



The Village of Cornwall-on-Hudson

Neptune® 360™ Turns the Tide on Water Loss for the Village of Cornwall-on-Hudson

Located on the Hudson River about 50 miles north of New York City, the riverfront Village of Cornwall-on-Hudson in Orange County, New York, is primarily a residential community with a small commercial center that combines a beautiful rural atmosphere with convenient access to metropolitan amenities.

Less than idyllic has been the Village's ongoing issue of unaccounted-for water in large quantities, representing up to 50 percent of the daily water production.

"Determining where all of the water was going was our top priority," remarked Michael P. Trainor, Sr., Water Superintendent with the Village of Cornwall-on-Hudson. "In addition to needing an aggressive leak detection and repair program, we also had to determine how much water was actually being consumed by our customers on a daily basis." Further creating barriers to efficiency was the Village's labor-intensive manual meter reading process, which frustrated customers by prolonging issue resolution and delaying the billing cycle.

Recognizing the opportunity to modernize, the Village started transitioning from an Automatic Meter Reading (AMR) system to an Advanced Metering Infrastructure (AMI) system. This transition was not merely about technology, it was a strategic move to help mitigate costs and propel the Village of Cornwall-on-Hudson into an era of efficient and sustainable water management.

"Our strategic response involved the adoption of Neptune's R900® System gateways and Neptune® 360™ cloud-based meter data management platform. This choice was driven by the need for a cohesive, cost-effective AMR to AMI migration that wouldn't strand existing assets," noted Trainor.



CUSTOMER

The Village of Cornwall-on-Hudson,
New York

SERVICE TERRITORY

The Village provides water to
9,500 consumers in Orange
County, New York

SOLUTION BENEFITS

- Migrated from AMR to AMI at their pace, easing financial impact
- Resolved high water bill complaints with hourly consumption data
- Raised awareness of conservation efforts, directly impacting water consumption behavior
- Reduced daily water production by over 50 percent
- Neptune® My360™ Consumer Portal empowers customers to detect possible issues without waiting for a bill



INCREMENTALLY STREAMLINING THE SYSTEM

The Village implemented a phased approach in their AMR to AMI migration strategy. Neptune meters and system components were upgraded over time based on budget allowances. The AMI journey started in 2021 with the installation of Neptune R900 System gateways and implementation of Neptune 360. This created system-wide reading efficiency and more precisely pinpointed whether the unaccounted-for water was being consumed by customers, or if the loss was attributed to leaks.

“Changing out equipment can be especially expensive for a small system like ours. Neptune has enabled us to replace assets on an as-needed basis, which we can do without any real financial impact on our daily operating budget – as opposed to having to borrow money, as in the past,” noted Trainor.

Upon transitioning from N_SIGHT® to Neptune 360, the Village was able to receive hourly consumption data for individual accounts that could be accessed remotely from a cellular device. The data logging functionality enabled the Village to identify and address existing or potential issues faster, saving time and money. Detailed graphs illustrating consumption anomalies allowed them to quickly provide their customers information on possible leak, tamper, or reverse flow events.

“Neptune 360 allows us to monitor customer water production on a real time basis. The daily readings alert us to leaks enabling us to quickly investigate and remedy any actual or potential issues,” said Trainor. “Without the real time information available through Neptune 360, we would not have been alerted to some sizable leaks out in the water system – nor would we have been able to respond as rapidly,” added Trainor.

PROVIDING A WEALTH OF INFORMATION

Neptune 360 has allowed the Village to evolve their billing process from their previous, time-consuming method of walking to each account meter and handwriting the reading into a meter book, to be transcribed by the billing department. Previously, an issue required three estimated readings before an appointment could be made to investigate, which also delayed issue resolution.

“Before we had Neptune 360, we had to wait for the meter reader to come back to the office with the meter books, and we had to input the information one book at a time,” said Village Clerk Doris Wickiser. “The process took so much time that it seemed as if the meters were being read constantly and that we spent a great deal of time waiting. Consequently, the bills would go out late, or by the time they were done, it was time to start the process all over again.”



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– Michael P. Trainor, Sr.,
Water Superintendent

The readings, now obtained remotely, are automatically transmitted to Neptune 360. This enables the billing department to access the information quickly and easily. “We no longer have to wait until the end of the day for all of the readings to be completed, which took valuable time away from the workday and greatly impaired efficiency,” noted Wickiser.

In addition to streamlining the billing process, Neptune 360’s data logging feature provides the Village with granular consumption data by account. Armed with this detailed information, they can quickly pinpoint unusual events, such as continuous consumption, and identify leaks that were previously undetectable. Water Maintenance Leader Dan Nye found it extremely useful for handling a particular customer’s high bill inquiry. The customer had a new housing development that called customer service repeatedly when it received its bill. “Through Neptune 360, we found several sizable leaks out in the water system. Specifically, we were able to locate leaks at the rate of 3/10 of a gallon per minute for a housing development, which would not have been possible before,” noted Nye.

“Neptune 360 data logging has just been phenomenal – it provides detailed account information in an easy-to-read format that greatly assists us in explaining consumption events to our customers,” remarked Trainor. “The ability to show them a 96-day history of the meter usage readings, hour by hour, with a graph, and show exactly when consumption occurred, has been invaluable. Another benefit we have seen is with raising awareness of the impact of water usage on conservation efforts – people are surprised to learn, for example, that running their irrigation system overnight quickly adds up,” he added.

MORE THAN JUST A DROP IN THE BUCKET

Real-time water production monitoring coupled with daily consumer readings provided the dedicated and hardworking staff of the Village of Cornwall-on-Hudson with the tools they needed to impact the positive system-wide change they had been looking for. “Ten years ago in 2013, our daily water production was 1.3 million gallons of water per day, and today it is around 623,000 gallons – which is a significant reduction of over 50 percent!” exclaimed Trainor. “The ability to review each account in great detail allowed us to identify and eliminate the loss we had been experiencing.”

To continue the Village’s efforts in their water conservation efforts and customer centric approach, the Village also launched Neptune® My360™ Consumer Portal. The portal empowers consumers to manage their own water consumption and set up alerts on any device with internet access. Consumers no longer have to wait for a bill to detect possible issues, which means less water lost and fewer high bill complaints. “Making the concerted effort to replace meters and obtaining accurate readings using the Neptune’s R900 System gateways and Neptune 360 have already dramatically reduced the number of phone calls to our office regarding billing concerns. The new Neptune My360 Consumer Portal can only help to continue this trend,” Trainor said.

The Village plans to continue to turn to Neptune to upgrade and expand their system, starting with another propagation study to determine the best position for adding a third gateway to better serve its more remote locations. “We are incredibly pleased with Neptune – from the quality and innovation of their products to phenomenal customer service and support. It is certainly no accident that we have been with them for over 40 years,” said Trainor.



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neptunetg.com

Neptune Technology Group
1600 Alabama Highway 229
Tallahassee, AL 36078
800-633-8754 f 334-283-7293