Drive saves £25,000 of downtime at GKN

GKN Wheels plant in Telford believes it will save some £25,000 per year, following the installation of an ABB low voltage ac drive.

One of the plant's lines, which makes wheels for the likes of Caterpillar and JCB, includes a walking beam with reciprocating parallel bars to pass rolled and welded wheel rims from an oil dip to a flare press.

Production manager Kevin Evans explains that a problem has been that, as the beam reaches top dead centre, the larger wheel rims can cause it to over-speed, with the momentum then carrying them too quickly towards the press, which can, in turn, jam.

"This type of stoppage can take an average of two hours to remedy, resulting in lost production time and associated costs," he says. So, to maintain schedules, the plant had to run overtime following such incidents, leading to the £25,000 estimate.

With Estil, a systems integration company, and ABB already on site, investigating potential energy savings, Evans asked them to come up with a better control system as well.

Phil Lampitt of Estil, which designed the system, explains that it uses a 1.5kW ABB standard drive. At the beginning of the walking beam's cycle, the drive starts and the internal timer runs it for one second at full speed. Then the drive is switched to two-thirds speed and gradually decelerated. Hence the beam, carrying the wheel rim, slows as it approaches the press. As the wheel rim reaches the press, the beam triggers a limit switch that stops the drive to complete the cycle.

"We worked closely with ABB to fine-tune the application to get a steady positioning of the wheel rims," says Lampitt. "ABB also helped us size the drive – particularly critical in view of the need to cater for the heavier rims in the range," he continues.

"As there is limited space, we had to mount the drive externally. This led to challenges from the harsh environment of the production building and we needed to specify an IP54 rated drive casing to resist the ingress of oil."

Evans confirms that, since its installation, the plant has not experienced a single stoppage on this part of the process. "This is a significant saving for us and we are also looking to standardise on ABB drives throughout the plant to save further costs."

CompAir puts energy savings on the menu

Since installing fixed and regulated speed compressors, from CompAir, at its plant in Sablé sur Sarthe, France, food processor Société Marie says it has achieved annual electricity savings of €10,500. Maintenance manager Stéphane Lemiale says payback on this investment will be less than two years.

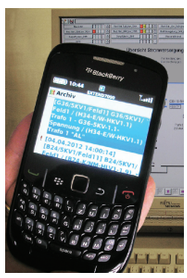
Compressed air is used throughout manufacturing, from controlling hot water valves to packaging the finished product – 10,000 tonnes of fresh and frozen ready meals per annum. However, its previous compressors were 20 years old and an air audit out by CompAir promised huge savings by installing two new compressors, as well as a heat recovery system.

"Based on the air audit, we opted to install a fixed speed CompAir L50 and regulated speed L55RS compressor, in addition to heat exchangers," explains Lemiale. "The regulated speed technology in the L55RS means that the correct volume of air is produced at all times, [which] reduces offload running."

And he adds: "Using heat exchangers, we can recover and transfer the heat generated during compression to our water supply."

Since installing the new compressors, Société Marie has reduced electricity consumption for compressed air by 25%. In addition, the new heat recovery system has reduced natural gas consumption by 15%.

Allessa Chemie goes mobile for plant SCADA monitoring



Speciality chemicals manufacturer Allessa Chemie has implemented Schad's Extend7000 Mobile SCADA system to get instant notification of power plant problems.

The company, which runs two production plants in the Rheinland area of Germany, selected the system for its Frankfurt-Fechenheim plant to improve the consistency of energy distribution monitoring within its 400V plant power supply.

Klaus Knahl, head of EMR operations at Allessa Chemie, explains that changes to power distribution can cause losses in production, as well as compromising health and safety. "We needed to identify a way to improve the existing fixed monitoring capabilities," says Knahl.

"Extend7000 was the perfect solution. It allowed us to continue using our existing SCADA system and enhance it [for] mobile working," he adds.

Immediate notifications delivered directly to plant engineers through Extend7000 will, he says, significantly reduce downtime. He also explains that the system has been configured to trigger switching devices and monitor bus bars – both of which actions previously needed manual intervention from the control room.