

## CASE STUDY

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

## Radio Frequency System



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

## Badger Meter ORION<sup>®</sup> System Helps Natchez, Mississippi Alleviate Meter Reading Issues

*By: Dave Marsh*

Natchez, Mississippi is an historic small town on the banks of the Mississippi River 135 miles northwest of New Orleans. It has a population of 18,500, which the Water Works Department serves with drinking water through 7,433 metered accounts.

In 2005 Natchez joined other small and large communities across North America in modernizing their water systems by changing out obsolete manual meters with the Badger Meter ORION Automatic Meter Reading (AMR) System.

Natchez postponed changing out its reliable manual meters for many years, long after conventional wisdom would have suggested it was time. In fact, some of its meters dated back to early 1900s. Although the technology of the Natchez meters had become obsolete, the Water Works Department was adept at extending the life of its meters with a comprehensive testing and maintenance program.

In the end it was increasing labor costs and human resource issues more than mechanical issues with the old meters that drove the decision to invest in the new AMR meter system. The technician, who for decades had tested and repaired the meters, retired taking with him a career's worth of in-house meter maintenance expertise. Natchez also experienced a period of continuous turnover of its meter readers and it discovered finding qualified replacements was a difficult challenge. And labor costs normally associated with operating a manual meter system had grown to the point that an investment in AMR technology would clearly result in a healthy return on investment.

“At the time Natchez decided to upgrade our system we were experiencing high turnover among our meter readers. It seems they either would move up within the organization or leave. And we were having trouble finding qualified replacements,” said John Cavin of the Natchez Water Works Department. “It takes about 3 months to train a meter reader and it seems as soon as we'd get one trained he would be gone. Radio read meters helped solve this problem by

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NATCHEZ CASE



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## *Case Study: Badger Meter ORION® System Helps Alleviate Natchez, Mississippi Meter Reading Issues*

increasing the productivity of our meter readers.”

Natchez has two full time meter readers that read cycles of about 2,500 meters each. In the past when all of the cycles were made up of manual meters, reading was about all meter readers did, and five days were scheduled for two meter readers to complete a cycle. Today, meters are read from a truck driving by on the street, and a cycle comprised of 100% Badger® ORION® Meters can be read in only one day.

During its investigation of AMR systems the Water Works Department was told numerous times that the accuracy of its reads would increase. However, management didn't fully appreciate how much it would improve staff productivity.

“When I started with the Water Works Department we did all of our reads manually and wrote our readings into books,” said Cavin. “This created opportunities for human errors in every step of the process. Mistakes could be made by our meter readers when they read the meters and again when they recorded their reads into their books. Of course it also was possible for our billing de-

partment to make mistakes reading hand written records and re-entering them into the billing system.”

For a while before Natchez finally upgraded to the Badger ORION System, meter readers used handhelds, which was an improvement.



*Natchez Water Works Department meter readers Michael Jackson and Danny Eidt using the Badger® ORION® AMR drive-by system.*

However errors still occurred when the wrong numbers were entered on the keypads.

“When we installed our ORION system we eliminated errors throughout the process. Our laptop computer now receives the reads directly from the meters. This eliminates all data entry errors, which had resulted in past over and under reads,” said Cavin. “The information is then downloaded di-

rectly from the laptop into the billing system. Human error has been virtually eliminated from every step of the reading and billing process, which means we don't have to send out meter readers for re-reads like we did in the past.”

For decades Natchez implemented a sophisticated maintenance program to extend the life of its manual meters and control meter replacement costs. Today it relies on Badger Meter's sophisticated ORION AMR technology to better manage its labor costs. Its meter readers no longer spend as much time reading and re-reading meters, which frees them up to provide other services. ■