



Castle Hill Hospital

Cottingham, East Yorkshire,

Keeping a water supply system free from leaks and dealing with them when they arise can be difficult. It's why Castle Hill Hospital – part of the Hull and East Yorkshire Hospitals NHS Trust – decided to use its BEMS to keep the problem under control.

Located in Cottingham, East Yorkshire, Castle Hill Hospital houses cardiac and elective surgical facilities; new medical research teaching; day surgery facilities; and an ear, nose and throat (ENT) facility. In recent years, there has also been multi-million-pound construction work to create a £30m cardiology centre and cancer unit.

Preventing leaks and water wastage falls to Castle Hill Hospital's estate management operation, which

also works closely with the Trust's sustainability team. Paul Wharram, Assistant Sustainability Manager at the Hull and East Yorkshire Hospitals NHS Trust, explains, 'As part of our corporate social responsibility (CSR) objectives we look to reduce our impact on the planet, and we are working towards having our environmental management system (EMS) certified to ISO 14001.'

Castle Hill Hospital is supplied by a single water supply, which is delivered to break tanks on-site, and from there it is pumped into a distribution system. When looking back at the past 20 years of water consumption, a steady increase in water delivery through the supply meter was identified.

Using the data collected from night-time flow measurements – commonly known as night lines – water consumption was monitored.

The water consumption level was as high as 10l/s at times, and a programme was initiated that involved using valves to close off sections of the water distribution system. These indicated that when some sections were closed off, the night-time base line for consumption could drop as low as 2l/s.

‘Following the location and repair of water leaks, we reduced the water consumption by 30 per cent in the first financial year,’ states Wharram. Although leaks still occur, consumption was kept initially below 10,000m³ a month and from December 2013 to June 2014 the average monthly consumption fell below 9,000m³.

Quickly identifying any leaks is vital and Peter Moore, Trend’s Key Account Manager, explains, ‘To provide a truly sustainable solution, an appropriate leak indication strategy needed to be put in place. Also, as much of the data used to identify anomalies in the water system is collected outside of normal working hours, manual data collection or interpretation was not an option. Attention turned to the site’s BEMS, which as well as controlling the built environment has powerful data acquisition, interpretation and presentation capabilities.’

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Peter Moore | Key Account Manager, Trend

The BEMS has been configured to capture water consumption data and identify the occurrence of a leak by benchmarking this metric against the agreed acceptable base line usage. As the night lines for water consumption have now fallen to less than 0.8l/s, the BEMS monitors the incoming water supply to identify whether water consumption exceeds the night time base line water consumption level of 1l/s, to confirm that no significant leaks are present for that period. For any 24-hour period where this minimum 1l/s base line is not achieved, an alarm is generated and displayed on a Trend IQView8 at 9:00am each morning.

For further information about this case study please email [Trend Marketing, marketing@trendcontrols.com](mailto:marketing@trendcontrols.com) or visit www.trendcontrols.com

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MKT 1320 March 2017