

CASE STUDY

Badger[®] ORION[®]

Radio Frequency System



Badger Meter's ORION[®] Radio Frequency System

Badger[®] ORION[®] & TWACS[®] Multi-Utility Meter Reading System Helps Kutztown Upgrade Water and Electric Meter Reading

By: Ted Schaar

“It’s like an army invasion when the students move in,” said Director of Information Technology Frank Caruso of the Borough of Kutztown, a Pennsylvania community that has provided a home to an institution of higher learning since 1846.

Enrollment at what is now called Kutztown University of Pennsylvania is currently more than 9,500. With a resident population of just over 5,000, the borough is strongly influenced by its large, transient population.

Located 50 miles northwest of Philadelphia, Kutztown is midway between Reading and Allentown, in an area known as the East Penn Valley. It dates to 1755 when settler George Kutz purchased 130 acres and built a home.

“Because we have such a big student population,” Caruso continued, “40% of the properties here are rentals. We have a lot of new services and disconnected services when it comes to utilities.”

History of local control

These realities and a history of maintaining local control have resulted in the Borough of Kutztown supplying residents not only water and other standard municipal services but also cable television, electricity, high-speed Internet, and telecommunications.

Superintendent of Electric and Telecommunications Bruce Follweiler said, “We even own a three-mile railroad spur that allows freight to be hauled from the Lyons station three miles away to a local foundry.”

In the late 1800s, Kutztown also generated its own electricity. “The borough had a coal-fired plant,” Caruso recalled. “Now we purchase power from an electric company and resell it, but we still have our own lines.”

Telecommunications are provided by another technology that sets the community apart. “In 2002,” according to a utility Web page, “Kutztown launched Pennsylvania’s first fiber-to-the-home/business telecommunications service.” The innovative network resulted in Kutztown receiving the Governor’s Award For Local Government Excellence in Technology from Governor Edward G. Rendell in 2003.

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KUTZTOWN CASE



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Case Study: *Badger® ORION® & TWACS®* *Multi-Utility Meter Reading System Helps Kutztown Upgrade*

Outdated collection method

Despite its advanced services, until it installed Badger® ORION®, public works employees went door to door to collect meter readings. “We had one reader for water and another for electricity,” said Superintendent of Water/Wastewater Walter Hess.

Although technology has served Kutztown well in many areas of their operation, public works employees were utilizing a manual process to collect readings from their customers. “Then there were the dogs, slip hazards due to icy conditions, and human errors caused by recording numbers incorrectly. “Like a lot of utilities, we had to do quite a few revisits,” Hess remembered.

In 2003 officials began exploring ways of upgrading the meter reading system. “We looked for something that would give us control across the network and even at the meters themselves,” said Caruso, “and considered various approaches before selecting Badger’s ORION & TWACS.”

TWACS® is an acronym that stands for Two-Way Automatic Communications System and is offered by Badger’s multi-utility alliance partner Aclara. “TWACS gives us a capability called ‘power line carrier communications’ that allows two way communications from the utility office to the



Left to Right: Walt Hess, Joel Graff, Dale Kramer, Troy Smith

electric meter,” said Follweiler. “The electric meters in turn have several ports that are able to receive data from other sources, including the ORION transmitters on our Badger water meters.” Through the use of an integrated ORION receiver connected to one of the open ports, the ORION meter information is sent along the power grid with the electronic meter information. Kutztown also employs an ORION-equipped, handheld reader to obtain usage data in outlying areas where electricity is purchased from a different utility.

Changing how services are billed

Caruso pointed to another major motivation for selecting the Badger ORION & TWACS System: “Currently, we are contemplating changing how we bill

customers for services and might charge according to the time of day. For example, in the not-to-distant future, water and electricity will likely cost more when used during daylight hours than at night.”

Caruso and Follweiler said that the Badger ORION & TWACS multi-utility meter reading system might also permit Kutztown to adopt a new approach to how customers pay for utility services that are already being used successfully in several other communities.

“Basically, it’s a credit card swipe system that allows users to pay for days or months of service in advance,” Follweiler elaborated. “When the pre-paid amount gets close to zero, an in-home display flashes, alerting residents to the need to pre-pay for more time.”

Goal is to reduce disconnects

This will be especially beneficial in communities like Kutztown that have sizeable transient populations. “People sometimes forget to pay their bills,” Hess said, “and the pre-pay method helps them remember.”

Disconnects due to non-payment are tough on customers and costly for the utility. “The Badger ORION & TWACS System set the stage for reducing disconnects considerably,” said Follweiler, “and that’s good for everyone.”

All utility personnel agree that the new Badger Meter system is working well for the Borough of Kutztown. Hess also mentioned that he was “very pleased” with the advice and assistance he has received from Badger Account Representative Tom Watts.

“He answers questions quickly and thoroughly and is a good trainer and troubleshooter,” Hess said. “Best of all, he has helped us implement a truly 21st century AMR system.” ■