


# Feedback And Control In The Water Industries

## Feedback and Control in the Water Industry


Presentation by Chris Rockey



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## Outline

- Overview – Water/Sewerage Undertaker
- What monitoring, feedback and control systems look like in the water industry
- Future monitoring and turning data into information



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## Early Control measure and feedback system c.1832



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## Risk is still very real!




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## Regulation

- Two Quality, Financial, Customer..
- Essential national resource
- Very good control systems to meet regulator and customer requirements




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## South West Water



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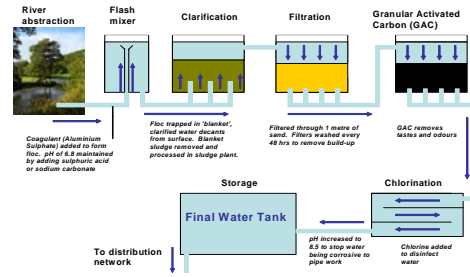
## Process control...

Method of keeping processes within specified boundaries to ensure product quality and quantity is maintained.

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## Water Treatment Works



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## Methods of Control

- Remote monitoring/site visit
- Remote monitoring and remote control
- Fully automatic process control with or without remote intervention and diagnostics



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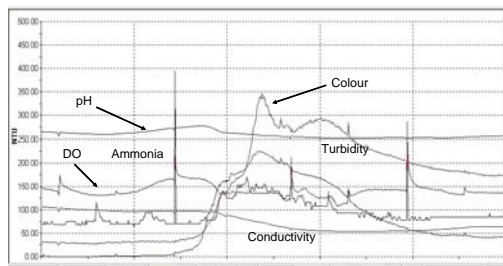
## Simple sensors providing simple control



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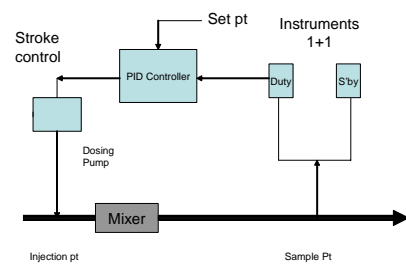
## More complex sensors and control



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## PID Dosing Control

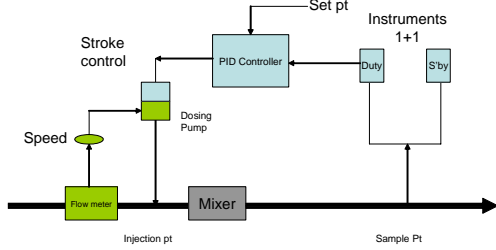


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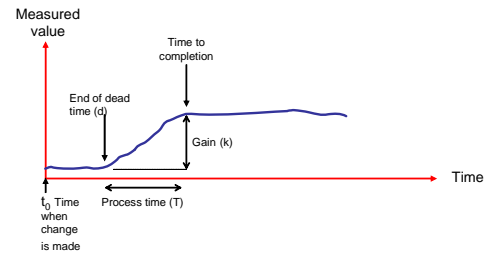
## Feed forward plus feed back dosing control



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## Typical control change trend...



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## Monitoring

- Pre-requisite to any control system
- Representative sample
- Duplication and deviation



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## In-line measurement



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## Reduced footprint/no reagents



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## Intelligence in the Sensor not the transmitter

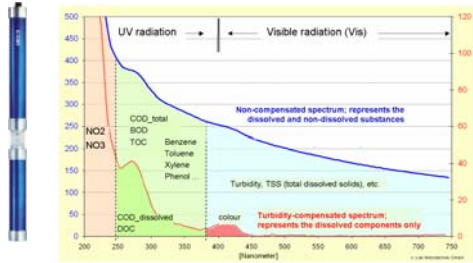


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## More data from traditional UV/Vis Instrument



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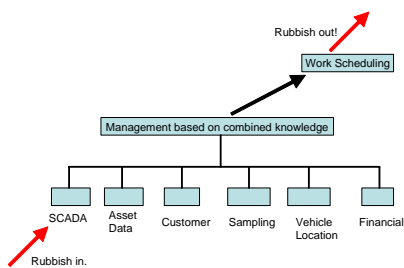
## Emerging Techniques...

- VOC sensors
- Doped fibre optics
- Immobilised ion spectroscopy
- Simple catchment monitors
- Simple distribution monitors

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## PUROS Approach – Networking Data



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## Summary

- Robust and reliable monitoring essential for process control
- More info from current data/monitoring
- Water and Sewerage vital for on-going Public Health



'Quality matters'

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## Thank you

- Robin Lennox
- Steve Wills

- And Thank you for listening

Any Questions?

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