

THE CITY OF BENICIA

BENICIA, CALIFORNIA

NEPTUNE
TECHNOLOGY GROUP



“FOR AN INVESTMENT TO BE MADE, WE HAD TO HAVE THE BEST PRODUCT AVAILABLE.”

CHRISTIAN DIRENZO, ASSISTANT DIRECTOR
OF PUBLIC WORKS/UTILITIES

Improving Accuracy with the MACH 10® Ultrasonic Meter to Increase Operational Efficiency and Enhance Revenue

Technology advances move utility to the next level

The City of Benicia, California, comprised of nearly 10,000 residential water services, recently set out to upgrade its metering technology to better serve its residents. With a meter population that had become outdated, and a five-person crew stuck in a never-ending cycle of reading meters each month, Benicia officials knew it was time to make a change.

“We had 71 meters pulled and tested with accuracy ranging from 14 to 99 percent, and a dozen of these actually had zero percent accuracy at low flow rates,” said Christian DiRenzo, Assistant Director of Public Works/Utilities for the Bay Area city. “For an investment to be made, we had to have the best product available.” It was the ideal time for a full changeout to be completed by Benicia. The City, through a competitive process, chose the Neptune® product following an evaluation process whereby multiple vendors showcased their ultrasonic meter and software functionality. The MACH 10® is free of the moving parts that wear down over time in traditional meters, meaning it will provide a high level of sustained accuracy over the life of the meter.

Doing more with AMI

With new California legislation going into effect in October of 2017 stating that unaccounted-for water levels must be ten percent or less, Benicia was eager to get the MACH 10 in service as part of its overall Advanced Metering Infrastructure (AMI) program. Paired with the Neptune R900® radio frequency technology, the MACH 10 will deliver timely, accurate information to Benicia over a fixed network, allowing the City to:

- Address apparent losses and identify non-revenue water (NRW) amid rate increases;
- Implement water utility programs without having to invest in additional personnel; and
- Offset unpredictable variations in water supply and storage due to weather

Working with Siemens® as the project manager to implement its new AMI system, the City of Benicia immediately began to enjoy the first benefits of the MACH 10. Its compact, versatile design made installation easier, faster, and less costly, because the Neptune

R900 meter interface unit (MIU) can be read using any reading method: walk-by, mobile, or fixed network. The MIU does not require programming, meaning Benicia could immediately begin collecting reads as it put in place fixed network data collectors.

Benicia's new fixed network system is performing at above 99 percent message success rate, and DiRenzo appreciates how the Neptune R900 technology also allows his team to collect reads via mobile when needed. Now the City:

- Reads and bills its accounts at the push to the button, eliminating an old, and inefficient labor-intensive process while minimizing its environmental footprint;
- Minimizes the requirement for additional personnel; and
- Can reallocate existing resources to address main breaks, system leaks, and customer service

Integrating data into more systems

As Benicia begins to bring hourly water consumption data into the Neptune advanced host software, DiRenzo plans to take advantage of the leak detection capabilities of the MACH 10, particularly at low flows.

The City's customer information system (CIS) and computerized maintenance management systems (CMMS) can easily integrate AMI data, thanks to the Neptune Connected Utility Partnership Program™. Neptune ensures that the interfaces it offers through partners such as WaterSmart® and Sedaru® are "plug-and-play." DiRenzo said this is important because, "the last thing I want to do is resort to having to deal with complicated contracts and [applications], and having to train my staff on how to use them."

Looking ahead, DiRenzo anticipates the results and impact on revenue from the selection of the Neptune solution. "Operational efficiencies and increased income," are what excite him the most about the Neptune MACH 10 and R900 System.

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