Public Comment
Proposed Recycled Water Policy Amendment
Deadline: 6/26/18 by 12 noon

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

*Office of the General Manager*

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SWRCB Clerk

June 26, 2018

Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Dear Ms. Townsend:

**Subject: Comments - Proposed Recycled Water Policy Amendment**

The Metropolitan Water District of Southern California (Metropolitan) appreciates the opportunity to comment on the State Water Resources Control Board's (State Water Board's) proposed 2018 amendments to the Policy for Water Quality Control for Recycled Water (Recycled Water Policy). Metropolitan commends the State Water Board for its effort to update the Recycled Water Policy, which is intended to provide clear guidelines for the safe use of recycled water and consistency in permitting recycled water projects in California.

Metropolitan, in collaboration with 26 member agencies, supplies safe and reliable water to nearly 19 million residents in more than 300 cities and incorporated areas throughout southern California. Metropolitan owns and operates an extensive water system including the Colorado River Aqueduct, 16 hydroelectric facilities, nine reservoirs, 830 miles of large-diameter pipelines and five water treatment plants. Metropolitan supports and provides funds for the development of recycled water projects. Metropolitan established the Local Projects Program in 1982 to provide financial incentives to its member agencies. To date, Metropolitan has provided over $448 million to produce 2.6 million acre-feet of recycled water for non-potable uses and indirect potable reuse. Metropolitan also provides incentives for on-site retrofits to help local agencies convert potable irrigation and industrial water uses to recycled water. Currently, Metropolitan is partnering with the Sanitation Districts of Los Angeles County on a potential regional recycled water program. If implemented, this program would provide a new, in-basin, regional water supply for southern California.

Metropolitan supports water recycling as a way to improve regional self-sufficiency and to meet future needs. The proposed Recycled Water Policy encourages expanding recycled water use in California while remaining protective of public health and the environment. In order to strengthen the proposed policy, Metropolitan offers the following comments:

**Comments**

1. **Remove the proposed *goal* of the Recycled Water Policy to minimize direct discharge of treated municipal wastewater**

   The proposed Recycled Water Policy sets a goal to minimize the direct discharge of treated municipal wastewater to enclosed bays, estuaries, coastal lagoons, and ocean waters, except where necessary to maintain beneficial uses (section 3.1.2). Metropolitan agrees that brine discharges should be excluded from the proposed goal of diverting wastewater discharges. However, while Metropolitan supports expanding recycled water production, we believe that minimizing the direct discharge of treated water to receiving water is an outcome rather than a goal of water recycling. In addition, the goal as stated is too restrictive and does not allow for consideration of local conditions and circumstances in determining to what extent treated wastewater can be beneficially and cost-effectively reused. For example, in order to minimize discharge to the ocean, multiple agencies would have to collaborate to treat, store and distribute the recycled water. Technological, environmental, institutional, and economic constraints may minimize or even eliminate the opportunity for certain utilities to reduce their wastewater discharges. Metropolitan recommends that the State Water Board remove the *goal* of minimizing direct discharge of treated municipal wastewater. Rather, this provision should be added as one of the intents of the policy, included in the purpose statement (section 1) of the proposed Recycled Water Policy.

2. **Do not include the modification of facility operations as a response action based on CEC monitoring and bioanalytical screening results**

   Tables 8 and 10 of Attachment A of the proposed Recycled Water Policy provide recommended thresholds and response actions associated with constituents of emerging concern (CECs) and bioanalytical assay monitoring results. The proposed policy recommends additional actions such as resampling, increased monitoring, source identification, toxicological and engineering studies, and/or modification of facility operations if monitoring results exceed the recommended thresholds. While investigative actions such as additional monitoring and further study may be warranted when thresholds are exceeded, modification of facility operations based on CEC monitoring and bioanalytical screening results is premature. CECs are unregulated contaminants and do not impose compliance requirements on water and wastewater agencies. In addition, in the 2018 "Monitoring Strategies for CECs in Recycled Water" (CEC Monitoring Strategies Report), the CEC Science Advisory Panel concluded that response actions during the initial data collection phase are not appropriate. Metropolitan recommends that the State Water Board remove the response action indicating modification of facility operation based on CEC and bioanalytical assay monitoring results.

**3. Incorporate the three-phased monitoring approach for bioscreening of recycled water, as recommended by the CEC Science Advisory Panel**

Metropolitan agrees with the State Water Board that continued research and additional data are needed to better understand the public health impacts of exposure to a wide range of CECs that may adversely affect public health. Metropolitan agrees that it is important to understand the efficacy of bioanalytical tools in monitoring for CECs in recycled water. However, the two proposed bioassays (estrogen receptor (ER) and aryl hydrocarbon receptor (AhR)) have not been thoroughly validated and standardized. According to the State Water Board's 2016 "Report to the Legislature on the Feasibility of Developing Uniform Water Recycling Criteria for Direct Potable Reuse" (DPR Feasibility Report), there are a number of challenges that need to be addressed before bioassays can be routinely implemented, including extraction procedures, quality assurance and quality control, standardizing methods, false-positives and false-negatives, and interpretation of results relative to human health outcomes. To date, there has not been sufficient progress to adequately address these challenges.

Metropolitan supports the phased monitoring approach recommended by the CEC Science Advisory Panel in the CEC Monitoring Strategies Report. In Phase I, the Panel recommends a collection of bioanalytical screening data for three to five years using the two bioassays (ER and AhR), without imposing response actions. In Phase II, the Panel recommends a pilot evaluation of a decision framework that outlines monitoring trigger levels and response actions based on bioanalytical monitoring results. In Phase III, bioanalytical monitoring would be fully implemented with validated and certified methods for routine monitoring. Metropolitan recommends that the State Water Board incorporate this three-phased approach for bioscreening of recycled water in the Recycled Water Policy.

**4. Develop standardized monitoring and analytical procedures for bioanalytical screening tools prior to imposing mandatory monitoring requirements**

Metropolitan acknowledges the need for establishing a robust monitoring program to understand the impacts of CECs in recycled water. However, routine monitoring using non-standardized and inadequately validated methods may generate unreliable data. For routine monitoring utilizing bioanalytical screening tools, laboratories must have a well-developed quality assurance/quality control program, standardized operating procedures for sample collection and analysis, and standardized and validated analytical methods. Currently, the State Water Board has not published any guidance for laboratories to conduct these analyses. Without clear guidelines and standards, the likelihood of inter-company and inter-assay variability is high. For example, a single bioassay target (e.g., AhR) may be screened by three different laboratories using different cell lines, reporting systems, or assay endpoints, with no measure of how these differences might affect the

results. Since the assays and often the cell lines are proprietary, there is currently little to no standardization across platforms or companies.

The proposed Recycled Water Policy states that laboratories providing analysis of CECs shall be accredited by the Environmental Laboratory Accreditation Program (ELAP), if such accreditation is available. Since accreditation is not yet available, and is unlikely to be available in the near future, the onus for implementation, modification, standards development, and overall QA/QC for non-standardized methods falls on the recycled water utility. Furthermore, there is a risk of lack of comparability between bioassay results between laboratories using pre-accreditation procedures (without having obtained validation through an established accreditation program, e.g., ELAP), versus results obtained after an ELAP accreditation program becomes available. Metropolitan recommends that the State Water Board pursue development of standardized sample collection and analysis procedures before imposing mandatory CEC monitoring and analysis with bioanalytical methods.

**5. Remove antibiotic resistant bacteria and antibiotic resistance genes as a research topic for the CEC Science Advisory Panel report**

Section 10.2 describes additional research needs for CECs and the charge for the Science Advisory Panel to guide these actions. As noted in the proposed Recycled Water Policy, every five years the panel will submit a report that describes the current state of scientific knowledge regarding the risks of CECs to public health and the environment. One of the panel's charges is to provide recommendations regarding antibiotic resistant bacteria and antibiotic resistance genes. Metropolitan agrees that additional research is required to understand the impact of antibiotic resistance but believes it should be pursued outside the water reuse framework and the Recycled Water Policy. Transmission of antibiotic resistance is primarily through direct acquisition of resistant bacteria in the community and health care facilities. Bacteria in the wider environment play a role as well, but they cannot thrive in highly treated wastewater.

The DPR Feasibility Report indicated that combining secondary wastewater treatment with advanced water treatment processes is likely to reduce concentrations of antibiotic resistant bacteria and genes in recycled water to levels that are much lower than those found in conventionally treated drinking water. The DPR Feasibility Report further stated that compared to other known and potential sources, recycled water is not a significant disseminator of antibiotic resistance. Further, the CEC Monitoring Strategies Report indicated that current studies do not attribute antibiotic resistance transmission as a consequence of water reuse. Treatment processes are designed to remove and/or inactivate bacteria. Antibiotic resistant bacteria do not possess any physical properties that make them more adept to survive water treatment processes than their non-resistant counterparts. Therefore, emphasis on the relevance of antibiotic resistance in the context

of CEC monitoring in recycled water is not required. A focus on the efficacy of antibiotic resistance may dilute efforts that should be targeted on other research areas that more directly apply to the protection of public health and the environment. Metropolitan recommends that the State Water Board remove research on antibiotic resistant bacteria and antibiotic resistance genes from the list of topics for the CEC Science Advisory Panel report.

**6. Expand the purpose statement of the proposed Recycled Water Policy to include other forms of wastewater, in addition to municipal sources**

The proposed Recycled Water Policy encourages the safe use of recycled water from municipal wastewater sources and sets a goal of increasing recycled water use to 2.5 million acre-feet per year by 2030. In section 1.1, the purpose of the Recycled Water Policy is indicated as encouraging the safe use of recycled water from municipal wastewater sources. This purpose statement does not include other sources of wastewater for recycled water use, such as wastewater generated from industrial uses including oil and gas production. Expanding the sources of wastewater reinforces the "One Water" concept and further increases California's recycled water production. Metropolitan recommends that the State Water Board expand the purpose statement of the Recycled Water Policy to include other forms of wastewater, in addition to municipal wastewater, as potential sources for recycled water use. A comprehensive graphic or matrix illustrating various sources of wastewater, and the regulatory pathways for their use as recycled water, would help both technical and non-technical stakeholders understand how to safely expand water recycling in California. Graphics as those found in the California Department of Water Resources' (DWR's) 2016 "Municipal Recycled Water – A Resource Management Strategy of the California Water Plan" report may provide a useful template.

**7. Consider agricultural users when tracking statewide recycled water production and usage for meeting California's recycled water goals**

Section 4.3 of the proposed Recycled Water Policy tasks the State Water Board and DWR to track recycled water volume and use in California. To accomplish this task, the State Water Board and DWR will rely on annual recycled water production and use data collected by the State Water Board and the Regional Water Quality Control Boards, and urban water management plans. This section does not include recycled water use by agricultural users. According to the 2012 National Water Research Institute report, "Review of California's Water Recycling Criteria for Agricultural Irrigation", agricultural reuse in California represents approximately 37 percent (or roughly 0.24 million acre-feet per year) of the state's total recycled water use. The report further states that estimated future demand could increase agricultural reuse by a factor of 3.2 to 3.5 times current reuse levels by 2030. To meet the State Water Board's goal of increasing

recycled water use by 2.3 million acre-feet by 2030, it is important that agricultural recycled water use be considered. Further, the State Water Board should ensure accurate accounting for all recycled water use throughout California. Metropolitan recommends that the proposed Recycled Water Policy include provisions to incorporate agricultural recycled water use data, in addition to urban water use, when tracking state-wide recycled water production and use.

**8. Provide funding incentives to expand the development of recycled water projects in California**

The 2013 Recycled Water Policy provided funding incentives and included provisions for the use of State Revolving Funds for water purveyors, stormwater agencies, and water recyclers. However, the proposed amendments to the 2018 Recycled Water Policy omit these funding provisions. As California continues to develop recycled water projects, it is critical that the State Water Board make grants and loans available to provide an opportunity for smaller utilities to retrofit existing plants, when appropriate, to support water reuse applications, or build small-scale demonstration projects for producing recycled water. Metropolitan recommends that the State Water Board retain funding incentives within the proposed policy to further the development of local water infrastructure projects and advance research for new, innovative technologies.

**9. Reference California Environmental Protection Agency (CalEPA) Bill of Rights to streamline the permitting process**

Section 5 of the proposed Recycled Water Policy requires recycled water projects that result in reduced stream flows to comply with Water Code section 1211 requirements for permitting. To comply with Water Code section 1211, the recycled water agencies must coordinate with the State Water Board's Division of Water Rights and Division of Financial Assistance, Regional Water Quality Control Boards, Department of Water Resources, and Department of Fish and Wildlife for permit review and approval. Currently, Water Code section 1211 process does not require regulatory agencies to conduct permit reviews within a specified timeframe. Without clear guidelines, coordination between the agencies could potentially take several years, which would delay the planning, construction, and operation of projects. The CalEPA Bill of Rights provides clear written guidance for making environmental permitting more efficient and less costly. The Bill of Rights establishes a single lead agency for permit review and requires the various approval agencies to establish time limits for permit reviews. This allows a streamlined permitting process and avoids unnecessary delays when seeking to implement a recycled water project. Metropolitan recommends that the proposed policy conforms to the CalEPA Bill of Rights to streamline the permitting process for recycled water projects.

Metropolitan thanks the State Water Board for the opportunity to comment on the proposed amendment to the Recycled Water Policy. We believe that the additions and clarifications noted in our comment letter will result in a well-defined policy that is clear and implementable, while furthering California's potable reuse development in a manner protective of public health.

If you have any questions regarding this comment letter, please feel free to contact me at mchaudhuri@mwdh2o.com or (213) 217-7830.

Sincerely,

Mickey Chaudhuri
Assistant Manager, Water System Operations

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cc: Coffey, Brad
Green, Jim
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