

The Village of Bartlett, Illinois, handles wastewater for a rapidly growing community in a facility with a design flow of 3.7 MGD and a maximum design flow of 5.1 MGD.

Treatment consists of grit removal, primary settling, activated sludge, intermediate settling, nitrification reactors, final settling, aerobic digestion, belt filter press, disinfection, dechlorination and excess flow treatment.

The one meter press output (for agricultural distribution) averages 450 dry tons per year and treated with an anionic emulsion polymer which was being fed through a popular emulsion feed system.

After dealing with repeated maintenance headaches associated with the existing feed system, Ron Johnson, the Waster water Supervisor, began looking to replace the existing liquid polymer feeder servicing the belt filter press. He wanted a more reliable, easier to maintain system without sacrificing any performance.

After reviewing some product information on the VortiBlend Polymer Activation System, he contacted the manufacturer of the system, Chem-Flow in Addison, Illinois.



A Chem-Flow applications engineer visited the Bartlett facility and conducted a brief audit of the sludge handling system to determine which of the VortiBlend Series was best suited for the application. A unit was delivered in 3 days and installed. The system was started up in 35 minutes.

After some fine tuning, the system was providing the targeted cake dryness (14%) as selected by the facility management and optimized the polymer usage to levels selected by the operating staff.

After several weeks it was clear that the VortiBlend mixing technology outperformed the existing unit.

- ◆ Dilution water requirements dropped by 45% and polymer usage decreased by 20%! The system will pay for itself in less than a year.
- ◆ The VortiBlend unit was purchased for half of the cost of the original unit which was purchased several years earlier!

The operators report that the motor-less, Hydro-Kinetic based system is easier to work with, more reliable and provides far more convenient push button automated control options than the "industry leading" unit previously in place.

In addition, the automated flushing cycle feature has prevented plugging and eliminated the need for continuous maintenance.

## Background

The VortiBlend Polymer Activation System is the product of collaborative expertise gained over the past 25 years of experience in hundreds of polymer activation applications across a wide spectrum of industrial and municipal environments.

This experience has developed a keen understanding of the polymer hydration equipment offered from a host of manufacturers. From the laboratory, through design and manufacturing, hands on work in the field, and listening to operators who work with these systems every day, we've learned what works well and what doesn't.

The VortiBlend Series fills the need for a reliable, low maintenance, economical, high performance liquid polymer activation system that is simple to operate. Our approach to the commercial aspects (Money Back Guarantee) makes it easy for our clients to invest in this technology without risk.



## Three Stage Motor-less Mixing

The VortiBlend incorporates a unique three stage design which eliminates the costs, maintenance and failures inherent to other designs currently available.

The Primary mixing stage utilizes a specialized, motor-less Hydro-Kinetic Disperser Module to impart an initial maximized energy at the critical Moment of Initial Wetting, when the neat polymer first mixes with water.

The Secondary activation stage generates an Orbital Motion pattern inside a turbulent disturbed pressure field. The resultant blending environment produces high Reynolds numbers and is dominated by non linear inertial forces, random eddies and vortices.

The Tertiary mixing stage optimizes the hydration process and associated Charge Site Exposure with tapered cyclonic energy agitation prior to discharge from the unit.

## One Touch Control

The Chem-Flow PDC 1 Microprocessor control center manages all unit functionality automatically. This fully customizable controller displays system status and annotates alarm conditions such as loss of polymer or water flow.



One glance at the eight digit, alphanumeric LED operating system display shows real-time concentration and feed rate. It can be operated remotely with a 4-20mA or a simple dry contact signal.

The desired polymer concentration strength is selected via three touch pads and the system will deliver it precisely. The polymer rate calibration feature and the adjustable automatic flushing cycle assure hassle free operation and reliability over a broad range of products and applications.

To learn more about the VortiBlend technology visit [www.vortiBlend.com](http://www.vortiBlend.com) or call for a demonstration at 630-543-1911.



1450 West Fullerton Avenue ♦ Addison, Illinois 60101 ♦ Phone: 630.543.1911