

BAD ODOR ISSUE IN STP

Foul odors are an unfortunate reality at wastewater treatment plants. If left uncontrolled, nuisance odors can waft into public spaces and residential areas located around the plant. This can lead to community frictions and/or legal issues. Depending on the severity of the odors, citizens will often call the plant management to find a solution, or they will reach out to politicians and the media. Odor complaints that become borderline political and/or receive negative media attention risk damaging the plant's - and the brand's - reputation.

Uncontrolled odors can also impact the overall job satisfaction of plant workers. Treatment plants value their employees and should make efforts to improve their working environment by better controlling odors.

Most odor problems occur in the collection system, in primary treatment facilities and in solids handling facilities. Generally speaking, foul odors at treatment plants originate from the anaerobic decomposition of organic compounds. A natural by-product of anaerobic digestion is hydrogen sulfide (H₂S), which gives off a strong, nauseating smell. Due to its low solubility in wastewater, it is released into the atmosphere, producing an offensive odor.

The odors associated with collection systems and primary treatment facilities are generated as a result of an anaerobic or "septic" condition. This condition occurs when oxygen transfer to the wastewater is limited. In the anaerobic state, the microbes present in the wastewater have no dissolved oxygen available for respiration. This allows microbes known as "sulfate-reducing bacteria" to thrive. These bacteria utilize the sulfate ion (SO₄⁻) that is naturally abundant in most waters as an oxygen source for respiration. The by-product of this activity is hydrogen sulphide (H₂S). This by-product has a low solubility in the wastewater and a strong, offensive, rotten-egg odor.

Weather conditions can intensify odors. Temperature inversions, wind velocity, and wind direction contribute to how far odor emissions drift. Odors are typically worse at higher temperatures. Factor in increased summer activity, and it is not a surprise that plant management usually receives more odor complaints during the warmer months of the year.

The community wants the odors gone. The plant wants the complaints to stop. But how?

We have a definite solution to this, Contact us back with details!

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