



Good call: Residential leak alerts enhance customer service

Kansas City leverages AMI to help customers save water and cash

At a glance

- Kansas City Board of Public Utilities uses EnergyAxis to read 67,000 electric meters and 56,000 water meters. In an effort to help customers benefit from their AMI data, the Water Department implemented a residential leak-detection report.
- Each day, Water Department staffers notify any customer whose consumption shows at least 25.2 cubic feet or 188.5 gallons of water running through the meter every hour for 24 consecutive hours.
- More than 1,500 customers have been notified of leaks and given the opportunity to save money by fixing those leaks. Most did within a few days of notification.

Scenario

When Kansas City Board of Public Utilities (KC BPU) installed a water and electric AMI system in 2013, utility managers had the community in mind. Along with improving service and reliability, they hoped to empower customers to be wiser energy and water consumers. That goal prompted Water Department staff to make residential leak detection a priority.

To that end, the Water Department team began running a daily leak report that identified service connections with at least 25.2 cubic feet or 188.5 gallons of water passing through the meter continuously for a minimum of 24 hours.

For example, a lot of water – and money – will uselessly wash down the drain if the toilet flushing-mechanism’s chain gets stuck beneath the flapper. That could easily amount to a residential water bill of \$1,000 or more per month. Since KC BPU doesn’t adjust bills that reflect leaks within the customers’ premises, those high bills become the customer’s burden.

Wasted water also impacts the price of service KC BPU delivers because water processing and pumps consume as much as 12 percent of electricity generated. That means plugging residential leaks saves money for the utility and its customers alike.

Solution: EnergyAxis boosts insight and service

With Elster’s EnergyAxis metering system, KC BPU gets hourly readings of residential water consumption every day, which allows the utility to run a leak-detection report and quickly notify customers of suspected leak activity.

When utility staffers reach a customer by phone, they’ll gladly guide the customer in the hunt for the household water problem. Often, utility staffers are on the line when the customer finds the leaking toilet or running faucet.

If the property owner needs assistance, the Water Department sends out a troubleshooter at no cost to the customer. Or, if the interval data reveal a larger leak that might indicate a burst pipe, a troubleshooter may be dispatched even if utility staff can’t reach the property owner.

When that happens, field crews turn off the water service and leave a door hanger explaining why water was shut off. When the customer arrives home, he or she will find a notice with an invitation to call the Water Department for additional information or assistance.



The great thing about this program is that it shows customers we really do have their best interests at heart. It helps us build trust.



MOLLY SHARP, AMI WATER ANALYST

Gratitude flows

Molly Sharp, the AMI water analyst who runs the daily leak-detection report and calls customers says almost everyone she reaches has the same response: surprise, then gratitude.

One woman she called was out of town, so Sharp sent a troubleshooter to the residence and found a sprinkler running amid standing water. The customer was delighted when Sharp called back to let her know the Water Department had shut off the water hose in the soggy back yard.

Sharp also calls landlords about excessive water use at their properties. One made a point of calling her back to let her know how grateful he was for the leak alert. He'd found out that an angry tenant had let the faucet run for four days.

Ronald Roy, KC BPU's superintendent of water meters, points out that these leaks are being found within a day or two of when the water starts running. "In the past, we had people reading those meters once a month. Sometimes, we had to rely on an estimate, so the customer could go two or three months before the leak was noticed," he says. "Now we're catching these leaks within 48 to 72 hours and notifying the customer immediately."

Benefit: Savings on tap

Between the leak-alert's program launch in September 2013 and April 2015, more than 1,500 customers – or 2.6 percent of the utility's 56,000 households served – had received a money-saving call from KC BPU.

The interval data indicated that some 80 percent of those calls reflected a leaking toilet, something customers could easily fix, and did so quickly. Often, customers contacted about the leak fell off the daily leak report the day after the utility's call.

Initially, some three to five customer leak alerts showed up on the report each day. Twenty months after the reports debut, that number had fall to two or three leak alerts each week.

Bad weather, however, can make the leak-detection tool busier and far more valuable for KC BPU and its customers. Once, the report's alerts rose from three notifications per day to 43 alerts in one day after temperatures started to climb following an extended period of frigid, single-digit weather.

Most of those leaks turned out to be freeze-damaged pipes at vacant residences, which means Water Department field crews saved customers thousands of dollars when they shut the water off. This also spared many property owners expense and hassles from extensive water damage.

Looking ahead, KC BPU staff members expect to fine tune reports to catch even smaller leaks on residential water service hook-ups. The utility also is developing a report and process for reaching out to commercial customers as well.

About the deployment

Ownership

Public

Installation

May 2011 to September 2013

Infrastructure

- 67,000 electric meters
- 56,000 water meters

Key applications

- Monthly meter reads with 24-hour interval data
- Water leak-detection reports
- Electricity tamper-alert reports
- Unauthorized-consumption reports

Status

- In production
- Installation complete

Integrations

- ABB/Tropos backhaul
- Siemens/eMeter MDM
- Cayenta CIS