

WE SOLVE ODOR!

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



WASTEWATER TREATMENT

FIVE KEYS TO PREVENTING WWTP UPSET



SciCorp has worked with a wide range of domestic and industrial wastewater treatment plant customers ranging from small onsite domestic treatment plants that service less than ten (10) residential units to one of the largest kraft pulp facilities in South America (140,000 m³/day (37 MGD) WWTP).

In each case SciCorp works closely with our customers to provide technology to improve WWTP efficiency, reduce odor and provide consulting advice that is specifically tailored to each customer application.

The Challenge/Problem

Common problems that have been seen across a wide range of wastewater treatment facilities include:

- WWTP odors that cause complaints from neighbors
- Frequent plant upset events that result in challenges in meeting legal effluent limits for TSS, BOD, COD and P and COD
- Biological treatment reactors that are not performing at optimal efficiency
- The need to satisfy a carbon footprint reduction mandate

SciCorp Treatment Plan and Execution

In working with closely with their diverse customer base, SciCorp wastewater engineers have identified five operating parameters that, when used in combination with SciCorp micronutrients, were identified as being critical to preventing upset at the plant.

The five operational parameters that are described below have been identified as being key to preventing upset conditions at most WWTPs:

Five Operational Parameters that are Keys to preventing WWTP Plant Upset:

- 1** Maintain a balanced F:M ratio (Optimal F:M ratio is unique for each plant but typically ranges from 0.15 to 0.5.)
- 2** Make sure you have the appropriate amount of ammonia nitrogen in your system for your organic load. A good rule of thumb for most treatment plants is that a minimum of 1.5mg/L NH₃-N is required in aerobic reactors.
- 3** Don't allow the sludge blankets in your clarifiers to get too thick. Typically, if the sludge blanket thickness exceeds 40 inches (1 m) there is a greater risk of developing septic conditions and effluent problems
- 4** Pay attention to the dissolved oxygen (DO) levels in your reactors. Keep DO above 2mg/L in your aerobic reactors and below 1mg/L in your anoxic and anaerobic reactors.
- 5** Make sure the color of your mixed liquor and sludge is light brown. We typically see that when the sludge begins to change color to dark brown or black it is a leading indicator of problems developing with your bacteria.

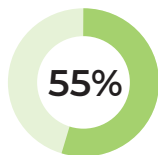
Success

By paying attention to these five keys and by working collaboratively with SciCorp wastewater engineers, our customers have successfully achieved a significant reduction in odor complaints and have experienced far fewer plant upsets throughout the year.

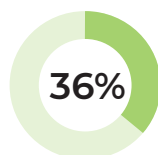
Specific results that WWTP operators have been able to achieve include the following additional benefits:



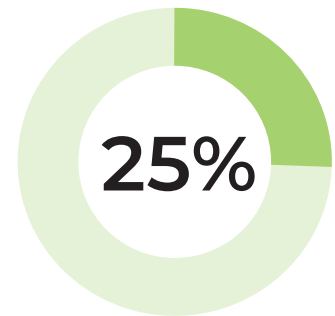
Reduction in airborne H₂S and mercaptans at secondary clarifiers



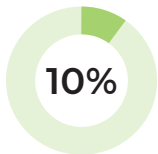
Reduction in dissolved H₂S in biological reactors



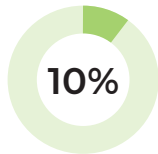
Increase in P removal efficiency



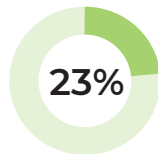
Increase in WWTP load treatment capacity while maintaining effluent discharge standards without increasing aeration



Increase in reactor efficiencies



Increase in COD removal efficiency



Decrease in biosolids wasted (dry basis)

Issues Avoided

By working with SciCorp, plant operators have able to help their facilities avoid:

- Lost revenue due to decreases in capacity
- Regulatory enforcement associated with odor complaints and effluent discharge concentrations
- Increased operating costs associated with sludge disposal and aeration
- Damage to the company brand in the community

Next Steps:

To obtain more information regarding optimizing your wastewater treatment process, please do not hesitate to contact us. We provide technology backed up by experienced wastewater engineers that are dedicated to helping you succeed.

All of our customers benefit from the extensive experience of our wastewater engineers who will work with you to guide you every step of the way as you manage your plant.