



Pump Optimisation

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Thames Water area



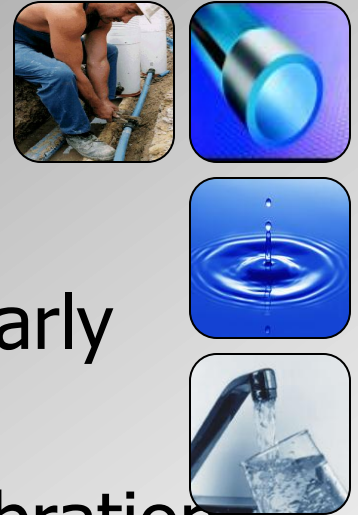
- Local supply Water Companies
- Sewerage region boundary
- Water region boundary
- Principal water treatment works
- Principal sewage treatment works

Thames Water Supply



- Approx. 7.3 million water customers
- 3000 MI/day average demand
- All supplies pumped
- 34,000 km (21,000 miles) of water mains – 50% in Provinces and 50% in London
- 80+ km of 2.9m dia. Drinking water Tunnel
- £8 million/year+ electricity bill
- Over 60% of that is for pumping

Pump Optimisation



- Efficiencies of all large pumpsets regularly measured
- Also carry out thermal mapping and vibration surveys
- Pumps serviced and/or replaced when threshold limits reached

Pump Scheduling



- Network models run every night to forecast demand patterns for the following day taking into account:
 - Historical consumption
 - Reservoir levels
 - Weather forecast
 - Mains outages
 - “Triad” event warnings
- More than one scenario produced
- Schedules of most efficient pumps drawn up

Monitoring



- Actual demand patterns monitored real time against predicted via Scada system
- Pumping arrangements amended to match actual demand using the most efficient pumps available
- Changes noted in the database

Improvements

- Since the system was implemented, some pumps have been changed from fixed speed to variable speed drives
- Network models have been refined
- New Scada system currently being installed
- New asset management system currently being set up to monitor maintenance costs



Thank you



.....any questions????