



South Carolina
Office of Regulatory Staff

THE WATER WELLSPRING

A Flowing Source of Information for Water and Wastewater Utilities

Summer 2016

ORS Reorganization

In a continuing effort to enhance our representation of the public interest, the ORS combined the Water/Wastewater, Electric, and Gas departments to create a new Utility Rates and Services Division. Dawn Hipp is the Director of the new division, Willie Morgan is the Deputy Director of Utility Rates and Sarah Johnson is the Deputy Director of Utility Services. Willie is responsible for the regulatory analysis performed to support the various filings of the investor-owned electric, gas, water and wastewater utilities. In addition to Willie, new staff will be assisting in water/wastewater rate filings.

Daniel Sullivan is now the Deputy Director of Auditing, replacing Sharon Scott who retired on June 30th. Daniel is experienced in testifying and auditing water/wastewater rate cases.

Training Classes Available

The South Carolina chapter of the American Water Works Association (SCAWWA) and the Water Environment Association of South Carolina (WEASC) are offering the following free seminars:

August 2016

- 4th – Safe Drinking Water Act Compliance for Small Systems
- 11th – Laboratory Workshop

September 2016

- 23rd – IT & Management Workshop

October 2016

- 18th – Safety Workshop

Please contact SCAWWA and WEASC for registration information.

Partnership for Clean Water

The American Water Works Association (AWWA) launched the Partnership for Clean Water (PCW), a voluntary program established to provide wastewater utility staff with the tools and resources needed to comprehensively assess wastewater plant performance and develop plans to improve operations, performance, and efficiency.

The Wastewater Treatment Plant Optimization program focuses on optimizing plant operations to improve effluent water that is discharged to the natural environment. Its purpose is twofold 1) to protect the quality of surface waters that may be utilized as a downstream drinking water source, thus providing a margin of safety beyond current regulatory requirements and 2) to achieve an energy-efficient standard for plant facilities. Programs for the optimization of reuse facilities and collection systems will be subsequently offered in the future. The Partnership for Clean Water includes the following four phases:

Phase I – Commitment: The utility commits to the PCW's optimization philosophy and to complete the program through Phase III. To begin Phase I, utilities complete the online or paper Membership Application and return it to the Partnership for Clean Water, along with the subscription fee. Currently, only the Wastewater Treatment Plant Optimization Program is open for participation. When the completed application is approved, the utility will receive a New Member Kit containing the materials needed to begin the program. Utilities are not required to meet Partnership water quality goals to join the program.

Phase II – Baseline Data Collection: To establish a performance baseline, the wastewater treatment plant submits 12 months of effluent quality performance data to the PCW. Subscribers are provided with data collection and processing software, and the data is submitted on an annual basis for as long as the utility wishes to participate in the PCW. All individual utility data is kept confidential. The PCW will publish an Annual Report summarizing the aggregate performance of all program subscribers to provide a means to benchmark utility performance.

Phase III – Self-Assessment Phase: Utilities will complete a comprehensive self-assessment of their wastewater treatment plant performance and operations. The self-assessment process follows the EPA Comprehensive Correction Program framework and allows for the identification of Performance Limiting Factors and the development of targeted Action Plans to improve performance. There is no time requirement for the completion of Phase III. Support tools, including a self-assessment guide, report template, and materials checklist are provided by the Partnership.

Phase IV – Optimized System (Optional – currently under development)

Subscribe by submitting an online application at www.partnershipforcleanwater.org or paper application to the Partnership for Clean Water. The annual subscription fees are based on utility size and are prorated based on the application date.

For additional information, please contact the Partnership Program Coordinator at partnership@awwa.org, phone 303.347.6169 or Barbara Martin at 303.347.6220 or bmartin@awwa.org.

Revenue Analysis Promotes Water System Efficiency

BY JOHN PARKS

Two things your utility can't afford to lose are water and the revenue it generates. To ensure you're capturing all the nonrevenue water you can, you'll need to first look at your large commercial and industrial (C&I) meters. These meters characteristically account for less than 10 percent of the total meter population yet bring in 40 percent to 60 percent of a typical utility's revenue. These large meters also require a utility to stay current with maintenance and testing. Without regular maintenance and testing over time, they'll begin to lose accuracy.

Capturing More Non-Revenue Water

Water loss and corresponding revenue loss result in higher water rates in time. As a utility's population of large meters ages, meter change outs may be warranted; however, meter change outs can't be easily justified without demonstrating declining performance of the aging meters.

Traditional Methods. So, how do you capture more nonrevenue water and better gauge the performance of the meters that account for most of that revenue? For utilities facing these questions, getting answers requires a decision to use traditional or software-assisted techniques. Traditional techniques, such as random field testing of meters to determine which meters aren't performing accurately, can be time consuming, costly, and ultimately lacking in sufficient credibility to justify a utility's large scale meter change outs.

Priority issues also arise in the traditional approach. Where do you start? Should you focus on the oldest meters, the ones that generate the most revenue, or the ones for which consumption has dropped off in recent years?

Revenue Enhancement Analysis Tool. Revenue enhancement evaluation offers a timely, cost-efficient, and comprehensive alternative to traditional methods. Revenue enhancement analysis can provide water utilities with return on investment (ROI) projections to make informed decisions of whether or not to change out meters.

Rather than traditional random meter sampling, a revenue enhancement analysis tool allows a utility to easily feed its entire metering database into the program to view the whole system at once. Once imported into the analytics software, data are automated to highlight meter inaccuracies, identify meters in need of repair or replacement, and generate a priority list based on current potential revenue loss by meter.

Harnessing Data Analysis for Savings

The extensive database on which this type of revenue enhancement program is built can be constructed by real-world testing of more than 10,000 meters of various makes, sizes, and ages, either done on a test bench or in the field itself. This wide accumulation of data points ensures a representative sampling of the water industry's most prevalent technologies and manufacturers. Because every year it becomes more important to replace outdated infrastructure, and because so many meters can be tested, the variety of meter ages adds to the data's relevance.

To determine key variables affecting meter accuracy, test results can be run through a multiple linear regression analysis. By this method, utilities now have a working model to determine meter accuracy to within a 95 percent confidence interval without needing to perform a site test. This allows the utility to quickly determine which meters to replace first and how quickly the resulting revenue increase will pay for new-meter installation costs.

Seeing the Bigger Picture

Utilities often know their meters have lost accuracy but aren't sure of the level of inaccuracy. Revenue enhancement analysis tools for large meters and residential positive-displacement meters make it easy for a utility manager to identify failing or failed meters that need to be replaced and to establish replacement priorities based on revenue gain and payback. In the process, implementing a targeted revenue enhancement program can take place.

Once your utility has successfully identified where increased revenue can be generated and taken the steps to enhance and recover revenue, it can focus on a wide range of pressing challenges. These priorities include reducing operating costs, rehabilitating decaying infrastructure, implementing effective meter maintenance programs, meeting rising water demands, working to prevent water rate increases, and strengthening conservation initiatives by reducing water loss.

By taking an in-depth, close-up look at its large water meters, revenue enhancement analysis allows a utility to step back and get a better view of the bigger picture. The results often lead to increasing efficiencies with fewer resources.

Cite:

Parks, J. (2016, June). Revenue Analysis Promotes Water System Efficiency. *Opflow*, 42(6), 32-33.

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Published by the South Carolina Office of Regulatory Staff
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