
WARRINGTON, UK, JANUARY 15, 2010

ABB software cuts maintenance costs for Severn Trent Water

Severn Trent Water is making savings of up to £2,400 a week on pump maintenance after upgrading its pump control software, which was supplied by ABB.

Severn Trent Water (STW) had installed four submersible foul pumps at its sewage treatment works in Worcester, pumping raw sewage from a new foul well. The pumps are driven by four 132kW ABB industrial drives, supplied complete with filters to reduce harmonics caused by the drives.

Following commissioning of the variable speed drives (VSDs), STW experienced a number of blockages in the foul pumps, caused largely by rags sticking to the impeller. As well as downtime, clogging can lead to sewage pollution. A total system failure can lead to effluent leakage, with implications for the environment and health and safety, as well incurring clean up costs and resulting in possible breaches of legislation.

Clearing these blockages was an involved and time consuming process. Every time a pump became blocked, it had to be removed from the well, split open and cleaned out, which is an expensive job because a crane has to be hired each time to clean the pump.

To cure this problem, ABB suggested installation of its Anti-Jam software, a module of its Intelligent Pump Control software. The Anti-Jam software performs a number of cleaning cycles every time the pump starts, each cycle consist of a series of rapid ramp ups in both 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.

The cleaning cycle is also started when the VSD detects a drop in pump efficiency.

Following installation of the software in February, STW has not experienced a single blockage of the foul pumps. Unlike other manufacturers, which charge a significant amount for supplying similar software modules, ABB supplied its module completely free of charge to STW.

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Caption: Severn Trent Water installed four ABB industrial drives for its new foul well submersible pumps.



Caption: Following the installation of ABB's Anti-Jam software Severn Trent water has not experienced a single blockage of the foul pumps.

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