GPRS logger powered by water pressure

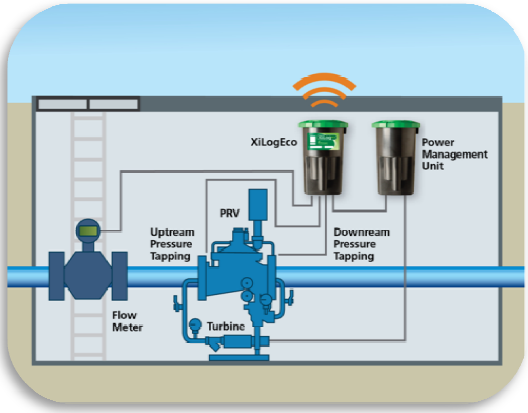
With Bristol Water

Case Study XLE-CS-UK-1.0

Background

When monitoring water networks the resolution of data and frequency of data transmission is limited by the required battery life, and subsequently the need to visit site to replace batteries. Battery life is also considerably shortened by the number of retries needed to connect to the cellular network in areas of poor signal strength.

XiLog+ powered by solar energy (Ireland)



Pressure drop powers logger

Renewable energy sources

In some countries, XiLog+ has been installed by being powered from sustainable sources such as solar energy. This has been taken one step further by creating **XiLogEco** - a design which utilises the Cla-Val 'e-Power MP turbine. This turbine is rotated by the pressure differential across a pressure reducing valve. The revolutions of the turbine create energy which is used to charge the **XiLogEco** battery management unit. A minimum of 6 metres pressure differential is required. This does not necessarily have to be across a PRV, it could for example, be derived across a boundary valve.

Trial in Bristol Water, UK

In July 2011 Bristol Water was keen to trial this energy harvesting capability on their PRV site at Inns Court. A Cla-Val 'e-Power MP turbine' was commissioned together with a modified XiLog+ data logger. Here 30 second flow and pressure data. This data has been transmitted every 15 minutes via the GPRS network – all powered from the energy produced by the differential water pressure. On remote request Bristol Water can obtain 5minute sample flow data. This has enabled Bristol Water to gain a more detailed analysis of this pressure managed area by using better resolution of data. Additionally, they are able to react quicker to any potential issues that might arise due to new data being received every 15 minutes.

Bristol Water installation

Bristol Water installation

Frank van der Kleij
Deputy Director of Network, Bristol Water Plc:

"The trial we have undertaken with the XilogEco has been extremely successful. Making use of local power harvesting enables us to have a truly sustainable low maintenance District Meter Monitoring solution, and at the same time it provides us with an opportunity to create a smart monitoring system using the full logging potential of the XilogEco. Truly a platform for further innovation."

Primayer powered by.... CLA-VAL