

# Suffolk County Water Authority

Itron Solution Delivers Actionable Intelligence to Address Peak-time Water Usage

## OPPORTUNITY

During the dry, hot summer months when temperatures are soaring and water consumption skyrockets, water providers are faced with increased demand and potential supply shortages. Near-drought conditions combined with the inability to anticipate usage patterns and meet growing demand can create a frustrating situation for utilities. This was the case for Suffolk County Water Authority (SCWA) during the summer of 2010.

While Suffolk County is fortunate to have an abundant supply of ground water, extreme summer irrigation demands placed a heavy burden on the distribution system in a small, isolated portion of the Village of Southampton, New York. In July 2010, SCWA issued a Stage 1 Water Alert, which meant all customers in the area needed to cut back on non-essential water use. At that time, when supply was limited, SCWA set a goal to accurately measure consumption over a one-week period in a concentrated area with large estates on the eastern end of Long Island. The primary objective of the study was to capture data to become more aware of actual consumption patterns and help create conservation awareness among the public. Additionally, this type of analysis would provide the level of detail needed for SCWA to prepare and plan for future demand, capital expenditures and infrastructure needs.

“We wanted to continue meeting our customers’ needs and gain a clearer understanding of the true demand from some of our larger residential customers,” said Larry Anderson, workforce technology manager. “So, working as a team with Herman Miller, deputy CEO of Operations and Paul Kuzman, director of Production Control, we sought to compare what we were seeing on the supply side to the actual time sensitive consumption patterns of these customers.”

In addition, SCWA faced considerable traffic congestion within its service territory and approximately one quarter of the meters located inside homes. SCWA’s manual meter reading took a force of 25-30 people more than two weeks to collect approximately 28,000 reads on the north and south forks of Long Island. At times, only 125 meters per reader were read in a day.

Not only did SCWA want to gain the operational efficiencies from its AMR system, it also wanted to proactively monitor distribution system integrity through leak, reverse flow and tamper detection.



## CUSTOMER

- » Suffolk County Water Authority

## SERVICE TERRITORY

- » Based in Oakdale, New York, Suffolk County Water Authority serves more than 1 million people through approximately 389,000 residential and business accounts

## CHALLENGE

- » Efficiently Manage Water Supply and Distribution During Hot, Dry Summer

## SOLUTION

- » ChoiceConnect™ Mobile

## BENEFITS

- » Improved effectiveness of SCWA’s meter reading process
- » Reduced special read costs
- » Lowered human resources and truck fleet costs
- » Overall carbon footprint reduction



“Conducting our study and evaluating its results really opened our eyes to the power of automation. We were armed with actual data that helped us make intelligent load management decisions.”

— Larry Anderson, Workforce  
Technology Manager

## SOLUTION

Before and during this focused study, SCWA utilized Itron's ChoiceConnect™ solution equipped with communication modules to transform its meter reading processes from an archaic and costly manual system to a fully automated and efficient one.

SCWA chose Itron technology, in part, because of its long and successful history with Itron. In fact, the companies collaborated on the re-design of the 60W endpoint through the lid mounting design. This mutually beneficial partnership was built upon Itron's ability to listen, understand and take action to address SCWA's unique challenges with the right technology at the right price.

Another key factor for selecting Itron, was its ability to provide turnkey services, meaning Itron could analyze SCWA's requirements, design a fitting solution and manage the deployment of endpoints, using proven, automated field tools. This end-to-end approach removed the risks associated with implementing a system on a large-scale, such as timeline overage, procurement delays, training issues and potential sub-par quality installations. Minimizing the risk to SCWA customers was top-of-mind for all project stakeholders, and Itron's ability to meet SCWA's expectations alleviated any concerns.

Beyond the trusted partnership, Itron also met all of SCWA's deployment criteria, including using installation best practices for endpoints. Utilizing Itron's paperless work order management system, installation routes were downloaded to handheld computers, and proper endpoint installation was validated by capturing initial reads with the handheld. Data captured onsite was automatically uploaded to SCWA's back office systems once the handheld computer was docked. These tools ensured smooth and accurate endpoint installation.

“Electronic capture of the meter change information was a major selling point. Our team knew from the start that maintaining data accuracy was a critical factor in the overall success of the project,” said Anderson.

Lastly, Itron's proven technology played a large role in SCWA's decision making process. ChoiceConnect met SCWA's data access requirements with consumption data, customer data and endpoint data. Also, Itron's adaptable and highly compatible communication module could be retrofitted to the meters deployed in SCWA's territory regardless of type. This simplified the transition from manual reading to automated reading because some meters did not need be replaced and allowed greater flexibility in the choice of meters installed.

What began as a 21,000 endpoint pilot, turned into a larger scale automation effort to include more than 275,000 endpoints over six and a half years. The solution is now being deployed throughout SCWA's entire service territory.

## SCWA'S FOCUSED STUDY UNCOVERS UNUSUAL USAGE

It was suspected that customer consumption levels would be high in the morning and evening versus during the daytime. With that in mind, SCWA's strategy was to establish a benchmark of consumption amongst the approximately 900 Southampton customers in the study area by monitoring consumption patterns. Using the Itron solution, an SCWA employee drove by the selected customers' meters twice a day, once in the morning and evening, for one week to extract the SCM (Standard Consumption Message) from the communication module. The data collected and analyzed supported SCWA's theory by showing a usage rate of three times higher in the morning and evening than during the day.

SCWA's analysis determined most of the targeted meters consumed less than 2,000 gallons of water daily over the one-week time period; however, SCWA also discovered that the smallest percentage of customers consumed a disproportionate

amount of water. The study revealed that 11,000,000 gallons of water were consumed in one week.

As a result of this fact finding study, SCWA could begin designing an awareness program to help consumers gain a meaningful understanding of their water consumption and to start shifting water usage behaviors. Additionally, SCWA began looking at ways to align delivery infrastructure to meet future demand through meter right-sizing and ensuring that distribution pipes were the right sizes and located in the right locations.

## BENEFITS TODAY & TOMORROW

With the study complete and the territory-wide deployment underway, SCWA intends to take full advantage of Itron's ChoiceConnect technology to dramatically alter how it operates and serves its customers.

"Conducting our study and evaluating its results really opened our eyes to the power of automation," said Anderson. "We were armed with actual data that helped us make intelligent load management decisions."

Since the first days of SCWA's technology trials in 2008, Itron's industry-leading technology coupled with its unsurpassed

professional implementation services allowed SCWA to realize the true benefits of automation, including:

- » Improved effectiveness of SCWA's meter reading process—bill estimates dropped and read rates worked as promised, 98.98% or better in some areas.
- » Decreased re-bill costs—increased read accuracy and read percentages reduced the number of re-bills.
- » Reduced special read costs.
- » Lowered human resources and truck fleet costs—with fewer meter readers and trucks required to collect the reads, operating costs were significantly cut.
- » "Going Green" benefits—by reducing meter reading fleet size the overall carbon footprint has been reduced.

With Itron solutions in place, SCWA has the right partner, technology, tools and support to analyze its customers' consumption patterns so they can plan for and meet water distribution needs now and in the future.



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### CORPORATE HQ

2111 North Molter Road  
Liberty Lake, WA 99019 USA

**Phone:** 1.800.635.5461

**Fax:** 1.509.891.3355

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