

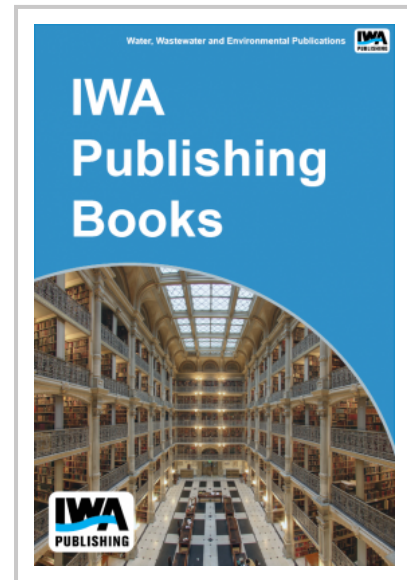
Minimization of Odors and Corrosion in Collection Systems

Wastewater collection system odors and corrosion issues continue to grow in importance to the community and to system owners and operators. Odor and corrosion prevention in collection systems has historically been as much art as science. Common control methods are selected based on practical experience as opposed to a fundamental understanding of why and when methods will be successful. Although much is known regarding the cause of odorous gases in the collection system, the underlying science and mechanisms of odor generation, sewer ventilation, odor characterization and monitoring, and corrosion mechanisms need further research. This WERF research activity helps odor-control specialists transition from “odor artists” to scientists and engineers, while also providing a useful tool both for designers to successfully prevent odor and corrosion events through proper design and for operators to mitigate and prevent odor excursions and corrosion impacts.

This project transfers state-of-the-art technology and information gained from the literature survey to the collection system owner and designer on odor and corrosion assessment, measurement, characterization, monitoring, and prevention. The field studies identified in this Phase 1 effort will fill high-ranked knowledge needs. The resultant database and team-developed, web-based application tool will identify the best practices for the entire collection system and its associated facilities, infrastructure, equipment, and pipes.

A plain-English guide providing a useful and easily understandable overview about odor and corrosion in collection systems including how odor and corrosion compounds are formed and what to do to control them is provided as an introduction to this document. This Phase 1 report then summarizes the state of the art in knowledge related to odor and corrosion in collection systems. This highlights the latest knowledge reported in the literature.

These efforts to compile the literature database have included information-sharing partnerships with municipal utilities, the academic community, and the profession, all on a global basis. Our team included leading odor and corrosion control researchers in the academic, utility management, and consulting communities, and part of their role was to provide exhaustive literature research efforts through catalogue reference, gray literature review, and Internet search mechanisms. In this way we have accessed a broad spectrum of global resources tapping into the knowledge and experience of both WERF member and nonmember utilities.



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