



## Sustainable Biosolids Management Solution Servicing San Francisco Bay Area and Northern California

### ABOUT

Located about 40 miles north-east of San Francisco, the Fairfield-Suisun Sewer District (FSSD) services over 135,000 people and operates 70 miles of sewer with 13 pumping stations within 48 square miles in central Solano County. [www.fssd.com](http://www.fssd.com)

### CHALLENGES

- High and rising costs for biosolids management locally
- Regulatory pressures to move towards higher treatment and beneficial use and away from landfill disposal
- Lack of coordinated biosolids management solution for the Bay Area

### PROJECT DRIVERS

The Fairfield-Suisun Sewer District entered into a 25 year (+10) public-private partnership (P3) agreement with Lystek International in 2016 to develop a regional Organic Material Recovery Center (OMRC). The project delivered on numerous priorities:

- To develop a long term sustainable biosolids management solution with extended program security
- To generate revenue and local jobs
- To establish a regional solution for other Bay Area utilities
- To optimize the use of existing FSSD site assets
- To become a regional leader in sustainable biosolids management

### RESULTS & BENEFITS

- Currently providing biosolids management solutions to more than 15 utilities in the region
- More than 350,000 tons (as of 2022) of biosolids converted into fertilizer and applied to local farms
- Production of a high-quality Class A biosolids product, registered as a bulk fertilizer with the California Department of Food and Agriculture (CDFA) and sold to local farmers
- Increased biogas generation using the LysteMize process to feed FSSD's anaerobic digesters

Fairfield Organic Material Recovery Center  
Fairfield-Suisun Sewer District Facility  
Fairfield, CA

Fairfield-Suisun Sewer District enters into a Public-Private Partnership (P3) with Lystek to bring comprehensive biosolids management solution to the San Francisco Bay Area.



### KEY METRICS

Lystek OMRC Annual Capacity: 150,000 tons

Lystek THP Module Size: 2 x LY10 (4.0 dry tons / hr)

Lystek THP Processing Footprint: 2,500 sq ft.

Feedstock: Municipal biosolids (digested and undigested), anaerobically digested organic waste products, organic-based liquid materials, and processed food-grade wastes

Project Delivery Model: Design, Build, Own, Operate

The FSSD oversees wastewater treatment and sanitary sewers in northern California's Solano County. Prior to engaging with Lystek, the District had been sending their biosolids to landfill for use as daily cover for decades. In the early 2010s, regulatory changes began to address organic materials in landfills, and it was clear that the State would be requiring biosolids to be diverted from landfills to beneficial use. In addition, the San Francisco Bay Area expressed the need to develop regional solutions for biosolids management.

FSSD has had a long history of looking for innovative solutions for its wastewater treatment program. In 2015, the District and Lystek developed a public-private partnership (P3) project on-site at the FSSD wastewater treatment plant (WWTP). The partnership agreement allowed the development of the Fairfield Organic Material Recovery Center (OMRC) as a regional biosolids and organics management facility, owned and operated by Lystek, leveraging under-utilized infrastructure and assets at the FSSD plant. This facility became operational in 2016 and is operating under a 25 year agreement, with a 10-year optional extension.

The OMRC accepts organic residuals year round, produces a fertilizer product, LysteGro® using our patented Lystek THP technology, and stores the Class A fertilizer product onsite during inclement weather periods. LysteGro is sold and applied to agricultural soil throughout the year as field conditions allow. The material is classified as a Class A biosolids by USEPA (Part 503 standards) and has received a bulk fertilizer registration by the California Department of Food and Agriculture (CDFA). This dual-designation has allowed LysteGro to be widely used and accepted by area farmers and ranchers as an alternative to synthetic fertilizers. The use of LysteGro is now accepted in multiple counties which have historically been restrictive to traditional Class B biosolids and land application practices.

The other major opportunity of the FSSD-Lystek partnership involves enhanced digestion and biogas generation. FSSD

operates anaerobic digesters to treat wastewater solids and utilize the biogas for onsite co-generation (electricity plus heat for the digesters). This practice reduces the overall plant energy dependence on fossil-fuels sources. Through the LysteMize process, a portion of the Lystek THP hydrolyzed material can be re-fed to anaerobic digesters to increase volatile solids destruction and boost biogas yields. The LysteMize process began operations in 2019 at FSSD, refeeding processed biosolids from FSSD and third party generators to the digesters. Due to new California legislation related to organics diversion from landfills, generators of undigested biosolids who send their material to the OMRC are able to obtain diversion and recycling credits for the volumes processed with the use of the Lystek technology and enhanced digestion.

This successful P3 partnership between FSSD and Lystek has offered Bay Area agencies a reliable, sustainable and cost-controlled biosolids management solution. Generators now have a convenient resource recovery facility which produces and manages a Class A biosolids fertilizer and is capable of reducing GHG emissions through additional biogas recovery in the FSSD

digesters. The successful LysteGro management program has sold and applied more than 350,000 tons (as of 2021) of CDFA registered fertilizer and is in demand from area farmers and ranchers.



## About Lystek

Lystek International is the leading provider of advanced, thermal hydrolysis solutions in North America, servicing over 60 utilities globally. Lystek offers turnkey solutions including technology supply, design-build and installation services, regional processing solutions, and comprehensive LysteGro sales and management. **Lystek THP®** is proven across a range of small, medium, and large communities. We work with public and private sector clients to enhance operations, reduce GHG emissions, and recover valuable nutrients and carbon from biosolids and organic feedstocks through the production of increased renewable biogas with **LysteMize®** and **LysteGro®** Class A quality biosolids fertilizers.