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Bourne Leisure saves £77,000 a year with ABB drives

ABB drives have helped one of the UK's largest holiday park operators save £77,000 a year on its energy bills for its swimming pools.

Bourne Leisure, which owns brands such as Haven, Butlins and Warner Leisure hotels, has swimming pools at a number of its properties.

James Chalmers, an ABB drives engineer, says: "Bourne Leisure had seen how successful ABB drives has been at the Hendra Holiday Park swimming pool and wanted to know if we could help them save money both on their pool pumping and AHUs."

ABB Drives Alliance partner APDS was asked to investigate the energy saving potential for the swimming pools and a trial was conducted on two of the three filtration pumps at Bourne Leisure's Devon Cliffs site. The pump was monitored for a period before a variable speed drive (VSD) was installed. Monitoring with a temporary VSD fitted demonstrated that considerable energy savings could be made. The direct-on-line pumps were working at 50Hz drawing an average of 30 A. When the drive was introduced, this figure was reduced to 23 A during the day and 15 A at night, with no effect on water quality.

APDS and ABB recommended fitting VSDs to the pumps feeding the pool filters. The pump filters operate by trapping dirt and debris in the sand filter and returning clean water back to the swimming pool. Pumping the water at a reduced flow rate improves the filtration process and removes more contaminants. The traditional method achieved this by increasing the diameter of the feed pipes and introducing a control valve to limit the flow. This was obviously wasteful as the pump was still running at maximum speed.

Doug Pitt of APDS says: "The trial showed the predicted savings for each 18.5kW pump at Devon Cliffs was £4,899 per annum, giving a payback period of under six months. The actual savings exceeded those predicted in the energy report as the motor speed could be accurately mapped to pool utilisation."

Craig Valentine, Health and Safety Manager for Bourne Leisure, says: "We had been looking at various techniques for saving energy, but the drives method was the most sensible way."

ABB drives ranging from 3.3 to 30kW were eventually installed in 36 Bourne Leisure owned pools around the country, including two Butlins parks, making savings up to £11,000 depending on size of pool and number of drives. In total, the company is saving nearly £77,000 per annum on running its pools, with a total payback time for the entire project of just over a year.

Says Valentine: "The conversion only takes a day, with most of the rewiring done at night, so there has been very little disruption for our guests. Overall, the project has gone very well."

Other beneficial features of the ABB drives include the real time clock that allows the pumps to be started and stopped according to a schedule of use. The drives also have a boost button that can immediately take the pumps up to full speed for the backwash cycle. Reduced bearing wear of the pumps has also been another benefit of the drives, due to extended ramp times.

ABB is working with a specialist pool company on phase two of the project which will see the drives receiving signals from a dosing machine. This will ensure the drives run at a speed more accurately

matched to how the pool is used to ensure the correct dosing of additives such as bromine to maintain the optimum conditions in the pool.

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Caption: ABB drives have helped one of the UK's largest holiday park operators save £77,000 a year on its energy bills for its swimming pools.

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