

Chronic Clogging Bows to Groundbreaking Technology

Flygt Concertor™ provides intelligent solution for wastewater pumping challenges in Suffolk County

The Suffolk County Department of Public Works Stony Brook Pump Station was facing on-going interruptions to pumping operations as a result of “ragging”—a common challenge in wastewater pumping where a build-up of fibrous materials leads to frequent pump blockages. Xylem proposed its new, ground breaking technology—Flygt Concertor, the world’s first wastewater pumping system with integrated intelligence—as a solution to this challenge, delivering positive results: ragging was significantly reduced and clogging was eliminated.

Suffolk County, Long Island, New York, boasts 21 sewage treatment plants and sewer districts, over 70 pumping stations, and more than 1,250 miles of sewers. The plants range in size from 35,000 gallons per day up 30.5 million gallons per day.

Scope

Ron Warren Director of Operations and Maintenance (now retired), Stony Brook wastewater pumping station explained, “Unplanned downtime as a result of ragging was becoming a frequent and significant challenge for us. Clearing a pump is a costly, dirty, and unpleasant task that requires a maintenance team and often a crane. We were looking for a reliable, efficient solution that would eliminate this challenge and deliver cost savings.”

“We have enjoyed a longstanding, positive relationship with Xylem and so we were keen to try this new Flygt system, and assess its benefits,” Warren added.

Solution

This was not a pump problem; this was a problem with the flow. So in August 2015 operators of the Stony Brook facility agreed to install and trial test a Concertor—a new wastewater pumping system with integrated intelligence designed to ensure clean wet wells, clog-free operation, and drastically reduce unplanned vacuum cleaning call-outs. The system’s benefits were quickly apparent.



Concertor trial pump ready to be installed

Customer: Suffolk County Department of Public Work
Stony Brook Pump Station

Challenge: Ragging Problems

Products: Concertor™

The pump station was a standard duplex pump station with two pumps installed. Suffolk County Department of Public Works personnel simply removed one pump from the pump station and installed the new Concertor in its place. A factory technician then installed the controller and input the settings. The entire process only took about one hour.

Results

Operators closely monitored the pumping system and positive results were clear within a matter of a month. Before installing the system, it was necessary to lift the pump regularly to remove fibrous materials caught in the impeller. Maintenance call-outs were as frequent as once every three months. Maintenance cost reduction was about \$1,500.00 for personnel and \$2,500.00 in equipment costs for the year, approximates Warren, who has now been retired for around one year.

With the new wastewater pumping system, the pump clogging was completely eliminated and it was no longer necessary to check the rotation of the pump, saving time and money and offering new-found peace of mind. This intelligence system included automatic pump down of the well, reducing the need to clean the well of grease accumulations and reduced level control rod failure.

The pumping system aims to deliver proven reliability at the lowest total cost of ownership and to achieve this it also, among other benefits, dramatically reduces energy consumption. Operators of the Stony Brook pumping station noted a significant reduction in energy consumption following the installation.

Warren explained, "For me, it is the 'intelligence' offered by Concertor that really sets the system apart. The patented Energy Minimizer Function ensures that all of the pumps run at their most efficient duty points, taking this responsibility out of the hands of the operator. An IE4 high efficiency motor, self-cleaning Adaptive N-hydraulics, and constant power functionality complement the system's other features to deliver optimum efficiency and as a result, we saw a significant drop in our energy bill, somewhere in the area of 20 to 30 percent."

Since there is no need for ventilation, cooling, or heating of cabinets with this system, customers benefit from substantial energy savings over the system's total lifecycle. Also, operators can plan for a significant drop in their pump stock, reducing the variety of pumps needed to cover all of their applications.

"Flygt Concertor proved to be a great option for our facility. Installation was fast and simple, the pump station has run for one year without any incidents of clogging, no wet well cleaning has been required, and we have realized significant energy savings," concluded Warren.



Concertor being installed in the Stony Brook pump station



Down in the sump

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