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Findings of the 2017/2018 Science Advisory Panel on Constituents of Emerging Concern (CECs) in Recycled Water.

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Abstract

Recycled water agencies must be able to demonstrate to their customers that their recycled water is safe for all uses. Some customers are concerned with the risks to human health associated with Constituents of Emerging Concern (CECs). Recycled water agencies can improve confidence in the safety of recycled water by: monitoring for CECs that present a potential risk to human health; demonstrating the monitoring methods and detection limits will capture low concentrations of CECs in recycled water; and that the recycled water producer has a framework for initiating actions if CECs are detected at a level of concern. Some recycled water agencies have initiated CEC monitoring programs. Given that the state of the science around CECs is rapidly evolving, it is important for recycled water agencies to periodically review and update their CEC monitoring programs based on the current state of the science.

In 2017, the California State Water Resources Control Board awarded a grant to the Southern California Coastal Water Research Project Authority to reconvene the CEC Science Advisory Panel for Recycled Water (Panel), which is composed of subject matter experts, to review the current state of scientific knowledge and monitoring data related to human health risks associated with exposure to CECs in recycled water projects. The Panel developed recommendations for monitoring CECs in recycled water and developed recommendations for additional research regarding the use of targeted and non-targeted analytical methods, and better understanding of antibiotic resistant bacteria and antibiotic resistance genes for all reuse projects allowed under Title 22 in the California Code of Regulations (e.g., groundwater recharge, landscape and crop irrigation, dust control, etc.) and surface water augmentation projects. The Panel's findings and recommendations will be used to inform State Water Resources Control Board staff's development of a proposed amendment to the Recycled Water Policy and can be incorporated by utilities into existing and future monitoring programs to ensure the protection of public health.