

Case Study

Customer : States of Jersey
Product : Sentinel ER450 Digital Outstation
Application : Sewage monitoring
Industry/vertical : Utilities

Sewerage monitoring – preventing environmental pollution

Company

Jersey, a channel Island, is self-governed by a parliamentary democracy known as States of Jersey. This assembly oversees and runs the countries affairs, policies and infrastructure.

Issue

Measuring 46 square miles and with a population of close to 100,000 people, Jersey is the largest of the Channel Islands. The island's sewage is treated at two plants; the main treatment works at Bellozone processes 25,000 cubic metres of sewage every day – the equivalent of 15 Olympic-sized swimming pools.

To get the sewage flowing to the treatment works, 107 pumping stations are situated around the island's public sewer system. A power failure or mechanical breakdown in these pumps can cause potential pollution of the environment if sewage and waste water overflows.

Constant field monitoring of these pumping stations was flawed and impossible to manage. States of Jersey chose to develop a remote central monitoring centre that would provide 24 hour supervision and instant warning of potential problems which could lead to environmental pollution.

For this system to work successfully, States of Jersey required a stable and fast wireless radio link that could transmit over long range from the pump facilities to the monitoring control centre. Having works with Wood & Douglas on the Island's traffic light pre-emptive emergency override system, the parliamentary assembly turned to the company to provide the wireless network technology.

Solution

Part of the Sentinel range, the ER450 digital outstation, with integrated radio modem and multiplexer, was installed in into the States of Jersey's sewerage networks. Working within a SCADA (Supervisory Control and Data Acquisition) system, the ER450 is designed for rapid pulse transmission over long distance. The fast receive and transmit turnaround connection provides a constant and reliable update of the pumps' performance levels.

Because of the Island's close proximity to France, the ER450 also had to be compatible with French radio frequencies. Wood & Douglas was able to configure the radio module to support this frequency band.

With this wireless system set in place, the central monitoring hub provides constant remote surveillance of the pumping stations and flow of sewage through the underground sewer network. Instant warning of problems and sewage overflow means maintenance team response times are rapid, preventing any long lasting environmental damage.

- Accurate and long distance transmission of diagnostic data
- Rapid transmission provides instant warning of problems
- Works within a SCADA (Supervisory Control and Data Acquisition) system

