

# INSTITUTE OF WATER INNOVATION AWARDS 2013

The Welsh branch of the Institute of Water has run its Innovations Awards for eight years and the event continues to be a unique way of showcasing and sharing local innovation and celebrating the creativity and passion of our people. This success has been recognised at a national level as regional innovations are forwarded through to the National Innovations Awards during the Institutes annual National Conference, which next year will be held in Bristol in June 2014.

The Water industry is constantly changing, and here in Wales is no exception. 2013 has seen the formation of the Natural Resources Wales, and in December Welsh Water submitted its AMP6 business plans. The Institute are continually reminded of the challenging social and economic pressures and to meet these challenges, the water industry has to innovate.

Commenting on this year's awards, Area President, Steve Wilson (Welsh Water's Director of Wastewater Services) said: "These awards seek to recognise innovation in the water industry and it is great to see year on year an increase in the numbers and the quality of entries submitted in our area. It was encouraging to see a record number of 42 entries submitted this year." Next year, the Area Presidents chain passes to Marc Davies, Head of Water Production, Welsh Water.

## Institute of Water



INNOVATION AWARDS 2013

## THE TECHNOLOGICAL ADVANCES AWARD

**Entries in this category included innovations that reflect the use of new technology or methods of working, using technological advances, for example, Geographical Information Systems (GIS) developments, learning tools, video networking or web cam facilities, text messaging for customers.**

### THE WINNER:

**Pulsar Process Measurement Ltd and Welsh Water's Innovation team for Flow Pulse – pulsar clamp on flow meter**

This innovative non-intrusive clamp-on flow meter has been developed collaboratively between Welsh Water's Innovation team and Pulsar's research and design engineers. The result is a low cost fixed and portable clamp-on flow meter which is more than 70% cheaper than traditional inline magnetic flow meters. With no requirement for pipe cuts or shutdowns, the technology significantly reduces health and safety risks for staff. The technology is proving to be so successful that more than 250 are planned to be installed across waste water sewage pumping stations, saving over £1.5m. More than a 1000 have already been purchased by other UK water companies.

This project was also voted the overall winner for the Institute of Water (Welsh area)



Presented by IOW Board Director, Maureen Taylor

and will be put forward for the national award to be held in Bristol in May 2014. The national winner will be announced at the Institute of Water's national conference at the Presidents Dinner.

Judges announced this the winner because :

The Pulsar handheld controller for the FlowPulse combines both practicality and versatility. This equipment was designed with help from DCWW to be part of the maintenance engineers tool kit, to help with:

- Identifying inefficient pumps that need intervention.
- Identifying faulty non return valves to reduce pumping costs.
- Confirming pumps are operating efficiently in storm conditions to reduce the risk of pollution incidents.
- Being easy to fit and to set up with a single banding strap.
- Designed to be robust and compact to fit in the smallest of spaces within valve chambers, etc.
- Record flows for analysis and comparison.

Working with DCWW innovations group, the FlowPulse and handheld devices have proven a cost effective way of identifying inefficiencies and reducing compliance issues. The major cost savings have come from not having to install invasive flow devices causing over pumping and civil work.

### THE FINALISTS

**Welsh Water's Energy team**

**For Pen Y Bont Waste water Treatment Works advanced process control**

This advanced process control system improves dissolved oxygen control and dynamically varies it – according to the incoming load. This is a new approach to aeration, which normally targets a fixed dissolved oxygen set point. The system has been operating for 10 months at Pen Y Bont Waste water Treatment Works and has reduced the aeration energy consumption by 25%,

saving over £60k a year in electricity costs.

The software and commissioning was provided by Perceptive Engineering. Project delivery was managed by the Capital Delivery team and successfully operated by the local operators, with support from the science team.

**Welsh Water's Lean RCM Queensferry with JR Pridham Services Ltd For their sludge thickener dose automation**

Queensferry is an important sludge import, digestion and power generation station for NE Wales. This lean reliability-centred maintenance program was piloted here as performance in terms of sludge volume and power generated was poor in relation to its potential. Detailed analysis of the drum thickener highlighted a multitude of failures; therefore this innovative redesign automated the poly dose. This resulted in a significant reduction in operator time, reduced maintenance, improved reliability of the drum thickener and increased outputs.

## Product Update

## Flow Pulse Handheld Controller

### Features

- Compact, mobile controller for Flow Pulse
- Rechargeable battery or mains operation
- Ergonomic, IP65 polycarbonate body
- On-board logging and USB data download gives easy sensor programming
- 3.2 inch colour TFT display
- SoftTouch keypad

### Non-invasive flow monitoring on the move.

Flow Pulse Handheld Controller is used for portable flow monitoring offering programming, monitoring and data acquisition capabilities. The unit connects either to pre-installed Flow Pulse sensors or is available as a self-contained kit, with instant feedback via its screen. For true portability, the Handheld Controller will power a Flow Pulse directly, giving instant feedback on flow rate for a dynamic assessment of system or pump performance.

