The Ugly Duckling Becomes a SWAN

The Success Story of Anglian Water's **S**mart **WA**ter **N**etwork

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ABSTRACT

A common challenge for a water utility is to maintain or improve service at existing billing rates. The reduction of non-revenue water (NRW) is a key issue. With so much attention focused on delivering safe water, the efficient operation of water utilities is rarely managed. The unfortunate result is that most utilities waste substantial amounts of water. Today it is possible to measure and improve water utility efficiency. New technologies can also help operations be more productive. This presentation explains how Anglian Water's efficiency was measured, evaluated, and modeled utilizing a Smart Water Network (SWAN).

Anglian Water is the largest water and wastewater utility in England. Prior to 2013, they expended massive resources to control leakage. After implementing SWAN technologies they had a leakage rate of about half the English industry average. Anglian Water's project is a clear example of a SWAN implementation for water loss management in a very complex business and IT environment.

SWAN enables operationally adjustments to improve both operational and fiscal performance with a real-time visualization of distribution network status. Related software can determine the presence and approximate location of leaks. Interfaces to maintenance management software allow efficient communications with field crews. Pressure management systems use control software acting on real-time data. Hydraulic models interfacing with analysis software and other IT tools support "replace or repair" decisions, condition assessment programs, and management of network assets. Meter data management (MDM) solutions, coupled to advanced metering infrastructure/automatic meter reading (AMI/AMR) systems, help identify apparent losses resulting from malfunctioning meters or errors in the manual processing of meter data. KPIs help to identify areas that need improvement and providing consistent communication to all stakeholders.

ABOUT THE AUTHORS

Jeff M. Miller *is a Water Solutions Architect for Schneider Electric's Water Wastewater Competency Center. Jeff has a B.S. in Electrical Engineering and has worked as an engineering consultant and systems integrator for 25 years where he has delivered on over 30 wastewater treatment, 25 water treatment and 45 pump station projects ranging in size from small lift stations to 370 MGD treatment plants. Jeff is the co-founder and past chair of the NC AWWA-WEA Automation Committee and is also an active member of several national and regional Automation and Plant O&M related committees. Contact:* JeffM.Miller@Schneider-Electric.com.