (Power Line Carrier) 12.5kHz frequency. In 2024, Inter-County started implementing RF (Radio Frequency) 902-928 MHz frequency system and Advanced Meters.

What are “Advanced Meters”?

“Advanced Meters” are solid state electrical meters that utilities install to collect and transmit metering information back to the office. These replaced the analog type meters which were limited to just displaying the total usage and required the utility to visit each meter monthly to manually read the meter.

Advanced Metering Infrastructure (AMI) ... What is it?

The name sounds complicated, but Inter-County Energy’s AMI system produces a variety of benefits, including better customer service, improved reliability, and greater operational efficiency.

How does my Advanced Meter work?

With Advanced Meters, Inter-County Energy can read the meter remotely from our main office in Danville. Information from the meter is transmitted back to the co-op. Transmitting this information electronically means that a meter reader no longer visits your home to manually read the meter on a regular basis.

What data is collected by the meter?

- Total kWh usage.
- KW values for each interval (typically 1 hour).
- Minimum and maximum voltage levels.
- Certain outage events including start time and duration.

How often does my meter “transmit” information? On average, the PLC meter typically transmits meter data once a day for each month. Each transmission will last an average of two to three seconds. The RF meter typically transmits four times per day. Each of those transmissions lasts an average of five seconds.

How secure is the meter data?

Inter-County Energy considers member information security a top priority. The data transmitted through the AMI system to and from the meter is encrypted using a special proprietary technique. We continue to monitor and test for security threats. None of your account information is included in the AMI equipment or meter transmissions.

Are “Advanced Meters” accurate? These meters follow multiple accuracy standards testing both by the manufacturers and the utilities. In addition, the Kentucky Public Service Commission requires sample testing each year on a defined amount of the installed meters. Billing exception reports and validation routines on the readings are also performed daily to ensure accuracy.

How does the PLC AMI system work? To perform a meter read an Inter-County employee sends a command to AMI equipment in the substation via our Wide Area Network (WAN). The AMI equipment generates a Power Line Carrier (PLC) signal which is induced onto the distribution power lines. This signal “rides” along the sine waves of the lines through the system, transformer, and to the meter. The meter contains a transmitter which hears the information requested then sends that information back to the substation AMI equipment. Again, this signal is sent via PLC signal across the power lines. The substation equipment then sends the information back to the employee via our WAN. This entire process takes an average of four to six seconds.

How does the RF AMI system work? To perform an “On Demand” meter read an Inter-County employee sends a command to AMI equipment in the substation (and throughout our distribution system) via our Wide Area Network (WAN). The AMI equipment generates a message to the meter. The RF meter contains a transmitter which hears the information requested then sends that information back to the AMI equipment. The AMI equipment then sends the information back to the employee via our WAN. This entire process takes an average of 10-20 seconds.

In addition, the RF meters are programmed by default to send meter information back to our main office every six hours. This transmission usually lasts approximately five seconds.

What are the specific benefits of AMI technology?

- Improves electric service reliability and power quality – fewer outages, blinks, and surges.
- Allows more respect for member privacy and property access – With this new system, the only time Inter-County will need to physically be at your meter is if there is an electric service problem or when we perform inspections of your electric service and our facilities.
- Improves outage notification and management process by more quickly pinpointing the exact location of outages, meaning a faster response time.
- Provides additional metering data to better assist members with billing and service questions.
- Capability to provide members with valuable usage information such as consumption patterns, outage and blink count history and voltage information.
- Improves meter reading accuracy and consistent billing periods – With an AMI system, meters can be automatically set to read the meters on the same day of each month. This, for example, eliminates a 27-day billing period for one month and then a 35-day billing period the following month.
- Reduces losses by identifying power theft.
- Gain efficiencies by eliminating the labor and transportation costs of in-person meter reading .
- Ensures better overall safety for Inter-County Energy employees.
- Promotes energy efficiency so members have access to daily usages/costs thus controlling appliance run times and providing real-time customer feedback.

Will co-op employees need to read the meter manually again once the new meter is in place?

Inter-County employees 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 main office. On occasion, employees may need to access your property to read the meter if the communication back to our equipment is not sufficient.

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

No. Reasonable access to equipment still must be maintained. This allows Cooperative personnel to either read or maintain the meter, if necessary, at reasonable times. Routine inspections of all meters and services will continue to look for safety hazards, theft, or other problems.

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

The AMI system will enhance the Cooperative's ability to pinpoint outage locations and verify service restoration. The RF meters will attempt to send a message to our Danville office letting us know the power is out. It is best to follow up and notify Inter-County of your outage.

Can you monitor the activity within my home with my meter?

No, Inter-County's meter has no surveillance capability. The meter simply measures the total electric energy usage as the previous electro-mechanical meter did. Individual devices within the home cannot be monitored with the meter.

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

The Federal Communications Commission (FCC) has adopted and used recognized safety guidelines for evaluating RF environmental exposure since 1985. Federal health and safety agencies such as the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the National Institute for Occupational Safety and Health (NIOSH), and the Occupational Safety and Health Administration (OSHA) have also been actively involved in monitoring and investigating issues for RF exposure. In 1996, the FCC adopted the National Council on Radiation Protection (NCRP's) recommended Maximum Permissible Exposure limits for RF exposure. The FCC also adopted the specific absorption rate (SAR) limits for devices operating within close proximity to the body as specified within the American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE) guidelines.

There has been considerable research* conducted on the health impacts of RF exposure levels from advanced (or 'smart') meters. This research has demonstrated that there is no health threat from RF exposure levels below those designated by the FCC.

***California Council on Science and Technology:** "Wireless smart meters, when installed and maintained properly, result in much smaller radio frequency (RF) exposure than many existing

common household electronic devices” “The current FCC standard provides an adequate factor of safety against known thermally induced health impacts of existing common household electronic devices and smart meters”

***Maine Center for Disease Control:** concluded there is “no consistent or convincing evidence to support a concern for health effects related to the use of radio frequency in the range frequencies and power used by smart meters”

A common misconception about smart meters is that they are always “on” or transmitting 100% of the time. This is far from the case. In fact, Inter-County’s typical PLC meter transmits only once a day for approximately two to three seconds per transmission. The RF Meter typically transmits 4 times per day for approximately 5 seconds per transmission.

In summary, Inter-County’s meter system meets and exceeds all Federal Communications Commission (FCC) regulations regarding acceptable ranges of RF exposure limits.

Additionally, many commonly used household devices operate at higher frequency levels. Below is a chart comparing the AMI system frequency ranges to other devices:

Typical RF Exposure Values



* Based on FCC 47CFR1.1310, which averages exposure over 30 minutes of usage. Comparative data provided by Elster.

If you have additional questions, feel free to contact Inter-County Energy at 1-888-266-7322.