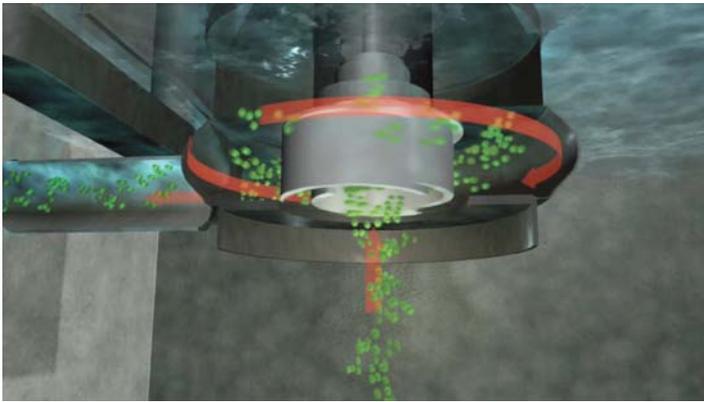


Intelligent Pump Cleaning cuts Maintenance at Irish Pumping Station



The installation of an AC drive with an advanced software tool has dramatically cut call-outs for blockages at an Irish County Council pumping station.

Control Techniques' IPC Lite software has been fitted to a replacement Commander SK AC drive at a pumping station at Kelly's Bay, Skerries in North County Dublin, Ireland and has cut callouts from 'ragging', the fouling of the pump's impeller, from a weekly occurrence to just once since it was installed six months ago.

Ragging is a long-standing nuisance that eats up thousands of hours of maintenance time in sewage pumping stations and wastewater treatment plants worldwide. At the Kelly's Bay pumping station, two variable speed drives control main and standby pumps. "The pumping station would run for a couple of weeks and then we'd get three or four call-outs in a week," explains Fingal County Council's Mechanical Supervisor Jim McGuinness. "So, when it was time to replace one of the existing 15kW Control Techniques AC drives, Control Techniques' Drive Centre in Newbridge suggested that we had IPC Lite software loaded. It has worked

extremely well, before the software we switched between the two pumps weekly to spread the load from a maintenance point of view. However since August we have just run the one pump with the IPC Lite software and monitored its performance by telemetry, maintenance costs have dramatically reduced."

Call-outs for blockages to Kelly's Bay, a distance of some 11 miles, took a team of two an average of two hours each time, a significant maintenance burden and one that has now been virtually removed. The pump now runs around the clock, with flow rates varying between 20 and 70 cu.m/hr with IPC Lite providing early warnings of ragging and initiating cleaning routines when required.

IPC Lite is the only in-drive solution to ragging that provides very early 'predictive' detection of a problem as well as initiating a client-defined cleansing cycle. It measures on-board active current unlike other systems that measure the motor's nominal current – a measurement that can give an error of 30-40% on the real torque figure. Control Techniques' system measures real torque every millisecond. As soon as IPC Lite sees a change in the active current profile, remedial action is taken to remove the potential blockage.

KEY BENEFITS

- SIGNIFICANTLY CUT MAINTENANCE COSTS
- DRASTICALLY REDUCED CALL-OUTS FOR BLOCKAGES
- LOW COST - COST EFFECTIVE SOLUTION
- REMOTE MONITORING
- MEASURES ACTIVE CURRENT & REAL TORQUE



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maintenance costs. We are now looking at fitting IPC to the second riser and other problematic pumping stations are also under consideration. It is clearly cost-effective and is a low cost solution compared with costly macerators.”

IPC Lite is supplied loaded into a logic-stick on a Commander SK AC drive.

In general terms, replacing a DOL or Star-Delta starter with a variable speed drive on a water pump can save a significant amount of energy. The ability to reduce the frequency from 50Hz to 38Hz on a pump would reduce the speed by 24% and typically save between 40% and 50% in energy consumption. When combined with the Intelligent Pump Control, the savings will allow a very rapid payback.

IPC Lite features advanced technology pressure and flow monitoring for surge prevention to protect expensive rising mains, whilst low flow detection and alarm checks site performance, since, even with clean pumps, low flow can indicate other problems.

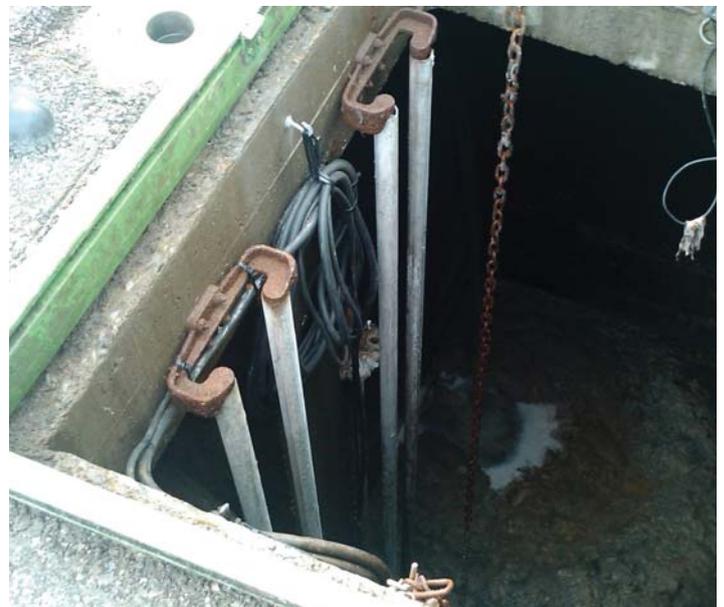
Control Techniques has been trialling the system for three years now with most of the UK water companies, as well as in the USA, Canada, Dubai, the Philippines and elsewhere, and has a long list of testimonials.

In the event of a blockage, the cleaning routine is initiated. The cleaning routine is user configurable via parameters and, in addition, a manual cleanse can be triggered by staff if required. To prevent repeated cleaning in the event of a major blockage, IPC Lite has detection of successive cleansings (in this case five times) and lock-out and alarm to indicate a fault.

The IPC programming can be tailored to suit individual pumping stations in this case a level sensor has been added to the system to trigger the pump into high speed in times of flooding.

“We are very pleased with the IPC system and it has completely proved itself since its installation,” says Fingal County Councils Senior Electrical and Mechanical Engineer John Williams. “After checking our telemetry data over 12 months, it is clear that it has significantly reduced our

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Fingal County Council



For further information please visit
www.controltechniques.com



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