

Case Study

Customer : National Grid
Product : 300T & OpenNet600
Application : Gasometer water seal (cup) monitoring
Industry/vertical : Utilities

Gasometer monitoring - delivering public safety for the National Grid

Company

Issue

Gasometers, or gas holders, operated by the National Grid still remain a common site in British towns and cities. Built to address the problems of poor gas pressure in the local grid, these aging structures cannot be upgraded in the same way as gas pipes. As many are located in proximity to residential areas, the monitoring of these structures has become paramount.

If movement of the gasometer lift occurs as a result of pressure increases, the water seal around one or more lifts may be lost, releasing gas. Not only is escaping gas a severe health and safety hazard, it also represents an economic loss and an environmental problem. The National Grid required a highly-effective and intrinsically safe way to monitor and transmit data relating to the status of the cup seal and ambient conditions regularly, in order to provide early warning of any changes that may precipitate a gas leak.

Solution

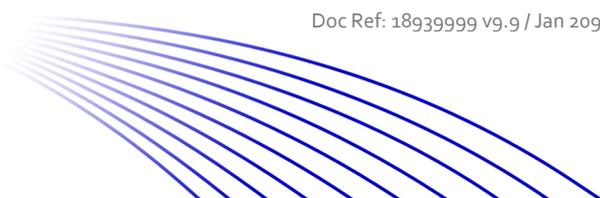
The National Grid employs Wood & Douglas' 300T mini radio transmitter units positioned next to level float switches and paired on opposite sides of the water seal cup. These are ATEX rated as intrinsically safe, and are battery powered. The 300T monitors the status of the switches every 20 minutes, transmitting changes in water level via VHF to a receiver station. Other parameters which can also be monitored include water and/or ambient temperature, which during winter can also be a critical factor, especially if the gasometer is sited in an exposed location.

Wood & Douglas' OpenNet 6000 system receives and records the 300T transmissions at a Base Station mounted on a site outside of the immediate hazardous area. The data is graphically presented on a touch screen panel. OpenNet 6000 is a totally independent safety system, designed to comply with safety risk reduction and insurance requirements. This versatile radio-based system can provide rapid and immediately recognisable warnings of site hazards or accidents, utilising data from the 300T transmitters to signal an alarm automatically.

National Grid staff can access the OpenNet6000 data logger on site to review the system performance and receive proof that the transmissions are being received. The OpenNet 6000 also connects directly to the National Grid distribution network control centre, so alarms are routed to main control, where an issue team is able to immediately react to failures in gas supply or on-site accidents.

By adopting a wireless system from Wood & Douglas, the National Grid is able to meet and exceed the requirements of the Health & Safety Executive, whilst being able to reduce the need to monitor every gasometer site manually. Dangerous vandalism has also been reduced as valuable copper wiring is no longer employed on the sites. But more importantly, the company has seen an increase in the reliability of data originating from these sites, as well as a reduction in false alarms which has a direct impact on the operational costs of maintaining these aging engineering marvels.

Bullets:



- Monitors seals and ambient conditions
- Meets health & safety requirements

