Key Issues in Perspective:

SMART METERS and DATA ACCURACY

The electric power industry is modernizing the nation’s electric grid. Using advanced technologies, electric companies are building a smart grid that will deliver more reliable power to customers across the country and allow two-way communication between customers and their electric companies.

Installing smart meters is an important step in building the smart grid. These advanced meters enable customers to track their power usage and learn more about the way they use electricity. This will help customers better manage their electricity usage in the future.

Smart meter technology also allows electric companies to detect power outages more precisely and to restore power more quickly. In fact, some outages actually may be avoided by giving electric companies more options to reduce demand when the system is under stress. The meters also provide data to electric companies, enabling them to operate the electric grid more efficiently.

As with any new technology, customers have questions about how a smart meter works and what impact it may have on their lives. We’ve developed a series of frequently asked questions (FAQs) and answers to address key topics. The following FAQs discuss the accuracy of the electricity usage data collected and transmitted by smart meters. As the smart grid allows electric companies to collect real-time customer usage data, customers want to ensure that their data are accurate. In fact, advanced technologies help to ensure that the usage data collected by electric companies are more accurate than ever. For more information about the smart grid, visit SmartGrid.eei.org.

What is a smart meter?

A smart meter is a digital upgrade to the decades-old mechanical meter found in homes and businesses across the country. A smart meter uses advanced technology to communicate the electricity usage of your home or business to your electric company through remote communication technologies. This means that your electric company will no longer need to send someone to read your meter on a regular monthly basis.

The meter’s digital technology also enables two-way communication between you and your electric company. This two-way communication allows your electric company to identify and respond more quickly to potential problems, like power outages. Your electric company also may have the ability to communicate current electricity prices to you—empowering you to better manage your electric bills.

Smart meters look similar to traditional mechanical meters, but the digital technology inside the meter makes them more efficient. Electric companies currently are installing smart meters in homes across the country.
How often do smart meters transmit data to my electric company?

That depends on the specific technology powering your meter and the data requirements of your electric company. However, most smart meters send usage data to your electric company one to four times a day. Some systems are programmed to send data as often as every 15 minutes.

How do I know that the electricity usage data being sent to my electric company are accurate?

The technology systems that support smart meter systems have extensive data validation processes to protect the accuracy of your billing records. In addition, smart meters must meet rigorous requirements for accuracy, which were developed by the American National Standards Institute (ANSI). National Institute of Standards and Technology (NIST)-certified test equipment also is required to verify initial and continuing smart meter accuracy.

A recent study by an independent testing group found that 99.91 percent of smart meters were accurate within 0.5 percent. In fact, the study found that smart meters were more accurate than the mechanical meters they replaced. In addition, smart meter groups are continuously tested and monitored by your electric company to ensure they are operating correctly.

Electric companies constantly monitor the data transmitted from smart meters to verify that electricity usage is within expected ranges. If readings show a significant difference from normal levels of use, technicians will inspect the meter. Your electric company takes these steps to ensure that your electric bill is accurate.

How does my electric company ensure that my neighbor’s data won’t be confused with mine?

A digital signature helps match the electricity usage data according to your address and the specific smart meter installed on your home or business. As data are transmitted from your smart meter to the electric company, this digital signature is validated multiple times.

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The Edison Electric Institute (EEI) is the association of U.S. shareholder-owned electric companies. Our members serve 95% of the ultimate customers in the shareholder-owned segment of the industry, and represent approximately 70% of the U.S. electric power industry. We also have as Affiliate members more than 80 International electric companies, and as Associate members more than 200 industry suppliers and related organizations.

Organized in 1933, EEI works closely with all of its members, representing their interests and advocating equitable policies in legislative and regulatory arenas.

EEI provides public policy leadership, critical industry data, strategic business intelligence, one-of-a-kind conferences and forums, and top-notch products and services.

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