

FORT COLLINS COLORADOAN

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THE FORECAST
Early showers, then
partial clearing
High today: 46
Low tonight: 30
PAGE B8

TUESDAY
April 3, 2012

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DEFENDANT'S
EXHIBIT
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'SMART' METERS CHARGE INTO TOWN



Benjamin Johnson, a ground worker with the Fort Collins Utilities light and power department, exchanges an old kilowatt hours meter with a new smart meter Thursday at a home in south central Fort Collins. The new meters will provide utilities with additional information about electricity and water usage. The meters will be tested for accuracy before they are installed citywide. RICH ABRAHAMSON/THE COLORADOAN

Officials: Upgrade aims to empower customers

By Kevin Duggan

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The future of Fort Collins Utilities and how it interacts with customers is getting energized.

City utility crews in March launched the first round of a yearlong project that will install new advanced or "smart" meters in homes and businesses.

The new meters will have capabilities beyond their primary purpose — measuring the use of electricity and water and sending the data to distribution and billing systems. They will be able to send real-time information to utilities operators and provide consumers with information about their energy use through an Internet-

based "web portal" system.

That information will help customers make decisions about how to conserve energy and reduce costs.

The data also will help utilities managers design conservation programs to address customers' needs, said Steve Catanach, light and power manager with Fort Collins Utilities.

Customers initially are not likely to notice a difference from the digital meters, he said. But in time, that will change as the system becomes increasingly interactive.

"Right now, this is pretty simple," Catanach said. "We are laying a foundation and looking for-

ward to the future. We will be leveraging this system for years to come."

The portal is expected to go live by the end of the year.

Quality control

Initial deployment of the meters is centered on a 4-square-mile area that includes a variety of residential and commercial connections.

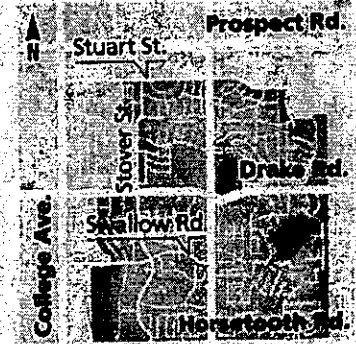
Crews will be installing 6,000 new electric meters in the area and modules to update about 2,700 water meters.

The meters send encrypted data to communication devices,

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UTILITY METER TESTING BEGINS

New smart meters will be installed and tested in a four-square-mile area of Fort Collins.



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Meters

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or gatekeepers, installed on light poles and other structures. Those devices link into the city's fiber-optic system, which carries the information to utilities.

Work in the initial deployment area is expected to be wrapped up about the end of May. As the meters are being installed, behind-the-scenes computer systems that will operate the system are being brought on line.

The meters and the mesh communication network they feed then will be tested to ensure reliability and accuracy. The upgraded communication system will notify operators of outages and other problems and allow operators to react quickly, Catanach said.

"Right now we don't know that," he said. "We rely on telephone calls to let us know when the power is out."

Mass deployment of the meters is scheduled to begin in September and end about the middle of 2013. Eventually, about 65,000 new electric meters and 34,000 water meters will be installed across the city.

The mass deployment is being timed so new meters are not associated with utility bills from summer months, when a new rate structure could lead to significantly higher costs for customers who use a lot of electricity.

The new rate structure will pass along higher summertime charges from the city's wholesale power supplier, Platte River Power Authority. New tiered rates also could impact summertime bills.

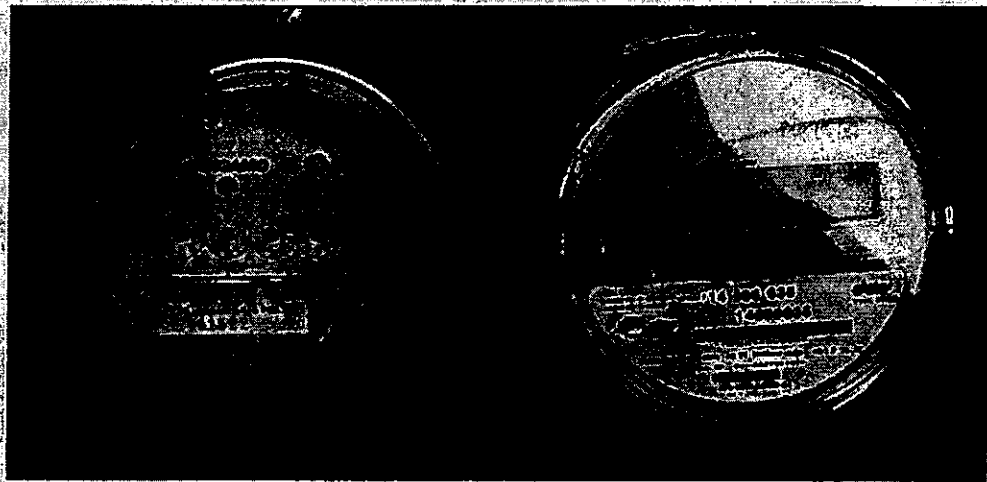
"We've seen the history of other utilities where people blame the meter," he said. "It's not the meter; the meters are very, very accurate."

The old electro-mechanical meters slow down as they start to fail and provide inaccurate measurement. In some places around the city, current meters are 40 years old.

Friends and foes

The \$31.4 million upgrade for the electricity metering system in Fort Collins is being funded in part by a \$15.7 million federal grant. The new water meters are expected to cost another \$4 million.

Smart meters are increas-



An old kilowatt hours meter, left, sits next to a new smart meter Thursday. RICH ABRAHAMSON/THE COLORADOAN

ARE SMART METERS SAFE?

Some people from Fort Collins and across the country have expressed concern that radio frequency exposure from smart meters may cause health problems, including cancer.

Exposure levels from smart meters would be extremely low, said Kraig Bader, standards engineering manager for Fort Collins Utilities. A typical 'smart' meter would broadcast an average of 86 seconds a day.

Below are the exposures to a smart meter one would need to experience the equivalent radio frequency exposure from a 5-minute cellphone call with the phone held 1 cm from one's ear.

Outdoors, in front of a meter:

- » 1 foot — 68 days
- » 10 feet — 19 years

Inside a building:

- » 1 foot — 35 years
- » 3 feet — 32 years

Research has been done on potential risks associated with radiation from cellphones and other devices, but not smart meters, officials said.

Studies have not found a consistent link between cellphone use and cancers of the brain, nerves or other tissues, according to the National Cancer Institute at the National Institutes of Health website.

The institute notes more research is needed because cellphone technology and the ways people use the devices have been changing rapidly.

ingly being used by utilities across the country. The devices have critics and supporters.

Concerns expressed about the smart meters include possible health effects from radio frequency exposure from the devices and the potential that the system could be hacked and private information about residents and businesses could be compromised.

A handful of residents have said they would opt out of getting a meter that is capable of broadcasting information, Catanach said. Those who opt out of the program will be charged an additional \$11 a month to have a meter reader visit their properties.

The additional charge is not fair to those who have concerns about the system, resi-

dent Ken Stanton said.

Stanton, who teaches at Colorado State University, said his biggest concern about smart meters center around privacy issues. No one should be able to know when he or other family members are home based on the amount of energy that is being used.

"Being an electrical engineer, I know there is no such thing as security," he said. "It is not possible to make it perfect."

Catanach said the encrypted data collected by the system are considered to be of low value. The system does not identify individual homeowners or businesses or their addresses.

Nevertheless, the system has multiple layers of security that will be tested by a third-

BY THE NUMBERS

Advanced meters in Fort Collins:

- » 4 square miles — size of the initial deployment area for meters
- » 6,000 — electrical meters to be installed this spring in the area
- » 2,700 — water meters to be installed in the area
- » 65,000 — electrical meters expected to be installed citywide through 2013
- » 34,000 — water meters expected to be installed citywide
- » \$31.4 million — cost of the advanced metering system for electricity
- » \$15.7 million — federal grant to help fund the project

INTERESTED?

For more information on advanced meters, including answers to frequently asked questions, visit www.fcgov.com/utilities/sustainable-leadership/advanced-meter-fort-collins.

party vendor before it is fully implemented, he said.

"We feel very confident about the level of security we are providing," he said.

The meters are welcomed by other residents, who believe they are a step toward upgrading how Fort Collins Utilities functions.

"The only way to an electric future that works is to upgrade our 1930s grid," said Fort Collins resident Rick Coen, who works in the solar energy field, through a Facebook message to the Coloradoan.

"One of the first steps to that end is smart meters that allow utilities and their customers some real-time visibility and control," Coen stated. "Information is power and the current 'dumb' meters provide very little."