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New ABB motor and drive cuts pumping costs for Anglian Water

A rolling programme of pump refurbishment with ABB drives is cutting electricity consumption by over a third at one of Anglian Water's pumping stations.

The new submersible pumpset draws only 70A fitted with a drive, compared to 110A for the old configuration, while pumping a greater volume of water than before.

The system works intermittently according to demand. If the motor runs, on average four hours per day, the new installation will use only about 61 kWh, compared to 100 kWh for the old one, saving £500 per year in energy. As the ABB variable speed drive is only running at 45 Hz, there is capacity in hand to increase the water flow still further if necessary.

Anglian Water's Pitsea Terminal Pumping Station in Essex takes in waste water from a number of smaller pumping stations and sends it to the waste treatment plant on the same site. The pumping station is being upgraded in a programme that involves replacing the old pumps, motors and control systems.

The station has two floors, with a control system on the top floor controlling the Gilkes submersible pumpset on the floor below.

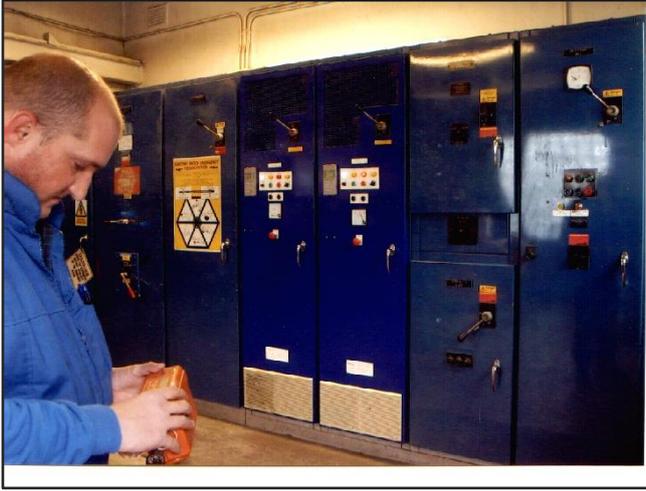
John Marin, Asset Enhancement Team Leader for Anglian Water's South Essex region, says: "The control system running the motor was rapidly becoming obsolete and parts were becoming increasingly difficult to find." The old control system achieved variable speed by using a small motor to push a connection along a regulating transformer, altering the tap off point to provide a varying voltage and so control the speed of the main motor.

Marin contacted ABB Drives Alliance and Motor Service partner Mid Kent Electrical (MKE), which installed and commissioned an ABB 55kW variable speed drive, an ABB 55kW motor and a submersible pump.

For Anglian, one of the main advantages of using MKE was that everything it needed came as part of the package. "It was a one stop shop," said Marin. "MKE supplied everything including the cabling. We only had to place one order for all the mechanical and electrical services and we have been more than happy with the outcome."

As well as energy saving, the new system provides easier, more effective control and reduces noise in the pumping station.

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Caption: New variable speed drives from ABB have reduced energy consumption at Anglian Water's Pitsea Terminal Pumping Station in Essex.

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