
WARRINGTON, UK, SEPTEMBER 5, 2002

Staggering energy savings prove value of professional audit

Over 80% saving in the running cost of paint plant motors is being achieved by a Coventry-based vehicle body panel manufacturer following the installation of ABB AC drives.

“We were cynical at first about the huge savings that were being claimed,” says Pat O’Sullivan, Facilities Manager for Mayflower Vehicle Systems, which manufactures body panels for, among others, Aston Martin and MGF cars. “We believed that anyone suggesting up to 80% saving had probably loaded the product price to cover it.”

But a SEChange energy audit of the paint plant by ABB Drives Alliance Partner, Sentrledge Control, revealed that the 30kW phosphate/ alkali rinse pumps – used in the nine stage pre-treatment system – needed the motors for just over two minutes of its eight minute duty cycle. In addition, the motors were running for 10 hours per day.

Unlike AC drives, the existing star-delta starter arrangement meant that the motors could not be turned on and off quickly to meet the rinse pumps duty cycle, without severely damaging the motors windings and bearings.

“Due to the ABB ACS 600 and Comp-AC drives, we have now been able to change our control strategy such that today we have cut the running costs of these pumps by 87.9% - even greater than the original 84%,” says O’Sullivan. “The additional benefit is that the cost savings are immediate.”

Such were the projected savings that the management of Mayflower committed £30,000, which had not been budgeted. The money was used for the purchase and installation of six drives for the phosphate and alkali rinse, chemical and soap pumps and a further 11 drives for other pumps and cooling tower applications ranging from 2.2 kW to 55 kW. The investment is expected to yield a return in less than 12 months. This will be seen in a direct reduction in Mayflower’s energy bill. O’Sullivan explains: “Sentrledge had one compelling phrase: “Do you want to save £98,000 off your electricity bill? Can you afford not to?”

Other savings have resulted from reduced maintenance. For example, the 11 kW soap pump was throttled manually to achieve 3 bar, but the valve would regularly work loose. Using PID control on the AC drive, that now controls the pump, not only avoids the manual valve adjustment, but, provides a faster more reliable control method.

Mayflower’s motivation for the energy audit had been two-fold. Firstly there was the Climate Change Levy (CCL), a government energy tax that came into force on April 1st this year. Secondly, Mayflower has implemented the environmental management system standard, ISO 14001 and as such is driven towards meeting its environmental targets, which includes a significant reduction in CO₂ emissions.

But such are the savings achieved using the ACS 600 and Comp-AC drives that according to O’Sullivan, any additional saving that can be made from the CCL such as through Enhanced Capital Allowances, is a bonus. “Until Sentrledge visited us, we had found the information available on Climate Change confusing and unclear. We were struggling to understand just how it applied to us. We wanted to save money and quickly”

Sentridge Control's SEChange energy audit is a systematic examination of key pump and fan applications that include the monitoring of energy consumed both before and after the change to AC drives. So confident were Sentridge about the results that the audit would achieve, the company loaned an ABB drive to Mayflower to test its findings.

"The paint plant runs 58 hours per week, 46 weeks per year. Sentridge monitored the current in the phosphate pump motor during two weeks of production. After seeing the energy being saved before my eyes, I was converted," says O'Sullivan.

"As a partner of Sentridge, we have been given access to their SEChange energy audit procedure and are able to undertake a similar audit on other parts of the plant ourselves," comments Dave Yorke, Maintenance Supervisor. "They have also trained our maintenance and service engineers at the Sentridge Drives School, which has given us total autonomy. As part of the ABB Drives Alliance, Sentridge offers immediate technical support and a full stock of drives right on our doorstep."

The installation is such a success that Mayflower's sister companies, its risk management committee, including safety officers and group insurers, have all shown an interest in the ABB energy audit procedure and its outstanding results.

Mayflower plans to extend the savings to compressors and many other fans and pump applications within the site, reducing its energy bill even further.

"It is a nice feeling to do a project that exceeds your estimations," concludes O'Sullivan.

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products. As title partner in ABB Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future. ABB operates in more than 100 countries with about 147,000 employees. www.abb.com



Caption: Over 80% saving in the running cost of paint plant motors is being achieved by Coventry based vehicle body panel manufacturer, Mayflower Vehicle Systems, following the installation of ABB AC drives by Drives Alliance Partner Sentridge Control.



Caption: Ian Rennie, Division President, Automation Technology Products, ABB, UK, presents energy saving award to Gordon Boyd, Managing Director, Mayflower Vehicle Systems. On the right, Paul Stafford, Sales Director, Sentrige Control.

—
For more information please contact:

Layla Hewitt
Marketing Communications
Phone: 01925 741517
Email: layla.hewitt@gb.abb.com

ABB Ltd.
Daresbury Park
Daresbury
Warrington WA4 4BT

Emma Jenkinson
Armitage Communications
Phone 020 8667 2218
Email: emma.jenkinson@armitage-
comms.co.uk