

Waste Water Monitoring in Municipality Operations

Industry Use Case

Challenge

Large motors and drives in many municipal water facilities are approaching expected end-of-life. Aging equipment could lead to failures that cause revenue loss, safety risk, and damage to critical downstream equipment. Maintaining backup transformers or replacing them long before reaching end-of-life are capital-intensive and energy-inefficient strategies.

Solution

Wunderlich-Malec connects high fidelity operational data with its VIP Water System to offer waste water facilities the operational intelligence they need to drive efficiency and reliability through condition-based maintenance (CBM) strategies.

Benefit

Leveraging a 360° view of their assets, municipalities can now optimize their operations to actual, real-time asset conditions. Integrated with OSIsoft's PI System, VIP Water provides improved access to trusted data and eliminates the need for custom coding, manual data conversion and costly data science teams, while yielding reliable analyses that deliver operating and business results.

Business Challenges

The operating landscape for today's municipalities is changing. Security and operational excellence depends on delivering reliable waste water output without compromising safety or cost. Aging infrastructure and new demand sources continue to add complexity to everyday tasks and drive the need to find tangible business value in substations and other remote assets. Federal mandates and increased regulations have changed how municipalities operate by requiring 24/7 monitoring of their assets.

The Solution: VIP Tower

To help water management customers make timely, data-driven decisions, Wunderlich-Malec created the VIP (Virtual Information Portal) Tower solution. VIP Tower assists municipal customers to digitally transform their operations by allowing them to visualize their assets via OSIsoft PI System, the world's leading data infrastructure.

Created in partnership with OSIsoft, Hewlett Packard Enterprises (HPE) and Arrow Electronics, **VIP Tower** is a market ready solution that plugs into all existing data infrastructures. The solution can be powered externally or via solar for emergency conditions. The system connects into a municipality's existing PI System via a dedicated cellular connection and provides a comprehensive 360° view of all assets at the site. VIP Tower delivers the following features and benefits:

- **Improved Conditional Based Maintenance (CBM)** – Reduce unscheduled downtime by early detection of shifts in real-time asset operating conditions.
- **Quicker Troubleshooting** - Provide the ability to capture critical real time conditions via video, snapshots, thermal scan images, or 3rd party media.
- **More accurate forecasting** and demand response management
- **Streamlined maintenance costs**, increased asset availability and smarter capital expenditure planning



Receive Alarms

Review Drawings

Conduct E-Rounds

VIP Tower = PI System + HPE + V5 + Arrow Electronics

The integration of VIP Tower with OSIsoft PI System offers operators, maintenance and plant engineers the ability to enhance the value of their operational data with a comprehensive, real-time picture of all asset conditions.

Created in collaboration with Arrow Electronics, a proven global master electronic packager, VIP Tower brings together two software and two hardware companies dedicated to the long term success of the water / waste water marketplace. More tablets and stations can be added as needed. The system is fully scalable.

VIP Tower Solution

- V5 Emergency Power Back-Up
 - Bullet Resistant – Solar Panel
 - 100% Power Back Up for VIP Tower System
 - DC Battery Back Up
 - 48 Hour Back Up for VIP System – if no Sunshine
- HPE Industrial IoT Gateway
 - Encrypted Wi-Fi System
 - Cellular 4G / LTE
 - Verizon / AT&T Capable
 - 500 Tag PI System
 - 250 Asset VIP Tag System
- HP Rugged Tablet(s)
 - VIP Client License(s)
 - 100 Printed VIP QR Tags



Software for the Digital Transformation

The solution utilizes **VIP Water**, a world-class application layer for today's water, waste water and municipal market. The VIP Water app is a real-time maintenance tool created specifically to improve efficiency and increase productivity for water operations.

Features	With VIP Water + PI System = Owners Can Now...
Self-service Data Access	Anybody familiar with the PI System can quickly and easily publish data from remote assets and receive labeled patterns of asset operation in response.
Easily Tag Existing Assets	Connect unconnected assets at an existing site. VIP Water helps operations gain greater control and transparency over existing equipment.
Fully Integrated, Tested and Easy to Configure	VIP Software is fully integrated with the PI System. VIP tablet app is intuitive and easy to use. Users can also include 3 rd party information to improve value for VIP usage.

Summary

The water / waste water market is a changing and highly regulated industry demanding safety, security and operational excellence. Real-time information for better business decisions is critical for operational success.

VIP Tower helps find tangible business value in such assets as substations, large motors and drives and aging infrastructure. VIP Tower provides a mobile-ready, off-the-shelf solution that supports condition-based maintenance (CBM) and delivers operational success in an aging environment. With VIP Tower, municipal customers can gain operational visibility and real-time business insights by connecting mature assets for 24/7 monitoring.