



**ENTERPRISE
AUTOMATION**
A TETRA TECH COMPANY

PROJECT PROFILE

Biogas equipment integration

Schneider Electric Advisory Services

Client background

Organizations across industries rely on Schneider Electric Advisory Services (SE) to reduce energy use, lower carbon emissions, and lead sustainable transformation. They combine engineering, advisory services, and digital tools to deliver measurable energy, cost and ESG outcomes. The St. Joseph Water Protection Facility (WPF), which treats domestic and industrial wastewater for the City of St. Joseph, Missouri, contracted SE to fulfill their energy conservation measures.

Project background

By replacing the equipment in the aeration, anaerobic digestion mixing, and digester gas collection systems, the WPF could reduce operating costs and improve energy efficiency. New biosolids equipment would advance mixing and volatile solids destruction to increase biogas production. SE brought in Enterprise Automation to integrate this equipment with the plant control system, so the equipment could be monitored and controlled to ensure processes could perform as expected.

EA solution

Enterprise Automation consulted on skids from three different manufacturers for the digester: a mixing system, gas booster, and gas flare. With this new equipment, WPF could reuse digester gas in its boilers and thermal sludge dryer as a fuel source and flare the excess. The mixing system would receive readings from the inlet and outlet biogas temperature and tank pressure, which it would use to control the biogas compressor, control air compressors, and gas valve module in an automatic control scheme.

Each system came with a local HMI, and engineers mirrored the designs of the original screens to ensure consistency. Once added to the SCADA system, operators could access information from a centralized location, able to easily check critical signals or alarms and monitor faults, running status, temperature readings, or pressure readings.

Project Manager



**Matt
Avila**

Project Technical Lead



**Adrian
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Key Insights:

- Integrated controls for digester equipment that would facilitate use of biogas as an alternative fuel source

Key Technologies:

- Allen-Bradley PLCs
- PanelView OIT
- Studio 5000
- RSLogix 500
- FactoryTalk