

Case Study

Leixlip Water Treatment Works Saves €500,000 a year with ABB drives

Leixlip Water Treatment Plant is saving over €500,000 a year on its pumping costs thanks to the installation of ABB variable speed drives.



The Leixlip Water Treatment Works in Co. Kildare is the second largest water treatment facility in Ireland. With a capacity of 175,000m³ a day, it supplies over 30% of the drinking water requirements of the Greater Dublin Region, serving Fingal, Kildare and the northern part of Dublin City.

The treatment works has six pumps in two sets of three, one used for duty and the other on standby. In each set of three motors, two were controlled by soft starts and one was controlled by a variable speed drive (VSD). The control method used was to vary the speed of the one pump with the VSD and bring in the others as required. All three motors were running constantly to keep up with demand.

The pumps have butterfly valves which were throttled to maintain the required head. Pat Nolan, plant supervisor for Leixlip, says: "We were prompted to look at our energy use because costs had risen substantially."

Four 710 kW ABB cabinet built drives were installed in place of the existing softstarts and now work in conjunction with the two drives previously installed. Each new drive was installed without any disruption to the plant, maintaining full operation at all times.

The new absorbed power is 1,326 kW, a saving of 364 kW. With 24 hour, 365 day operation, this was a saving of 3,179,904 kWhrs. With energy costing 0.16 c per kWhr, this gives a total saving of €508,784 per year and a payback time of less than a year.

"The savings were very significant and even more than we expected," says Pat Nolan. "Another benefit was the reduced wear and tear on the discharge valve through using the variable speed system."

John Conboy, Drives & Motors Manager for ABB, says: "The initial control logic at Leixlip made sense when the plant was built, however, with energy costs increasing all the time it is certainly worth investigating further opportunities for efficiency. The savings here are incredible"