

Flygt Exuperior Pump System in Jefferson Parish, LA

Flygt Exuperior eliminates serious clogging issues and reduces energy consumption at Louisiana pump stations by 50 percent

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Jefferson Parish, Louisiana extends along a 15-mile wide corridor west of and upriver from New Orleans. As demonstrated by the recent Hurricane Isaac, the Parish is vulnerable to tropical storms and hurricanes from June through November in a region already known for high rainfall events throughout the year. To make matters worse, the structural and operational integrity of the sanitary sewer lines and pump stations are compromised by age and very minimal budgets to maintain the equipment in place.

Project or Scope

Jefferson Parish sewer rates are among the lowest in the country for a system of this size and economic importance to the region. Even routine storms can spawn enough rainfall to induce surges of inflow and infiltration (I&I) that can overload stretches of the Parish's 1500 miles of gravity sewer lines, 200 miles of force mains and 505 lift stations that range from single-horsepower installations to facilities with multiple 400-hp pumps.

“Frankly, many of the stations need major retrofits and deserve complete pump replacements. Beyond the lift station upgrades now underway, we need to address our very serious I&I problems, but like many municipal utility agencies we simply don't have the money.”

Rain events—frequently two to four inches—and poor soil conditions would surcharge the collection lines and aggravate the already chronic clogging of lift stations when flows carry in non-woven consumer products such as dusters, cleaning and hygiene wipes.



END USER: Jefferson Parish, LA
CLIENT: Jefferson Parish, LA
ORDER DATE: TBD
COMPLETION: TBD

During dry periods, the synthetic fibrous waste settled out with other solids in the bottom of lift stations and collection lines until peak flows and I&I events churned up the waste, entangling traditional “solids-handling” impellers. As the ragging built up, it compromised the system efficiency.

Solution

As part of a planned four-station trial, Gulf States Engineering, a local Xylem Flygt representative, installed the recently introduced Flygt Exporior™ pump system.

The first station received only the Exporior system’s Adaptive N-pump last April. The Bellview & Airline duplex lift station had been notorious for clogging as often as two or three times daily. Three other lift stations with clog-prone histories took the trial further the following month when fully-integrated Flygt Exporior pump systems were installed that included the SmartRun™ controls. The duplex facilities at Kawanee & Woodlawn, Deckbar & Railroad, and Irving & St. Mary all received 5 hp Exporior systems.

“Our focus has been on finding reliable replacement pumps because we have so many lift stations with clogging problems.”

Result

Upon initial installation, one of the pumps operated at an energy consumption rate proportional to the initial startup frequency of 60 Hz. The SmartRun controls automatically identified the targeted optimal speed and adjusted to 38 Hz after only two days of operation, according to George Peart, Director of Sales for Gulf States Engineering. To date, the stations are experiencing approximately a 50 percent reduction in energy use.

Prior to receiving the Exporior systems, the cost for a single work order--in addition to the routine cost of daily inspections at every facility--could reach more than \$400. Moreover, an incident could tie up manpower at a station by requiring not only the two-man inspection team, but also a mechanic and electrician at the location. “We’ve not had any call outs for pump failures at the four locations that received the Flygt systems, despite heavy rains and I&I”.

The Exporior solution has provided Jefferson Parish 50% savings in energy costs as well as maintenance costs savings and supports the Parish’s ability to better serve the community with a reliable sewer system.



Flygt Exporior™ on the left, old pump on the right.



Flygt SmartRun™ controls ready for installation.



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