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EMERGING CONTAMINANTS: THE VIEW FROM CALIFORNIA

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ABSTRACT: For the past decade, managers at publicly owned treatment works (POTWs) and state and federal regulatory agencies have struggled with the issue of how to address the presence of so-called “emerging contaminants” in wastewater. The category of emerging contaminants typically includes a number of chemical compounds, including pharmaceuticals, endocrine disrupters, and common substances like caffeine. These compounds present a difficult set of policy questions to regulators as they seek to determine “safe” levels of the compounds in treated water and, ultimately, in drinking water delivered to the public. From the perspective of POTWs, emerging contaminants present a major question of cost and appropriate standards; treatment methods to ensure that discharges that may serve as source water to downstream water purveyors are expensive, and may not be effective. Recently, due to several court decisions and regulatory initiatives, water purveyors are entering the debate about emerging contaminants. Water purveyors bring a different perspective to the discussion because of their traditional focus on water quantity, rather than water quality, and the often-different set of laws, regulations and institutions that govern water suppliers. From the perspective of water suppliers, the issue of emerging contaminants can often be more difficult to address because of the public’s desire for a guarantee that drinking water does not contain *any* contaminants.

This panel will explore many of the policy issues surrounding emerging contaminants with a group of experienced water managers and attorneys from California, a state where this set of issues is squarely before regulators and the regulated community in a number of different contexts. This panel will include state and local regulatory officials, a local water manager and counsel currently involved in these issues. In a round-table format, we will discuss some of the most difficult policy questions relating to emerging contaminants, including the following:

- Which Chemicals Should Be Regulated? Public resources are limited and the list of emerging contaminants grows daily. How can regulators determine which chemicals might be more detrimental to human health (the better to focus public resources), or should they avoid trying to make such choices? Is this decision fundamentally a scientific choice, an economic decision, a political decision, or some combination of all of these considerations?
- Who Should Make Regulatory Decisions? The question of who should make decisions about which compounds should be regulated is as important as the question of which compounds should be regulated. Should decisions about public risk be made by the more traditional federal, state, and local agencies with regulatory authority over water quality (*e.g.*, U.S. EPA, State water quality agencies), and/or by state/local agencies with oversight or regulatory authority over the use of water (*i.e.*, State agencies that oversee or regulate drinking water standards)? Does the choice of regulatory agency depend on the chemical or the use of water?
- How Do We Identify the Presence of Emerging Contaminants? Many emerging contaminants have only been identified because of the greatly increased sophistication and precision of sampling techniques in the past decade. Measurements to parts per billion or parts per trillion are now commonplace. However, the ability to measure compounds to such levels brings its own set of policy questions, specifically: whether the presence of emerging contaminants at these levels pose any risk, whether regulators can rely on these sampling methods, whether such sophisticated methods are reasonably available to the regulated community, whether the cost of such methods is justified by the risks posed by these compounds, etc.
- Developing Human Health Standards for Emerging Contaminants? Developing human health

standards for emerging contaminants presents a myriad of technical and policy issues, including: quantity and duration of ambient monitoring to develop baseline conditions to initially address necessity of standards development, the appropriate risk factors (*e.g.*, if carcinogenic, 1×10^{-4} 1×10^{-6} ?), interplay between proposed human health standards and commercially recommended dosages (*e.g.*, Tylenol), applicability of standards (end of pipe discharges to sources of drinking water, or end of tap?), feasibility of attaining standards if traditional treatment methods are ineffective, and timeframes for compliance.



Different Standards for Different Types of Waters? In California, a single standard based on human health is applicable for all sources of drinking water. Recent regulatory initiatives (most notably U.S. EPA's proposed rule regarding water transfers), though, would suggest that the quality of certain types of waters either need not be regulated or can be regulated to a lesser degree. These considerations are particularly important in California, where water suppliers increasingly rely on recycled water and groundwater water to meet the needs of a growing population.