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WARRINGTON, UK, DECEMBER 16, 2003

# Flooring company takes big steps towards energy saving

Three AC drives are saving £15,000 per annum off the electricity bill of specialist flooring manufacturer Amtico, saving over 220 tonnes of CO<sub>2</sub>, in the process, every year.

The Coventry-based company installed a 55 kW ABB drive on its main cooling tower pump, and 22 kW and 30 kW ABB drives on its recirculation pumps, as part of a 10-year environmental plan.

Amtico's drives were supplied by local ABB Drives Alliance partner, Sentrige Control, after its SEACChange energy audit programme showed the potential savings of AC drives. SEACChange's systematic examination of key pump and fan applications includes the monitoring of energy consumed before and after a change to AC drives.

"Apart from helping to meet our environmental goals the Climate Change Levy makes energy more expensive, providing additional motivation to find ways to reduce consumption," says Kevin Wells, Amtico electrical engineer, "even though Amtico has a 10-year Climate Change Agreement, under which we reduce our CCL exposure through commitment to a sustained energy saving plan."

Amtico was working towards efficient energy consumption before CCL arrived, through its ISO 14001 programme which is aimed at significantly reducing CO<sub>2</sub> emissions.

Amtico's ISO 14001 programme started with such major projects as replacing the oil-fuelled boiler house with steam generators. It now tackles smaller, equally valuable, projects affecting compressed air and cooling water services. This included controlling the cooling tower and recirculation pumps more efficiently.

Originally, the cooling tower pump, controlled by a star-delta start up technique, ran constantly at 120 bar, when only 80 bar was needed. Installing an AC drive and cutting the motor frequency to 40 Hz delivered energy savings of more than 65 per cent for this pump alone.

Sentrige Control saw the opportunity during its SEACChange audit, which identifies inefficiently run motors. Where energy savings can be gained by installing AC drives, the cost of the drives is recoverable in a matter of months, purely from the energy saved.

"I was interested to see how frequency control could save power and money", says Wells, "and was keen to see the theory in practice with hard results."

"At first, the savings may seem too good to be true," says Paul Stafford, sales director of Sentrige Control, "but we regularly prove how having ABB AC drives in the right places can save thousands. The investment can be recouped quickly, simply from the energy saved. It really is that simple."

As part of SEACChange, Sentrige Control installs a power meter onto the existing installation, retrofits an ABB drive and compares measurements. "We brought in a 55 kW ABB drive on wheels and ran it for two weeks, comparing results both before and after the drive was installed," explains Stafford.

In replacing the older system, the ABB drive delivered benefits beyond the immediate 2.5 per cent reduction in the company's electricity costs. It significantly reduced maintenance costs, as motors no longer

operate at constant full speed. In addition, the previous arrangement meant that motors could not be turned on and off quickly enough without damaging the motor's windings and bearings.

"A key benefit of using AC drives is that we can automate our systems much more easily," says Andrew Ross, engineering manager. "We can, for example, integrate a sensor into our process to feed a signal directly back to the drive, giving fast and precise control."

"The ISO 14001 process conditioned our thoughts," adds Mike Cheetham, Amtico R&D director. "Now, we get our 80 per cent CCL reduction, because of the active energy saving programme, but have a better understanding of how best to invest in order to maximise the savings."

"We are in the business of making floor tiles, not saving energy. However, we realise that we have to spend money to save money – it is a mindset we had to get over and we are pleased that we did."

Amtico's energy saving initiative sets two-yearly targets, with energy consumption measured in relation to the quantity of flooring manufactured. Over the past seven years, since the company went through a management buy out, there has been a 39% saving on the energy used to produce the flooring.

"In reality, our energy consumption is constant, but we are producing over 45 per cent more flooring. We are managing our energy consumption far more wisely than we did in the past," says Cheetham.

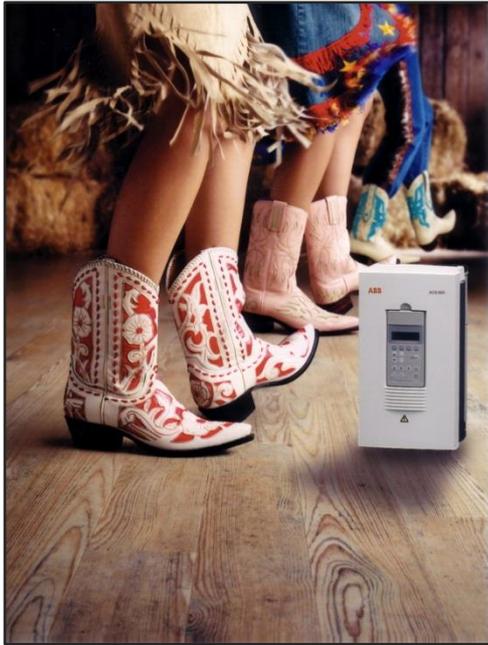
"We take environmental issues very seriously," says Ross. "Our products are renowned for their environmental production methods, a significant factor in our being specified for such green environments as Center Parcs and the Body Shop."

Amtico is now planning a further seven drives on various pumps and fans throughout its plant, as part of the company's decision to include ABB drives as part of their overall energy strategy. The estimated annual energy saving would reduce the present electricity bill by 5%, giving a payback period of just over one year.

"Companies like Sentrige Control, who understand exactly what drives can offer — and can prove the theory — makes the potential of using VSDs much easier," says Wells. "Everyone should investigate this approach — it really can save money immediately."

"We knew that ABB drives are among the best in the market, but were equally attracted by the back-up and support from Sentrige and ABB. Should we need spares, we want them today and not next week. Also, we try to standardise on top-class products from pedigree companies who are committed to the future. With ABB's product development, we can see that they will be around for a long time to come."

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**Caption:** Floor manufacturer Amtico is saving £15,000 per year with three ABB variable speed drives.

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