

Challenge

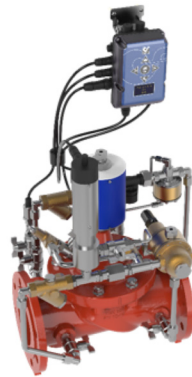
Wessex Water were looking for innovative approaches for burst/leakage reduction and network control in order to accelerate their upper quartile ODI performance and provide a truly enhanced customer experience.

To reduce average zonal pressure (AZP) whilst maintaining the networks critical points (CP's) in an automated manner required the building of a 'reduced' hydraulic network model through accurately computed algorithms using principle variables (flow, pressure, elevation, high frequency (HF) spatial coverage/sampling) in conjunction with the PRV/Controller manufacture Cla-Val.

Through our extensive domain knowledge, unique Cla-Val partnership and Imperial College Research and Development, Wessex Water selected Inflowmatix/ Cla-Val as the partners of choice.

InflowSys™

A next generation data analytics suite consisting of an array of smart pressure measurement devices (128 samples/s, 0-20 Bar pressure with 0.1% full scale accuracy, <10ms time stamp accuracy) combined with a powerful analytics platform and visualisation application developed by Inflowmatix.



Solution

InflowSys™ Data Analytics Platform – Cla-Val Link2Valve™ Platform

Post due diligence and planning a number of InflowSense™ HF pressure monitoring devices were deployed (with GPS measured elevation) linked to the InflowSolve™ data analytics platform and Cla-Val Link2Valve™ platform via the Cla-Val D12 controller (pressure/flow).

The InflowSense™ devices captured the high-resolution pressure data at 128 samples/second, significantly higher than standard pressure logger or telemetry data (15 minute average).

The in-sights of dynamic pressure variability and transient sources were displayed to Wessex via the InflowSys™ application immediately post deployment.

The key data points (pressure/flow/HF data, elevation) were securely captured from the InflowSense™ HF devices and Cla-Val D12 controller from which a 'reduced' hydraulic model was dynamically computed to obtain an optimal flow/control curve. This was then automatically issued to the Cla-Val Link2Valve™ platform for client acceptance. From this an optimal 'flight-path' of reduced AZP was created to optimise DG2/3 and maintain the supply of users.



Results

Using a combination of the total InflowSys™ analytics platform and the Cla-Val Link2Valve™ platforms has provided a clear understanding of the dynamic hydraulic conditions and operation of the network. The successful outcomes have provided Wessex Water with a clear 'glide-path' down to a >30% reduction in AZP and leakage, whilst maintaining customer supply.

