

Tacoma Public Utilities Enhances Customer Experience with Xylem Digital Solutions

USING DATA-DRIVEN METHODS TO EVOLVE UTILITIES AMONGST GROWING COMMUNITIES

Like many mid-sized metropolitan areas, Tacoma is growing. Since the most recent census, its population has grown by nearly two percent, and city officials anticipate nearly 130,000 new residents by 2040. The infrastructure demands of population growth means the city needs a system that ensures it can support this expansion.

Tacoma Public Utilities (TPU), the city's largest government department, is making it their goal to provide customers with greater control, choice, and convenience showcasing their commitment to enhancing the customer experience for more than 300,000 residents throughout the service area that put their trust in them.

"With the goal to install 300,000 advanced meters across the power and water sectors by the end of 2024, TPU knows this technology improvement will be a benefit for both our customers and the utility," said Sally Mohr, advanced metering infrastructure (AMI) program delivery director.

The utility began upgrading to AMI five years ago with Xylem digital solutions, including metrology from Sensus, a Xylem brand. These solutions offer customer benefits including monthly billing, remote electric service reconnection, cost-control options, improved reliability, and more flexible payment options.

Unlocking system management efficiencies

The deployment of AMI in the electric and water sectors resulted in a beneficial change for the entire city. With the near real-time data delivered by the Sensus Stratus IQ™ residential electric meter and FlexNet® communication network, the utility now has visibility into meter interferences and power meter fails that normally take up to two months to identify. The enhanced network also allows the utility to minimize safety issues and revenue loss by limiting truck rolls and providing accurate data for billing purposes and storm recovery.



SUMMARY

- Tacoma Public Utilities advanced meter project provides near real-time data for more than 300,000 water and power customers.
- The operations team leverages data from the new system which provides 6.5 million registered reads daily.
- Customer benefits include improved reliability, monthly billing and prompt customer service.



A new advanced meter is installed for reliable two-way communications through FlexNet. The system provides 6.5 million registered reads a day for TPU.



TPU now has near real-time visibility into meter interferences and power meter fails.

On the water side, TPU began deploying [accuSTREAM™](#) and [ally®](#) water meters and equipping every pressure-reducing valve station with near real-time pressure sensors. Implementing the [Sensus® Smart Gateway Sensor Interface](#), in connection with FlexNet, allows the utility to proactively address pressure issues before customers can notice a difference.

“We have already seen proactive pressure management help us anticipate customer issues preemptively,” said Dan Martin, senior data analyst. “Recently, during routine maintenance, a detected pressure fluctuation enabled our crew to address a lodged rock in the valve within hours, averting potential water customer impacts.”

Streamlined processes for greater community benefits

Customers experience the benefits of advanced meter technology firsthand through the new billing system, which allows for smaller, more frequent payments that are easier to budget and plan for.

“Advanced meters enabled us to move to monthly billing. We converted more than 87,000 customers from bimonthly billing to monthly cycles as of December 2023,” said Mohr.

The upgraded system also helps strengthen the relationship among Tacoma city departments. The utility recognized that the fire department’s ability to effectively combat fires depends on prompt disconnection of electricity meters. The system’s remotely managed turn-off capabilities enhance emergency-response efforts.

Enhancing operations through data-driven analytics

When TPU decided to move to AMI, its team recognized the flexibility and resiliency of the network, as well as its power to deliver a large amount of accurate and timely data. On average, the system provides 6.5 million registered reads a day, allowing the operations team to leverage the data for the utility and its customers.

“Xylem has consistently demonstrated responsiveness, and we appreciate that our team has direct visibility into our data,” said Mohr. “This level of transparency ultimately empowers our customers to take control of their bills and become active participants in managing their water and electricity usage.”

The influx of information pushed TPU to invest in Snowflake data warehouse, which is supported by Tacoma's in-house team of data scientists. Integrating advanced analytics was pivotal in utilizing AMI data alongside other key statistical assets. The utility successfully integrated its power outage management system and reduced outage response times by 15-20 minutes.

Similarly, to manage its water department more effectively, TPU is leveraging AMI data to validate and improve the accuracy of the hydraulic model. This approach facilitated precise analysis based on actual usage, rather than projected figures, helping the utility refine its system and highlight its commitment to efficient utility management.

Just getting started

TPU's innovation journey is just getting started. Looking ahead, the focus shifts toward implementing advanced applications. Adopting a power advanced distribution management system (ADMS) promises enhanced outage management capabilities, bolstered by seamless integration with supervisory control and data acquisition systems and real-time analytics.

"These developments highlight our commitment to leveraging cutting-edge technology to optimize operations, improve service delivery and ultimately enhance the overall utility experience," said Mohr.



The utility upgrade benefits a growing community with improved reliability, monthly billing, and prompt customer service.