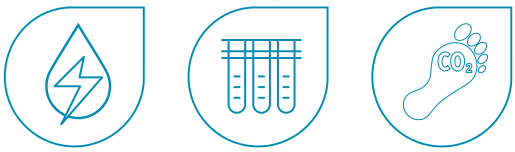
Customer Case Study

Thames Water

Installation of online water quality monitoring systems enabled Thames Water to protect a key clean water treatment works from four separate catchment pollution incidents. This ensured uninterrupted supply to customers thereby helping to save time and money as well as reducing carbon emissions from remediation and replacement tankering.



The challenge

When an incident upstream caused contamination of a number of process stages on a Thames Water clean water treatment site, the contamination blocked a number of critical process stages and the site had to be shut down and clean water had to be tankered in to maintain customers supply. After tackling the lengthy clean-up operation, Thames Water worked closely with Xylem to develop a dependable monitoring solution to enable mitigating measures to be rapidly enabled, should a similar incident occur again.

The solution

Online water quality monitoring systems were deployed to protect treatment processes, improve resilience and ensure availability of clean water to the customers supplies. Xylem designed and delivered monitoring packages to examine critical parameters at three key points across the works: inlet, pre-solids and post-solids removal.

The process

A suite of parameters were deployed to monitor water quality with colour and turbidity (incorporating new WTW Carbovis colour sensors alongside YSI EXO multiparameter sondes) used to provide real-time information about changes to incoming water qualities which could impact upon filter performance and the performance of filters in handling solids removal. The resulting data was fed into the site's SCADA (supervisory control and data acquisition) system, allowing operators to act in enough time to protect the processes. Instrument performance was assessed against spot samples analysed locally and at accredited laboratories to ensure the accuracy of the online instrumentation.

The outcome

The project has allowed the site operators to protect Thames Water's assets against multiple events impacting on the abstraction points, for example local river dredging creating a huge silt influx. Benefits include:

- Increased resilience: by monitoring to prevent overloading, it has significantly reduced downtime and maintenance needs, lowered carbon emissions as well as saved on tankering costs.
- Energy savings: reduced loading on filter banks has enabled extension of backwashing cycles, reducing energy and improved site performance.

"Monitoring incoming water enables operational changes to be quickly made to increase solids removal from filters and protect the site processes, as well as helping us to optimise dosing and to meet sustainability targets as we progress towards net zero carbon". Thames Water

100% site operation during 4 major events

Up to **100%** reduction in tankering

0 impact on C-MEX scoring

Countdown to zero.

xylem Let's Solve Water