

## CASE STUDY

# Badger<sup>®</sup> ORION<sup>®</sup>

## Radio Frequency System



*Badger Meter's ORION<sup>®</sup> Radio Frequency System*

## Badger Meter's ORION<sup>®</sup> AMR System Helps Cambria, California Manage and Conserve its Water

*By: Dave Marsh*

Water has become a very precious commodity and some communities are taking extraordinary measures to manage and conserve it. In 2001, Cambria, a California coastal city of 6,400, put a moratorium on new water hook ups. Chronic water shortages raised concerns that continued expansion could jeopardize the city's ability to respond to wild fires and still provide water to residential and commercial customers. The moratorium remains in effect indefinitely until a dependable water supply is available.

Providing that dependable water supply is the responsibility of the Cambria Community Service District Water Department, and it's one the department doesn't take lightly. Bryan Bode, Assistant General Manager/Utilities Manager and Jim Adams, Water System Supervisor developed a plan to modernize the city's water system so it could provide customers with the information they need to monitor their usage, conserve water, and manage costs.

"Our meters were 20 to 30 years old and as meters age they lose accuracy," said Adams. "Over the years we haven't had a comprehensive program to replace our meters and we were experiencing water loss. So we decided it was time to replace them, and at the same time we decided to upgrade to Automatic Meter Reading (AMR) technology. Deferred maintenance was our primary issue, but we also wanted to get our revenue back in line."

This was a big step for Cambria and the Water Department conducted a thorough evaluation before committing to Badger Meter's ORION AMR system. "We looked at three companies and Badger's approach, presentation, product, and technical support seemed to be stronger," said Adams. "We talked to several communities and they were all pleased with how their systems were operating. With Badger, you obtain the meters and the AMR technology from the same company, which appealed to us. We believed that buying the meters from one company and the AMR system from another could open the door to issues such as technical support and trouble shooting."

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#### **About the Author:**

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CAMBRIA CASE



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Cambria began testing the Badger ORION system with the installation of 100 Badger meters in 2004 as part of a pilot program. By the summer of 2005 Bode and Adams were satisfied that the Badger ORION system would provide the water management tools they needed and moved ahead with upgrading their 4,000 accounts.

Prior to installing the Badger ORION system Cambria outsourced its meter reading to an independent contractor. "Our analysis indicated that the cost of upgrading to the new Badger Meter system would be paid for by recouping the revenues lost to the inaccuracy of the old meters and savings that would result from moving meter reading from the independent contractor to our internal staff of five," said Adams. "Because of the inaccuracy and human error issues of our old manual meter system, Cambria incurred additional costs when

we sent out our staff members to reread meters, to investigate bills that were either much too high or too low, and to track meters that were in need of repair. It took the contractor 3 to 4 days to read meters. We can read the 3,700 Badger meters in one day. It takes another day to read the 300 manual meters that have not yet been replaced."

"Two of the features that have been particularly important in helping customers conserve water are leak detection and tamper detection. Cambria bills bi-monthly, but we read meters every month, primarily for tracking leaks for our customers," said Adams. "By detecting leaks early we can notify the customer of an issue so they aren't surprised by an unexpectedly high bill later. Being proactive also means we don't have to incur the cost of the employee time needed to follow up on customer complaints. We also have an issue with gophers

here that sometimes cut wires. The Badger ORION tamper feature alerts us to interference with operation of the meter and we can investigate it before we lose too much revenue."

"Cambria is a very water conscious community and during our moratorium on new building permits we are upgrading some of our facilities, increasing our storage capacities, and we're evaluating desalinization," said Bode. "The new Badger ORION AMR system is part of this comprehensive effort to better manage our water resources by more accurately tracking water usage and Water Department revenue." ■