Dairy Crest maintains continuous operation thanks to comprehensive service support for its automation equipment

A rapid and successful response to a machine breakdown at a busy dairy has led to an enduring relationship between the dairy and the automation equipment manufacturer, which has been formalised into a comprehensive automation equipment service support contract for the entire plant.

Dairy Crest's Dagenham milk bottling plant services a large part of London, its suburbs and towns to the north, south and east. It processes over 400 million litres of milk a year, nearly a quarter of Dairy Crest's total output of 'white milk' for the whole country. However, it has an on-going plan to increase production significantly, while also reducing costs, improving efficiency and modernising the plant and its process equipment.

The current plant has evolved and developed over many years, and includes equipment transferred from other sites. Machines, parts and components are from a wide range of manufacturers and – almost inevitably – while still functional some of the equipment is now obsolete. Operation is effectively 24/7, so when there is an unscheduled breakdown, no matter how small, it is possible that it will have a knock-on effect on overall productivity.

When Neal Welch of control and automation equipment manufacturer Mitsubishi Electric chose to contact the Dagenham site for a routine introduction, the engineers at Dairy Crest were actually facing a machine breakdown at the time. Neal realised that a quick and effective resolution to the problem in hand would be well received.

"He provided the necessary engineering support and quickly replaced a faulty Profibus module," recalls Richard Brazier, Dairy Crest's Utilities Engineer. “Put like that it sounds completely straightforward but in fact it was quite involved and needed some detailed trouble shooting and problem solving in order to trace the issue and resolve it.”

Once everything was back to normal and production was in full swing, a review was conducted and Neal made a number of suggestions for improvements to the site’s plant and equipment.

These included:

• Fitting new high performance drives to the glycol and Stork chiller condensers to enhance both operational functionality and energy efficiency
• Replacement of some reliable but obsolete Mitsubishi products
• Producing a bespoke portable Data Logger to identify improvements to OEE (overall equipment effectiveness)
• Training and engineering support

Some of these suggestions were executed as standalone projects but it soon became clear that...
the training and technical support could best be addressed as part of an on-going programme.

“Mitsubishi has long been aware of the importance of providing structured support to its customers, and has developed a sophisticated choice of options which are offered as a range of customisable service contracts so that each customer gets exactly the support it needs,” explains Neal.

After a thorough site survey and some high level discussions about future development plans, Dairy Crest, Dagenham decided that Mitsubishi’s Gold Standard Three-Diamond service contract was the best option for them.

The contract provides 24x7 coverage in terms of a telephone helpline; dedicated support engineers, who are fully conversant with the plant and committed to getting on site quickly when required; plus bonded stock profiled to the needs of the customer’s facilities.

“Our contract covers all automation equipment, whether it is made by Mitsubishi or not,” says Richard. “So the Mitsubishi engineers have to know their way around several makes of drive, PLC and HMI, software suites and communications protocols.”

In fact it was not long until the mettle of the Gold Standard contract was tested, when a critical PLC failed during production. Diary Crest had a spare in store and its own engineering team fitted it but they then realised that there was no back up program code on site so the system could not run.

Fortunately, the Gold service initial survey includes the backing up all program code.

A new barcode reference system called Device ID (DID) had also been introduced, allowing the backed up code to be matched to a specific PLC and meant that the faulty PLC was quickly identified, the correct program code emailed across to the site and installed – as a result the line was up and running within 10 minutes of the service provider being alerted to the problem!

Richard sums up: “The fundamental idea behind our Three Diamond Service contract is that we keep our plant running and avoid issues like different vendors blaming others and passing the buck from one to the other. Unscheduled downtime can be extremely expensive in a milk plant of this size but our structured service contract paid for itself very quickly. Now our dairy’s engineers are working with Mitsubishi on a number of exciting new projects to bring further benefits.”

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With around 124.000 employees the company recorded consolidated group sales of 39.3 billion US Dollar* in the fiscal year ended March 31, 2014.

Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

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