# ADVANCED GRID SAFETY AND SECURITY



Technology is advancing in every area of our lives, and Xcel Energy is using digital technology to help bring you cleaner, safer, more reliable energy. The next generation of our energy grid—the advanced grid — will help us serve you better. Xcel Energy will install smart meters at customer homes over the next five years as part of building the advanced grid.

New, smart meters are an important part of building this advanced grid. Smart meters are not new to the electric utility industry as there are nearly 98 million smart meters already in place across the U.S. Xcel Energy will use smart meters to improve the customer experience and advance our utility operations. Since the technology is new to Xcel Energy customers, we want to make sure you know there are no health or safety concerns related to smart meters.

### **Understanding Radio Frequency Technology**

Smart meters use radio frequency technology, but with significantly lower radio frequency levels than cell phones, most home appliances and WiFi routers. Xcel Energy's smart meters will emit radio frequency lower than the Federal Communications Commission (FCC) guidelines established to protect the public. All Xcel Energy meter systems are fully authorized, licensed and in compliance with the FCC's guidelines.

## **Quick Facts about Safety and Security**

## Customers will control how they use electricity.

Smart meters will provide advanced measuring and troubleshooting features. These meters will not control your appliances or other items in the home. In the future, these meters will help you to understand what appliances are using the most energy, giving you transparency and more control over your energy usage.

#### Security you can trust.

We provide security you can trust. Protecting your data is extremely important to us. We use multiple layers of defense to ensure all data is secure and protected. Energy use data will be securely transferred electronically from the smart meter, eliminating the need for manual meter reading or estimates, which also helps reduce cost. More information on **Xcel Energy's Privacy Policy** can be found on **xcelenergy.com**.

## **Radio Frequency Levels in Common Household Devices**

12,667
times greater

Cell phone (0.19)

times greater

8.000

Cordless phone

313 times greater



Microwave oven (0.0047)

67 times greater



Wifi signal (0.001)

20 times greater



Natural RF from the human body (0.0003)

Source: Federal Communications Commission

times greater

9

Natural RF

Natural RF from Earth (0.00013)



**Smart meter** (0.000015)

#### **ADVANCED GRID SAFETY AND SECURITY**

#### There are no health concerns with smart meters.

No evidence has been found of smart meters causing health issues. There are 98 million smart meters already installed in the United States that meet or exceed the FCC requirements. Many of the components in smart meters are the same as what's inside existing meters. The RF signals emit the same type of low-energy radiation that most of us are exposed to every day from WiFi, Bluetooth, and cell phones. According to the American Cancer Society, RF radiation does not cause cancer. RF radiation does not have enough energy to remove charged particles, such as electrons, and therefore is too weak to damage DNA or cause health complications.

The resources linked below offer additional information on Radio Frequency and Advanced Metering Infrastructure:

- Electric Power Research Institute, A Perspective on Radio-Frequency Exposure Associated with Residential Automatic Meter Reading Technology
- Electric Power Research Institute, Radio-Frequency Exposure Levels from Smart Meters: A Case Study of One Model
- Edison Electric Institute, Smart Meters and Your Health
- American Cancer Society, About Smart Meters
- Smart Energy Consumer Collaborative, Radio Frequency Fact Sheet
- Smart Energy Consumer Collaborative, Myths vs. Facts: The Truth about Smart Meters Fact Sheet
- California Council on Science & Technology, Health Impacts of RF Exposure from Smart Meters
- FCC Office of Engineering and Technology, Radio Frequency Safety Frequently Asked Questions

