

Proposed Orange County Sanitation District

Constituents of Emerging Concern Policy

Should OCSD take a lead role on Constituents of Emerging Concern in wastewater and develop detection and characterization methods in wastewater treatment?

Summary Policy Statement

The Orange County Sanitation District (Sanitation District) will partner with other agencies, associations, and institutions to support the use of sound science to inform policy and regulatory decisions on constituents of emerging concern (CECs) at the federal, state, and regional levels. Staff will obtain and maintain current knowledge on CECs under regulatory consideration, including occurrence, analytical methods, regulations, and treatment to support the Sanitation District's mission.

Background

CECs also referred to as Constituents or Contaminants of Emerging Concern are pollutants that may or may not be subject to regulatory requirements or statutes yet pose a risk to public health and/or the environment. The Sanitation District is a recipient of CECs that are discharged along with domestic and residential wastewater; discharges from industrial, commercial, and other governmental facilities; and tributary discharging jurisdictions. The concept of CECs evolves over time and often the Sanitation District and other entities must acknowledge and understand their impacts to address the effects posed by each CEC.

For more than 50 years, the Sanitation District has adopted and enforced standards and requirements to protect the public health and safety, the environment, and the Sanitation District's workers and facilities, while collecting and treating wastewater. Initially the primary concern to the Sanitation District was conventional pollutants, those that originate from normal sanitary use and can be addressed by conventional wastewater treatment. With the 1972 amendment to the Clean Water Act, and as required by the Code of Federal Regulations, the Sanitation District implemented a mandated pretreatment program to control discharges containing toxic pollutants at their sources through permitting, enforcement, inspection, and sampling. The Sanitation District's Pretreatment Program promulgates the Sanitation District's *Wastewater Discharge Regulations Ordinance* (Wastewater Ordinance), which governs discharges to the sewer through various types of permits. The Wastewater Ordinance also includes numeric limits, referred to as Local Limits, that control the quality of non-domestic discharges to the sewer. These Local Limits are the result of a technical evaluation and comprehensive sampling and analysis effort, required under the Sanitation District's permit issued by the state to discharge to the ocean – the National Pollutant Discharge Elimination System (NPDES) Permit.

The Sanitation District's current NPDES Permit requires evaluation and monitoring of CECs. The Regional Water Quality Control Board (RWQCB) and EPA required the Sanitation District to study

and report on certain newer CECs in the Sanitation District's effluent and the receiving waters. The CEC study had to include the following categories and specified a set of particular constituents in each category: Hormones (8), Industrial Endocrine Disrupting Compounds (7), Pharmaceuticals and Personal Care Products (13), and Flame Retardants (9). Since 2014, California's State Water Resource Control Board has been updating its Recycled Water Policy and has identified CECs under consideration for projects that conduct surface spreading of recycled water, including the Groundwater Replenishment System (GWRS). In addition, to meet the Sanitation District's obligations to provide a high level of service for biosolids reuse and water reclamation through GWRS, the Sanitation District must evaluate and monitor CECs that affect these initiatives.

Although the Sanitation District has been involved with water reclamation with the Orange County Water District (OCWD) since the mid-1970's, the Sanitation District's mission changed significantly in the years leading up to 2008 when the Groundwater Replenishment System (GWRS) was commissioned. GWRS compelled the Sanitation District to consider impacts to drinking water limits and Notification and Response Levels, which are typically much lower than the standards in place for a wastewater treatment plant. For several critical constituents, OCWD and the Sanitation District established Level of Service commitments. The Sanitation District and OCWD established a response plan to follow when a constituent becomes a concern to either agency. Where the source can be identified, the plan organizes responsive actions from the Sanitation District and OCWD for industrial and commercial facilities. Domestic and residential sources are typically addressed by way of educational outreach to the public.

To determine the constituents that impact the Sanitation District's operations and reuse initiatives, the Sanitation District interacts with federal, state, and local agencies and monitors their regulatory and legislative efforts. Sometimes the job is straightforward, because the federal, state, or local agency focuses on a specific CEC chemical which yields a concentrated effort; however, sometimes, the effort can be interpretative. This requires a comprehensive, well-established program and experienced subject matter experts to identify the CECs that impact the Sanitation District. The Sanitation District must then evaluate the sources and decide what methods will be employed to control the discharges, if necessary.

Current Situation

With newer equipment and techniques, federal, state, and local government agencies are detecting constituents at very low concentrations in the drinking water. This has resulted in agencies studying more constituents and requesting NPDES Permit holders, such as the Sanitation District, to monitor and report CECs detected in the influent and effluent. However, wastewater is a much more complex matrix than drinking water, so reproducible low-level analytical methods are much more difficult to develop and implement for wastewater than drinking water.

The Sanitation District will also be required to develop new methods for addressing some of the CECs primarily discharged from residential communities or are present in the existing drinking water supply. The Sanitation District typically attempts to address such discharges through education and outreach while working with other agencies. Some CECs require the Sanitation District and other agencies to sponsor legislation and regulation development or to comment on a particular subject to protect the agency's interests. For example, the Sanitation District has advocated for minimizing or eliminating the use of specific CECs in manufacturing or consumer use to the California Department of Toxic Substances Control. To achieve its mission, the Sanitation District will need to continue supporting a variety of regulatory and legislative efforts.

Future Policy Statement

If source control, education and outreach, or legislative and regulatory efforts are not successful, the Sanitation District may be required to implement a technological or operational process change/investment to address a CEC.

The Sanitation District must align its resources to continue managing CECs throughout the service area and treatment process in order to comply with the Sanitation District's existing regulatory requirements. The Sanitation District must remain vigilant in monitoring the threats posed by upstream sources to its system; to continue to work with other agencies and professional organizations to develop robust analytical methods; and to evaluate routinely the need to establish sound policies, local limits, or other regulations and standards based on new local, state, and federal regulations to protect public health and the environment. The Sanitation District is required to continue implementing its established response plan by promoting effective source control and treatment, while also preparing for newer CECs and regulatory obligations. The Sanitation District will continue to work to understand current and future CECs by monitoring developing regulations and legislation and actively engaging water and wastewater stakeholders.

Two families of chemicals, PFAS and PFOA, have been identified as CEC's with a probability of impacting water and biosolids reuse. At the request of various Board Members, we have included the OCWD's August 2019 PFOA and PFAS Fact Sheet. This is an example of a CEC where the Sanitation District must be engaged helping to explore the science and shape future legislation and regulation to help create practical solutions to real world concerns.

Initiatives to Support Progress Toward the Policy Goal:

Initiative: The Sanitation District will continue to actively engage water and wastewater stakeholders on CECs to stay abreast of the scientific progress and provide timely briefings to the Sanitation District's Management Team and Board to facilitate informed decision making.

Initiative: The Sanitation District will continue to develop capacity to detect, quantify, and characterize CECs throughout the service area and treatment process in order to promote treatment effectiveness and the communication of credible risks.

Initiative: The Sanitation District will actively research laboratory technics and other scientific research to understand the real and potential impact of CECs, like PFAS and PFOA, on the reuse of water and biosolids. The Sanitation District will use science-based knowledge to help shape legislation and regulation to protect the public health and environment.

DRAFT