

FEND[®]

Physically Block Cyberattacks



Secure SCADA Monitoring in the Cloud with Data Diodes

A New England department of public works, providing wastewater services to 42,000 local residents, had relied on an omni-directional radio tower to provide wireless SCADA monitoring of the town's many wastewater pumping stations.

However, the system was expensive to operate and maintain, only generated performance data on a monthly basis in the form of historical spreadsheets, and did not adequately address the town's cybersecurity concerns, leaving the wastewater sites potentially exposed to cyber threat. The department of public works needed a solution that would increase visibility into operations with real-time data and improve cybersecurity. They turned to Fend Cloud for the operational intelligence they need and Fend Data Diodes for the security the community deserves.

A cellular-enabled Fend Data Diode was installed at each wastewater pumping site, which gathers data from local programmable logic controllers (PLCs) and sends that data through the optical isolation of the data diode and then via a cellular connection to Fend Cloud. Once in the cloud, the data is available in real-time to the public works team in a custom visualization dashboard with cloud-based alerts that notify operators and technicians when there is an issue at a specific site.

The data diode only allows traffic to flow out, much like a check valve for data, blocking all inbound traffic and making the sites secure from remote cyber threats. The new system costs significantly less to maintain and operate than the original omni-directional radio setup.

Since Fend Data Diodes cost only a fraction of traditional data diode offerings, fit easily in any equipment cabinet, are easy to configure, and require little-to-no maintenance, this solution makes for a highly scalable and affordable solution in water and wastewater operations.

How it Works

- Fend Data Diodes installed at individual pump stations retrieve Modbus data from local PLCs
- The data diodes send that Modbus data in real time to Fend Cloud over the cellular network
- Data from Fend Cloud is fed into a web-based data visualization dashboard and alerting system
- Operators get real-time data on system performance and alerts via a web interface and email on their phones and computers



Ready to get better operational visibility while physically blocking ransomware, AI-based threats, and other cyberattacks? Contact us today at info@fend.tech or visit <https://www.fend.tech/water-infrastructure>.

Did You Know?

Data diodes are featured as a key tool for improving cyber resilience in the Water Information Sharing and Analysis Center (WaterISAC)'s "15 Cybersecurity Fundamentals for Water and Wastewater Utilities?" Learn more at <https://www.waterisac.org/fundamentals>.

For More Information

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