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Anglian Water cuts £6,000 costs with ABB anti-jam software

ABB anti-jam software is saving £6,000 a year on maintenance for Anglian Water at its Stanbridgeford Wastewater Treatment Works in Bedfordshire.

Anglian Water was suffering frequent ragging of the two 55kW dry well pumps at the site. The pumps would rag up once a week, requiring staff to lift, clean and replace the pumps in the well. As Stanbridgeford is unmanned, staff had to travel to the site, adding to costs, taking them away from their normal work and having a knock on effect at other sites. The two pumps worked on a 24 hour duty cycle and were each driven by a 55kW ABB industrial drive.

Paul Stafford of ABB Drives Alliance member, Sentrige Controls, was asked to look at the problem and recommend a solution. "We had used ABB's anti-jam software on other similar installations with the same problem before and knew it could bring great benefits to Anglian Water's application."

The ABB anti-jam software is part of its Intelligent Pump Control (IPC) software. An add-on to ABB industrial drives, IPC contains all the common functions needed by water and waste utilities, industrial plants and other pump users.

The anti-jam software performs a number of cleaning cycles every time the pump starts. Each cycle consists of a series of rapid ramp ups in forward and reverse directions. Taking one to two minutes to complete, the cleaning cycle removes the debris from around the pump volute, preventing it from entering the pump and blocking it when the pump ramps up from zero to its normal operating speed.

One of the pumps had the software installed in February and was in operation for six weeks without a single incidence of ragging. The other pump, without the software installed, continued to suffer ragging and needed to be lifted and cleaned twice in the same time.

Steve Richardson, Area Energy Engineer for Anglian, says: "The other pump had the software installed in March and since then we have had no ragging problems from either pump. We have only lifted the pumps once just to check on their condition." This is saving Anglian Water an estimated £6,000 a year in maintenance costs.

The lack of ragging and the subsequent increase in operational time mean that Anglian Water has the opportunity to run the pumps at a lower speed or for less time and still achieve the desired pumping volumes. Adam Brookes, of Anglian Water's Innovation Team, says: "There will be energy savings at Stanbridgeford, but we lack the data to confirm this. We are currently looking at the prospects for using the anti-jam software on some other sites, in Norfolk, and we will be able to log the efficiency data both before and after installation to show how efficiency has improved."

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Caption: Anglian Water was suffering frequent ragging of its dry well pumps – ragging is where rags foul the pump inlet and prevent the pump from operating normally.



Caption: ABB anti-jam software is saving £6,000 a year on maintenance for Anglian Water at its Stanbridgeford Wastewater Treatment Works in Bedfordshire.

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