

## Case Study

Customer : Isle of Man Water and Sewage Authority  
Product : OpenNET 6000 UHF  
Application : Water supply monitoring  
Industry/vertical : Utilities

### ***Water supply – monitoring reservoir levels***

#### **Company**

The Isle of Man Water & Sewerage Authority is a Statutory Board of the Isle of Man Government. The Authority provides safe, reliable and high quality water supply to customers' homes and businesses. It employs 162 full time workers.

#### **Issue**

Lying off the west coast of the Britain in the Irish Sea, the Isle of Man is a self-governing British Crown dependency. With a population of just under 85,000, the Isle of Man Water and Sewage Authority, provides water to residents and business customers on the island. During the winter months, the Authority supplies an average of 26 megalitres per day to 31,000 connections over the island's 221 square miles area, with the demand increasing in the summer period to 35 megalitres.

The island's water supply is taken from seven large impounded reservoirs and 33 underground service reservoirs that feed into the water treatment works based in Douglas and Sulby, before being distributed around the island.

The majority of water comes from the main surface reservoirs. But the underground-based, treated water service reservoirs, ranging from small covered 5,000 gallon tanks to larger

concrete chambers storing up to five million gallons, play an important role in maintaining the water supply.

Because the water stored in the service reservoirs is already treated, it provides an emergency supply of drinkable water. In times of service interruption or supply failures, it also provides a reserve to maintain the supply.

The critical role of the service reservoirs means the Isle of Man Water & Sewerage Authority has to closely monitor the tank's water levels to ensure it has enough treated water reserves to cope with emergency situations.

In 2001, the Authority looked to modernise its ageing water network by installing a wireless water level monitoring system for eight of its major service reservoirs. By remotely controlling and supervising the water supply from a central location at the treatment works, the Authority could reduce manual maintenance and monitoring costs. The governmental board turned to Wood & Douglas to provide the radio telemetry technology.

## Solution

With the ability to accommodate more than 250 connections, Wood & Douglas deployed the OpenNET 6000 UHF base station and 300T transceiver system. Connected to water sensors via an analogue input, the lithium-ion battery powered 300T unit (the battery can last up to 10 years while charge level message alerts are sent with every communication) transmits water level data at regular intervals to the 'master' OpenNET 6000 located in the central treatment works.

The OpenNET 6000 system is also set up to take action should the water supply fall below a certain level. Workers can activate the water pumps from the treatment works to top up the water levels when required.

Wood & Douglas' deployment of its radio telemetry system achieved full flexibility of control with minimum manual intervention. With more than 10 years reliable operation and continued maintenance support from Wood & Douglas, it has allowed efficiency improvements to be made to ensure optimal management of water resources.



- Critical wireless transmission of water level data for continuous monitoring
- Operatives at treatment works can remotely control the water pumps to ensure reservoir levels are maintained without the need for manual involvement

