

CITY UTILITY MODERNIZES CONTROL FOR ITS WASTEWATER TREATMENT PLANTS AND DISTRIBUTION NETWORK

Application Note



Honeywell

Honeywell's solution integrated four treatment plants and dozens of pumping stations sprawled across more than 500 square miles. Addressing obsolescence issues and boosting efficiency its multi-year project is protecting the environment and ensuring reliable service for millions of residents across the city.

BACKGROUND

Honeywell's client was the sanitation division of a major city. Controlling close to 6,700 miles of sewer pipelines, 49 pump stations and four water reclamation plants, it is responsible for ensuring safe, hygienic services for over four million people.

It was faced with rising costs and declining reliability from legacy control systems. Some were a quarter of a century old. It sought a solution that would address the risks of obsolescence while helping it manage the costs of technology upgrades.

It also aimed to boost efficiency and ensure it could meet increasing regulatory demands regarding reporting, security and emergency responses.

Honeywell was put forward for the project with a recommendation by the board of the department responsible for public projects, while final approval was up to the City Council. Honeywell topped the city's evaluation across every criterion. It was found to offer both the most advanced technology and the lowest cost of ownership. The board also noted its significant experience delivering process control and automation projects across water and wastewater.

CHALLENGES

The upgrade was a massive, multi-year project. It required overhauling and integrating systems that oversee the processing of up to half a billion gallons or more of wastewater a day. The solution had to link multiple treatment plants with pumping stations dispersed across more than 500 square miles so that operators could control the entire system centrally if required.

The scope of work was substantial:

- Documenting over 60,000 wire terminations.

- Designing and replacing existing control systems hardware and field cabinets
- Develop systems software and migrating historical archive plant data
- Designing of control strategies and programming of new applications and plant graphic control screens
- Designing and installing a fiber optic backbone at all treatment plants.
- Integrating critical process data to the utility business network
- Spare parts supply based on the failure rate of system components for several years after installation.

With a contract stretching more than a decade, Honeywell also had to provide hardware and software upgrades, patches and updates over the period. Throughout the project, disruption to services for the city's inhabitants had to be minimized and risks, including the environment, carefully managed.

SOLUTION

Honeywell's solution is built on its Experion® PKS automation platform, providing the DCS for monitoring and control of four wastewater treatment plants. Used by municipalities and industrial manufacturers across the globe, the DCS features innovative software applications that help unify people with the process, business and asset management to enhance efficiency, profitability and productivity.

Experion is tightly integrated with Honeywell's modular, scalable rack-based industrial controller, the MasterLogic PLC, used for the wastewater collection system control.

The solution streamlines the wastewater operations. Integrating all systems under the Experion® platform reduces training

FEATURES & BENEFITS

Modernizing the System

- Addresses system obsolescence to boost reliability and cut maintenance costs.
- Compliance with the latest regulatory standards.

Common Control System

- A single solution tightly integrating systems and widely dispersed assets.
- Common control graphics and functionality across sites for improved operator effectiveness.

Easier Servicing and Maintenance

- A single provider serving all automation need
- Modern control technology with long-term support from Honeywell.

Better Visibility and Control

Integrated DCS and PLCs for central monitoring and control of thousands of assets across the city.

A Trusted Brand

- In-depth experience working on water and waste-water projects with utilities across the world.
- A global leader in process automation and control.



requirements for department employees who previously had to learn to operate and maintain multiple technologies. A single platform provides complete oversight and control of the networks' dispersed assets.

Honeywell provided both the systems and all design, engineering, procurement, commissioning, maintenance and upgrades across the project's lifespan. Its ongoing support continues even after the 15-year contract.

The project has addressed the system obsolescence and boosted the reliability and efficiency of the city's sanitation infrastructure and the quality of its service. It will continue to bring benefits for decades to come, and is expected to save the city tens of millions of dollars.

For More Information

Learn more about how Honeywell's control solutions can improve water processes visit process.honeywell.com or contact your Honeywell Account Manager, Distributor or System Integrator.

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EXPERION PKS

Experion® Process Knowledge System (PKS) integrates an advanced automation platform and innovative software applications to improve users' business performance and peace of mind. Unifying people with process, business and asset management, this distributed control system (DCS) helps process manufacturers increase profitability and productivity. It's the only automation system that focuses on people – making the most of the knowledge they hold. By integrating disparate data across facilities, making the most of resources and people, and feeding it all into a unified automation system, users can achieve an operation that's more proactive, efficient and responsive.

SUPPORT SERVICES

Honeywell provides a complete portfolio of service offerings to extend the life of your plant and provide a cost-effective path forward to the latest application technology. Honeywell services include:

- Software installation services
- On-site engineering services
- Migration services
- Scope expansion services
- Assessment services
- Performance baseline and tuning services
- Customized training

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