We Solve Odor!

Take Back Control Of Odors At Your Facility
Increase Plant Capacity / Reduce Operating Costs

SLUDGE & FOODWASTE

ANAEROBIC DIGESTION BREAKTHROUGH!

CITY OF Springfield

Springfield Missouri Municipal WWTP operates a three-stage anaerobic digester system that receives 250,000 gallons of sludge from their 45 MGD WWTP and 20,000–36,000 gallons of food waste per day. Biogas generated by the digesters is used to generate electricity for the WWTP and heat for the digesters.

The Challenge/Problem

Recent challenges faced by plant operators include:

- Overloaded anaerobic digesters
- High foam layers (up to 12ft thick in some digesters) limiting capacity and throughput
- High H_2S content in biogas
- Moderate VS destruction efficiency due to FOG load and overloading of system
- High cost for H_2S control in sludge during processing and disposal
- Insufficient biogas flow to offset natural gas use
- High ammonia levels in digesters

SciCorp Plan & Implementation

SciCorp anaerobic digestion specialist engineers met with Springfield plant management staff and reviewed plant performance data and operation challenges faced by operators.

SciCorp engineers recommended a 3-month trial to treat the entire anaerobic digester system. They recommended a daily dose of 40 gal/day of **BIOLOGIC™ SR2** to be added to the acidification hydrolysis anaerobic reactor that would feed 4 primary digesters which then feed into one polishing digester.

The plant management staff agreed to shared financial risk approach to demonstrate and verify the benefits of using **BIOLOGIC™ SR2**.

Success

Within the time frame of the trial:

- H_2S content in biogas was reduced by 55%
- Ammonia levels dropped 12%
- Foam layers were reduced to less than 12 inches from 12ft
- VS destruction efficiency increased by more than 10%
- Biogas production per kg VS feed to digesters increased by 30%+
- H_2S in digested cake decreased significantly
- Need for supplementary natural gas was eliminated
- Need for ferric chloride potentially eliminated

Other benefits realized:

- Potential for increasing organic load to digesters
- Odor issues decreased significantly from digester system, sludge processing and general plant operations
- Sludge yield (kg/TS / kg BOD + TSS influent from WWTP) decreased by 25 – 30% due to recirculation of centrate containing **BIOLOGIC™ SR2** to headworks of plant thereby reducing sludge generation from aerobic plant
- Sludge mass requiring processing disposal decreased 25%
- Use of **BIOLOGIC™ SR2** demonstrated net positive cost benefit for plant operations

55%	95%	92%	+30%	25-30%
Reduction in H2S	Reduction in odor complaints	Reduction of foam	Increase in biogas production kg VS	Reduction in sludge generation

Problems Avoided

- Shut down of digesters to remove foam
- Additional cost for biogas scrubbing
- Supplementation of natural gas to provide power for WWTP operations
- Ferric addition to sludge to control odor and struvite's
- Limiting intake of food waste due to limitation in anaerobic system capacity
- Odor complaints related to digester and sludge processing disposal operations
- Corrosion to piping and equipment
- Higher chemical costs due to price escalations
- Increasing sludge transport and tipping fees

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THE ECO WAY TO SOLVE ODOR FOR BOAT, HOME AND PROFESSIONAL

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