

## Operator-driven reliability helps Stora Enso

Global paper, packaging and wood products firm Stora Enso is reporting significant benefits since introducing SKF's operator-driven reliability (ODR) programme.

Juha Helkala, maintenance director at Stora Enso in Finland, explains that, by using control and monitoring technologies in tandem with SKF's planned maintenance methodology, maintenance efficiency has improved, resulting in increased machine availability and reduced operating costs.

The improvements have been realised at its Varkaus mill, which produces fine paper and newsprint, as well as recycling milk and juice cartons. Unplanned downtime on PM3 (paper machine line three) had been impacting productivity.

Jani Markkanen, an ODR specialist from SKF, explains that, initially, a pilot project was set up, with a steering group laying the foundation. "It is extremely important to be clear on everything and



that your goals are well defined,"

He says that ODR specialists from SKF ensured that machinery operators received a two-hour introduction, with a two-hour walkthrough on-site. They also provided reliability tools, so that operators were empowered to play a proactive role in machine maintenance.

All operators also received an SKF Microlog Inspector handheld computer, with a wireless machine condition detector to record day-to-day data.

Information is now uploaded using the SKF @ptitude Inspector software

package, where the data can be analysed, reported and shared across the plant. Markkanen says it's all about systemising and spreading maintenance within a proactive, can-do environment.

It's also about using time better by avoiding fire fighting, meaning that machine shift operators can now spend time discussing potential problems with maintenance teams around the PM3 machinery and identifying priorities.

Helkala says that the initial investment paid for itself in the first month, so now Stora Enso is deploying the programme across its remaining Varkaus units, as well as its other Finnish plants.

"Looking forward, operator maintenance is one of our strategies, and ODR has provided a framework for improved inspection, recording of data, communication and response times that have led the Varkaus plant to maximise productivity levels, manage risk levels and minimise running costs," she states.

## Total organics tighten effluent for Greencore

Greencore Foods' plant in Selby, Yorkshire, has dramatically improved its wastewater treatment process, managed by Veolia Water Industrial Outsourcing, since installing a continuous TOC (total organic carbon) monitor.

David Murtagh, Greencore environment manager, says its BioTector, from Hach Lange, now enables the plant to respond faster to changes in influent, and so control effluent quality and minimise discharge fees.

He makes the point that effluent from the food manufacturing industry contains inorganic salts and organic components that enter the waste stream in part from the wash-down of process tanks and lines during CIP (clean in place) procedures for product changeover.

However, overload of organics on the effluent plant adversely affects efficiency of the process – so wastewater entering the facility is analysed for TOC to control its strength, prior to treatment.

"In the past, samples were manually collected from the site drains pit and transported to the laboratory at a second



location," explains Murtagh. That led to significant waste, both in terms of time and resources – with the analyses being labour intensive and delaying feedback.

Murtagh also states that tightening of the Environment Agency's consent to discharge was an issue. "We needed more frequent, accurate and reliable influent TOC data to help manage the effluent plant – and provide feedback on the process," he says.

His concern, however, was that, while on-line TOC instruments work well on cleaner, particulate-free effluent samples, it's typically a different story with high solids, fats, oils and greases, and variable

TOC loads, which can be "a major issue" for fine capillary tubing and valves.

However, Hach Lange's BioTector is different. IDr Patsy Rigby, of Hach Lange UK, explains that it can handle very large sample volumes, without the need for syringe-controlled dilution mechanisms. Indeed, a self-cleaning facility, with micro-bubbles, prevents particles from becoming trapped, while an in-built salt trap allows loads as high as 30%.

And it's working: as Veolia's continuous improvement manager Marcus Hardiker puts it: "All previous concerns regarding the use of an on-line TOC meter were addressed... Signals from the BioTector have been integrated into both Veolia Water's effluent plant control system and Greencore's data acquisition system. Veolia uses the analysis to control the strength of feed to the site effluent treatment plant.

"Any loads that exceed a pre-determined level are diverted to the site 'calamity tank'. This control has enabled the performance of the effluent treatment plant to be greatly improved."