



Are you ready for summer?

As we enter the summer months, it's critical to emphasize the importance of routine service, calibrations, and maintenance for water and wastewater treatment facilities. The warmer temperatures can significantly influence functionality and processing efficiency throughout various systems. Establishing a regular maintenance schedule and taking proactive measures during the summer season is essential for smooth operations and prevention of potential issues that are synonymous with elevated temperatures.

It is important to prepare water and wastewater treatment facilities for the heat that summer brings to ensure there are no disturbances in operation. No worries, **Knapp Engineering** is here to help! We offer a team of highly qualified and experienced Service Technicians that are readily available to help ensure your facilities are prepared to combat even the hottest summer elements.

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HOW CAN WARMER TEMPERATURES EFFECT WATER AND WASTEWATER TREATMENT?

Increased Biological Activity:

- Higher temperatures accelerate metabolic rates of microorganisms within the biological treatment processes. At certain levels, this can enhance the breakdown of organic matter, which also means that the system can easily become unbalanced if not properly adjusted.
- Increased activity can lead to higher demands for oxygen, causing strain on aeration systems. It's imperative to ensure aeration equipment is functioning at peak performance in order to meet increased demand.

Enhanced Algal Growth:

- Longer, warmer summer days means more exposure to sun and higher temperatures, which are the very conditions that promote algal growth. Algae can clog filters and screens, disrupt settling processes, and lead to operational inefficiencies.
- Routine cleaning, service, and maintenance, as well as proper application of algaecides where appropriate, can help mitigate these issues.

Odor Control:

- Elevated temperatures intensify odor issues as organic matter decomposes more rapidly. Offensive odors can lead to complaints from surrounding communities and pose challenges for facility management.
- Implementation of routine service and maintenance of odor control systems is essential. Ensure that systems are fully operational and address any malfunctions promptly.

Sludge Management:

- Increased microbial activity can result in faster sludge production. Proper sludge handling and disposal become critical to prevent accumulation and potential system overload.
- Regularly scheduled sludge removal and proper inspection/calibration all of sludge handling equipment, including pumps and dewatering units, maintains system balance and efficiency.

Chemical Treatment Adjustments:

- Warmer water temperatures can affect the solubility and reaction rates of chemicals used in the treatment process. As a result, adjustments in chemical dosing to maintain treatment effectiveness may be required.
- Routine monitoring and calibration of equipment should be performed to ensure optimal chemical usage and to prevent wastage or under-treatment.

>>> FOLLOW ROUTINE MAINTENANCE ACTIONS <<<





To address these seasonal challenges, consider the following routine maintenance actions –

- **Inspect and Maintain Aeration Systems:** Ensure all blowers, diffusers, and aerators are clean and functioning correctly. Replace or repair any faulty components.
- **Monitor Biological Processes:** Regularly test biological oxygen demand (BOD) and chemical oxygen demand (COD) levels to track system performance. Adjust microbial populations as needed.
- **Control Algal Growth:** Implement regular cleaning schedules. Use shading or surface covers where feasible to limit sunlight penetration.
- **Optimize Odor Control Systems:** Check biofilters, scrubbers, and other odor control equipment for blockages and performance issues. Replace or service equipment as needed.
- **Manage Sludge Efficiently:** Schedule frequent sludge removal and ensure dewatering systems are in good working conditions. Monitor sludge age and adjust wasting rates accordingly.
- **Adjust Chemical Dosing:** Perform regular water quality testing and adjust chemical dosing rates based on current conditions. Calibrate pumps and equipment regularly.

By prioritizing routine service and taking proactive measures to address the unique challenges posed by summer temperatures, maintaining the efficiency and effectiveness of water and wastewater treatment facilities is achievable. This not only ensures regulatory compliance but also supports the health and well-being of our communities and the environment.

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Stay vigilant, plan ahead, and let's keep those systems running smoothly throughout the summer. Contact Knapp Engineering today for all your summer service, maintenance, and calibration needs today!