

CASE STUDY



Prometheus APM Saves Kansas City BPU \$1 Million From Failure Avoidance





Company



Kansas City Board of
Public Utilities



Berwick, PA



Utilities

Challenges

- Unmanageable volume of alarms.
- Underutilization of copious asset data.
- No early detection of issues.

Results

- \$1 million in savings from failure avoidance.
- \$20,000 in halted revenue losses.

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ABOUT KANSAS CITY BPU

The Kansas City Board of Public Utilities (BPU) has a long history of service to Wyandotte and Johnson Counties, supplying clean water to its customers for over 100 years. Healthy economic growth fuels an expanding market for BPU, which now serves over 51,000 water customers. These customers extend across BPU's 150 square-mile service area, an area about half the size of New York City. To meet the demand, BPU's distribution system incorporates some 1,000 miles of water mains, 16,000 valves, and 7,200 fire hydrants.

NON-REVENUE WATER AN INFRASTRUCTURE CHALLENGE

In managing this infrastructure and ensuring the reliable, affordable delivery of clean drinking water, the biggest challenge for BPU is non-revenue water. Non-revenue water is a category that includes leakage, meter inconsistencies, billing errors, and unauthorized consumption. Of these, leakage can especially frustrate infrastructure managers charged with locating offending breaks, formulating repair plans, and restoring system health. One particularly vexing break took over eight months to pinpoint.

"The easy ones are the ones that get called in," observes Steve Green, BPU's Director of Water Distribution. "We knew there was a leak, but it was underground somewhere, with no visible markers."

It finally took a contractor – a firm bidding on a storm sewer project that was inspecting the area as part of a site review – to locate the break.

“We had been running at almost 180 gallons per connection in daily non-revenue water,” explains Green. “As I look at it today, the last two weeks we’re averaging well below 100 gallons.”

- Steve Green – Director of Water Distribution, BPU

A NEW APPROACH TO MANAGING WATER DISTRIBUTION

“That’s when I said, ‘we’ve got to come up with something easier,’” Green recalls.

Green’s strategy involves partitioning BPU’s service area into numerous smaller District Metered Areas (DMAs). BPU will eventually equip each DMA with a metering system that will track water both as it enters and exits the system, thus significantly improving the ability to isolate, assess, and remediate issues.

A cornerstone of this strategy is to deploy a system to manage all the additional meter data. Fortunately, while attending a utility conference, Green happened upon a demonstration of a software tool used by Black & Veatch, part of a cloud platform called AtonixOI. Subsequent conversations between BPU and Black & Veatch formed the basis of a program now underway. The program has already generated some very compelling results.

Even at this early stage, BPU saved an estimated \$117,000 in 2018 from a zone encompassing about one-fifth of their system. The utility realized these savings through reduced power consumption, waste, and pump workloads.

EARLY DAYS, ENCOURAGING RESULTS

BPU uses Performance Analysis, one of several AtonixOI products, to collect meter data from the district and summarize distribution system health at a glance, in near-real time. The utility also uses native reporting capabilities on Performance Analysis – now managed with other AtonixOI products by Black & Veatch subsidiary Atonix Digital – to share project results with others across the organization.

These results are all the more remarkable given that BPU has installed only a fraction of the new meters planned for the district.

“In AWWA terms,” continues Green, referencing the American Water Works Association, an important standards-setting organization, “our daily infrastructure leak index is now 1.8 in this zone, which is good. Once we finish those other DMAs, we’ll turn those around as well.”

“If we didn’t have this software,” Green expounds, “we would have to compute everything feeding into us. Performance Analysis calculates the benefits for me instantly. The key for us is, instead of just going out to search for leaks indiscriminately, we want to be able to see which specific areas need the leak detection.”

- Steve Green – Director of Water Distribution, BPU

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About Prometheus Group

Prometheus Group is a leading global provider of comprehensive and intuitive enterprise asset management software solutions that work within ERP systems and span the full work management life cycle for both maintenance and operations. Developed jointly with end users, Prometheus software enhances the customer experience for planning, scheduling, and executing work for both routine maintenance and shutdowns and turnarounds, all while protecting the workforce with safety solutions and electronic permit to work. Our straight-forward functionality, graphical visualization, and simple processes enable customers to increase productivity, reduce costs, and improve reporting. For more information, please visit www.prometheusgroup.com.