Automated bypass system increases efficiency and safety during WWTP upgrades

Variable Frequency Drives powered the DV400 pumps, allowing them to throttle up and down based on water levels in the pit.

Four DV400 pumps were used to bypass flows up to 56 MGD .

The automated electric-driven bypass system used four stages of pumps to scale to dewatering needs.

An Eastern U.S. wastewater treatment plant with planned infrastructure improvements needed a year-long bypass of treated water discharge during its construction process.

The bypass required pumping for up to 56 million gallons a day of treated water from a 2,500 gallon pit. Due to the size of the pit, the plant required a highly sensitive and automatic bypass system that could scale pumping rates up and down on the fly as effluent demanded.

Rain for Rent developed a four-stage automated pumping system triggered by submersible transducers. As water levels in the pit varied, the electric DV400 16” pumps were automatically throttled by variable frequency drives (VFD) controlled by pre-programmed analog data reporting units (AnDRU Boxes).

Treated water was bypassed from the pit and discharged.

The automated system allowed construction on the new plant upgrades to proceed as planned, without interruption from increased effluent or storm water.

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