

M2G saves energy in Serco's centre of excellence

A pilot of Sabien's M2G intelligent boiler load optimiser at the headquarters of Serco, a leading service and FTSE 100 company produced significant energy savings.

The M2G will now be an integral component in the range of energy efficiency measures that Serco offers its customers. Andy Bray, Serco's Director of Energy Solutions said; "Serco has been offering energy management services to customers for many years and we are now in the process of extending our capabilities and restructuring the package of energy services we offer. Our energy monitoring system indicated a potential issue with the boiler operation at our headquarters so we decided to trial the M2G". It was also important that we validated the energy savings M2G could deliver before offering it to our customers," he added.

12% saving and payback in 68 weeks

The M2G pilot was carried out during February 2009 at Serco House in Hampshire, which is, in itself, a centre of excellence for energy efficiency and a showcase for Serco's services. As such, it is a modern, well-insulated building with modern, highly efficient boiler plant controlled by a sophisticated building energy management system (BEMS). Complementing the operation of the BEMS, the M2G system delivered energy savings of 12% during the pilot, providing a payback in just 68 weeks.

Alan Taylor, Serco's Technical Manager, Government Integrated Services said; **"We were particularly impressed with the results because the pilot took place during the coldest weather we've had in 30 years, when dry cycling would have been at a minimum, It's clear that significantly higher savings will be achieved during more temperate conditions and our ongoing monitoring already supports that view. Many people think BEMS can control every aspect of a boiler's operation but this is not the case. The M2G interfaced very smoothly with our BEMS and the two now complement each other to maximise energy savings"** he continued.

M2G, intelligent boiler load optimisation is able to differentiate between a genuine need for heating in a building and a call for the boiler to fire simply to compensate for standing heat losses from the boiler itself – a phenomenon known as 'dry cycling'. Dry cycling can be a consequence of the boilers being oversized and occurs most often during relatively mild weather when boilers are operating under light conditions, resulting in the boilers frequently switching on and off, therefore wasting energy.

Serco's M2G savings validation

At Serco House, Sabien's proven pilot methodology was supplemented by Serco's highly sophisticated energy monitoring software, which is able to compare boiler operation with ambient temperature conditions to evaluate the M2G's ongoing performance. Alan Taylor noted "This new software clearly shows that the boilers are responding to load conditions, and not just BMS-driven return HTW temperature set points,"

Looking ahead

“We have two major objectives,” said Andy Bray. “One is to minimise our own energy consumption and environmental impact as part of our Corporate Social Responsibility obligations. The second is to be able to offer the best solutions to our customers, secure in the knowledge that these have been thoroughly tested and validated. To that end, we are keen to work closely with Sabien in the future,” he concluded.

On the strength of the pilot results, Serco intends to include the M2G in the wide range of energy services it will be offering customers, as well as using the units to reduce its own carbon footprint.