

# PAX TRS™ Trihalomethane Removal Systems

# THMs - A Growing Challenge for Municipal Water Systems

Trihalomethanes (THM) are chemical compounds that form when natural organic matter in water reacts with chlorine during the disinfection process. THMs are a suspected carcinogen and regulated in many countries. Exceedence of the Maximum Contaminant Level (MCL) for THMs are among the most common violations of the EPA Stage II DBP rule in the United States.

While most THM removal technologies involve large-scale changes to the water treatment plant, the PAX TRS™ Trihalomethane Removal System is a custom-designed, energy-optimized system of mixers, aerators and ventilators that converts ordinary water storage tanks into water treatment systems.

This targeted approach allows for quick and cost-effective installation that achieves compliance goals.

## Benefits of PAX TRS™:

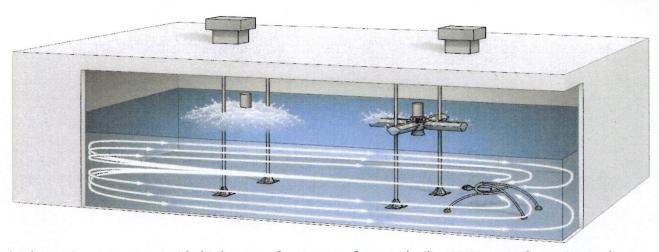
- Custom-designed system for precise THM removal rates
- · Energy-optimized for low operating cost
- Scalable designs for tanks 50,000 gallons to 50 million gallons

#### Features:

- NSF61 approved materials
- Active headspace ventilation creates ideal conditions to volatilize THMs
- Robust equipment including non-clogging aeration nozzles and reliable surface aerators



Active mixing and ventilation are the first steps in THM removal. The PAX Mixer continually introduces THM-concentrated water to the surface where THMs are volatilized and evacuated by the PAX PowerVent™.

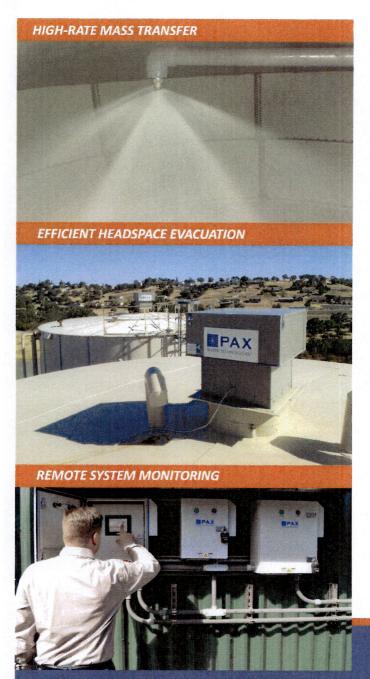


Customized aeration systems provide high rates of mass transfer to volatilize THMs out of any size or shape tank.

# **Optimize THM Removal**

We are seeing THM levels 40-70% lower leaving our More Avenue tank than those coming in.

Adam Feffer, Water Quality Engineer
San Jose Water Company, California





"The success of the PAX TRS™ Trihalomethane Removal System in the Millingport tank has given us a new tool to reduce THMs in our system. We are now looking to apply this technology not only in other tanks in our system, but we are also talking with our supplier about installation in their system as well to help reduce the high levels of THMs coming into our system."

Donna Davis, Utilities Director Stanly County Utilities Department, North Carolina

## Success Story: San Jose, California

Tank Size: 12 MG

Tank Type: Underground

THM Removal Achieved: 40-70%

During the multi-year drought in California, San Jose Water Company's sophisticated monitoring program anticipated an increase of THM precursors developing in its system due to deteriorating water quality. To prepare, it installed a system of PAX Mixers, PAX PowerVents™ and a custom air-handling unit to maximize THM removal inside the tank. Staff were impressed by the speed of project completion and "excellent results from the system."



**Optimized Performance & Energy Efficiency** 

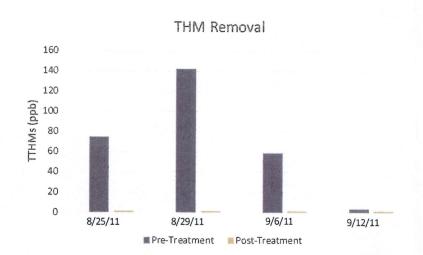
When it comes to selecting the right THM removal system for your tank, custom design is key. Optimizing system design is critical for predicting and achieving THM removal rates, minimizing energy requirements and calculating long-term operating costs. PAX Water Technologies partners directly with municipalities and engineers to diagnose THM formation and perform a system-wide treatment analysis. This data, together with our proprietary design and performance modeling software, enables PAX Water Technologies to create in-tank aeration systems that are cost-effective and energy-optimized. The result is right-sized THM removal technology for your specific tank's needs.

## Success Story: Stanly County, North Carolina

Tank Size: 200,000 gallons
Tank Type: Elevated

THM Removal Achieved: 99%

Stanly County received finished water that was often at or above the MCL for THMs; Without a treatment plant of its own, options for bringing its water into compliance were limited. An in-tank aeration system targeting a peak removal of 90% was designed and installed in the tank in August 2011. THM samples collected after installation revealed that THM levels leaving the tank were 0.0  $\mu$ g/l (non-detect).





PAX Water Technologies, Inc.

860 Harbour Way S, Suite C | Richmond, CA 94804

Phone: (866)729-6493

Email: sales@ugsicorp.com | www.paxwater.com

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