Pump technology ends ragging issues and improves efficiency

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The site has eliminated downtime and other costs associated with pump blockages.

The challenge

A large utility located in the US was experiencing a plethora of ragging issues which led to many challenges, such as wasted man-hours used to pull and manually unclog pumps, and the associated safety hazards from pathogens or needles/sharps that were in the pumps.

In addition to the headaches and dangers associated with pulling pumps, running the pump partially ragged was extraordinarily inefficient. Flow rate, run time, VFD (Variable Frequency Drive) speed and power consumption were all negatively affected, becoming drastically different from what the station's design engineer and pump manufacturer intended them to be. This cost the utility a lot in wasted energy each year. Fortunately, there was a simple and smart solution to this problem.

The solution

The DERAGGER™ was installed, which detected the initial rags catching the impeller, prior to a full obstruction ever being allowed to form. This technology also utilizes Real Time Pump Protection™, a concept that involves monitoring the power signature of a pump's motor and looking for fluctuations in the 3 phase waveforms. This meant the device detected the first rags that got stuck on the impeller, and passed those rags through. What's more, the device enables the pump to pass rags and does not require any replacement of (or physical modification to) existing pumps, or the addition of macerators/grinders.

The site has seen a complete elimination of ragging and call-outs to clean the pumps. The pumps now pass the rags along to the treatment plant's screens. With manual cleaning eliminated, staff are no longer exposed to sewage or sharps, and the utility saves significant money from these call-outs and associated costs.

In addition to ending ragging issues, this technology can also detect issues like advanced bearing or seal wear, therefore alerting the operator prior to the equipment failing.

The Deragger identifies and eliminates potential pump blockages.