

**STATE WATER RESOURCES CONTROL BOARD  
BOARD MEETING SESSION – DIVISION OF DRINKING WATER  
MARCH 8, 2023**

**ITEM 9**

**SUBJECT**

CONSIDERATION OF A RESOLUTION ADOPTING THE PROPOSED  
PRIORITIZATION OF DRINKING WATER REGULATIONS DEVELOPMENT FOR  
CALENDAR YEAR 2023.

**DISCUSSION**

All public water systems, as defined in Health and Safety Code (HSC) section 116275, are subject to regulations adopted by the U.S. Environmental Protection Agency (U.S. EPA) under the Safe Drinking Water Act of 1974, as amended (42 U.S.C. 300f et seq.), as well as by the State Water Resources Control Board (State Water Board) under the California Safe Drinking Water Act (Health & Safe. Code, § 116270 et seq.).

California has been granted primary enforcement responsibility (primacy) by U.S. EPA for public water systems in California. Federal laws and regulations require that California, in order to receive and maintain primacy, promulgate regulations for California that are no less stringent than the federal regulations. In addition, HSC section 116270 states California's legislative intent is to establish a program more protective of public health than minimum federal requirements.

The State Water Board is tasked with adopting drinking water regulations and recycled water regulations associated with the protection of public health. These regulations include primary drinking water standards (e.g., maximum contaminant levels (MCLs) or treatment techniques), monitoring and reporting requirements, and any other standards related to providing safe drinking water (e.g., operator requirements, design standards, primary and secondary drinking water standards, pipe separation standards, etc.).

**Establishing Priorities for Regulatory Development Work**

The prioritization of the regulatory development work depends on several factors, including:

1. The enhancement of public health achieved by new or revised regulatory requirements or MCLs;
2. New or revised federal drinking water regulations (MCL, treatment technique addressing a specific contaminant or other requirement);
3. Any statutory mandate to adopt a regulation within a specific timeframe; and

4. Other priorities and staffing resources available for the development and implementation of regulations.

## **Evaluation of Current Priorities for Regulatory Development**

### **1. Maximum Contaminant Levels**

#### **a. Chromium (hexavalent)**

Chromium (hexavalent) is a naturally occurring element found in soil and mineral deposits that can also be produced by industrial processes. The soluble hexavalent form of chromium is relatively toxic, while the less-soluble trivalent form has lower toxicity and is a required nutrient. In 2001, legislation directed the Department of Health Services to commence the process for adopting an MCL for hexavalent chromium. The Office of Environmental Health Hazard Assessment (OEHHA) subsequently issued a public health goal (PHG) of 0.02 µg/l, based on small intestine cancer, and a noncancer health protective value of 2 µg/l, based on liver toxicity. In August 2013, the California Department of Public Health (successor to California Department of Health Services) proposed an MCL of 10 µg/l, which became effective on 1 July 2014. On 31 May 2017, the Superior Court of Sacramento County invalidated the 2014 hexavalent chromium MCL for drinking water. The MCL for hexavalent chromium was deleted from the California Code of Regulations 11 September 2017 and is no longer in effect. State Water Board staff have been working to re-establish an MCL for hexavalent chromium. An economic feasibility white paper was issued for public comment in March 2020, with a public workshop held in April 2020. Preliminary occurrence data and treatment cost estimates were released in October and November 2020, with public workshops on the cost estimates held in December 2020. A California Environmental Quality Act (CEQA) scoping meeting was held in November 2021. External scientific peer reviewer comments on proposed best available technologies were made available to the public in January 2022, a pre-rulemaking notice of opportunity to comment was issued in March 2022, and public workshops were held in April 2022. In December 2022, as required for major regulations, a standardized regulatory impact assessment was submitted to the Department of Finance for review and comment, with comments received in January 2023. Publication of a notice of proposed rulemaking is projected for March 2023.

#### **b. Arsenic**

Arsenic is a naturally occurring element found in soil and mineral deposits, wood preservatives, sealed ant bait, agricultural pesticides and feed additives, and industrial products such as pyrotechnics, antifouling paints, pharmaceutical compounds, dye and soaps, ceramics, alloys, and battery plates. The current arsenic MCL and DLR are 10 µg/l and 2 µg/l, respectively. OEHHA has issued a PHG of 0.004 µg/l, based on bladder cancer, and a noncancer health protective value of 0.9 µg/l, based on

cerebrovascular disease. U.S. EPA has established an arsenic maximum contaminant level goal (MCLG) of zero.

**c. PFOA and PFOS**

Perfluoro-octanoic acid (PFOA) and perfluoro-octane sulfonic acid (PFOS) are part of a group of chemicals known as per- and polyfluoroalkyl substances (PFAS) that have been manufactured since the 1940s and used in industrial and consumer products such as fire-fighting foam, nonstick cookware, food packaging, and stain- and water-repellant household products. The Division of Drinking Water (DDW) issued interim notification and response levels for PFOA and PFOS in July 2018. In August 2019, based on a recommendation from the OEHHA, DDW updated the notification levels and requested that OEHHA develop public health goals for these compounds. In February 2020, DDW lowered the response levels for PFOA and PFOS, requested that OEHHA prepare PHGs for PFOA and PFOS, and requested that OEHHA consider making notification level recommendations for seven other PFAS compounds found through water system monitoring. OEHHA issued draft PHGs for PFOA and PFOS on 22 July 2021 and closed the corresponding public comment period on 28 October 2021. DDW continues to investigate the extent of contamination of these and other PFAS materials in drinking water sources throughout the state. This information will be used to determine whether DDW should request OEHHA to develop PHGs for additional PFAS compounds.

**d. NDMA**

N-nitrosodimethylamine (NDMA) is formed during disinfection of water and wastewater and was formerly used in rocket fuel production. While there is currently no state or federal MCL for NDMA, there are notification and response levels of 0.01 µg/l and 0.3 µg/l, respectively. The current NDMA PHG was issued in 2006, and is set at 0.003 µg/l, based on carcinogenicity.

**e. Disinfection Byproducts**

Disinfection byproducts (DBPs) are formed when disinfectants react with naturally-occurring materials in the water to form byproducts, including trihalomethanes (THMs), haloacetic acids (HAA5), chlorite, and bromate. The California currently regulates THMs under an MCL of 80 µg/l for the sum of bromoform, chloroform, dibromochloromethane, and bromodichloromethane. Haloacetic acids are currently regulated under an MCL of 60 µg/l for the sum of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid. OEHHA revised the THM public health goal in February 2020, establishing individual PHGs for each of the component trihalomethanes, based on cancer effects. In December 2022, OEHHA established its first PHGs for haloacetic acids, based on muscular degeneration for monobromoacetic acid, systemic toxicity for monochloroacetic acid, and carcinogenicity for dichloroacetic acid, trichloroacetic acid, and dibromoacetic acid.

**f. Styrene**

Styrene is an organic chemical that is widely used to make rubber and plastics. The current styrene MCL and DLR are 100 µg/l and 0.5 µg/l, respectively. OEHHA has issued a PHG of 0.5 µg/l, based on carcinogenicity, and identified a noncancer health protective value of 4 µg/l. U.S. EPA's MCLG for styrene is 100 µg/l.

**g. Cadmium and Mercury**

Cadmium is a naturally occurring element found in soil and mineral deposits, metal plating discharges, runoff from waste batteries, plastic pigments, and galvanized pipe corrosion. The current cadmium MCL and DLR are 5 µg/l and 1 µg/l, respectively. OEHHA has issued a PHG of 0.04 µg/l, based on kidney toxicity. U.S. EPA's MCLG for cadmium is 5 µg/l. Mercury is a naturally occurring element found in soil and mineral deposits, refinery and factory discharges, and landfill and cropland runoff. The current mercury MCL and DLR are 2 µg/l and 1 µg/l, respectively. OEHHA has issued a PHG of 1.2 µg/l based on kidney toxicity.

**2. Direct Potable Reuse (DPR)**

Under the provisions of Assembly Bill 574 (AB 574), the State Water Board is required to adopt uniform water recycling criteria for direct potable reuse through raw water augmentation by December 31, 2023. AB 574 requires that the State Water Board convene an expert panel to review the proposed criteria and adopt a finding as to whether, in its expert opinion, the proposed criteria would adequately protect public health. The expert panel presented its preliminary findings and recommendations on the draft DPR criteria in a June 2022 Memorandum of Findings. Notice of proposed rulemaking publication is projected for spring 2023.

**3. Water Quality Standards for On-Site Treatment and Reuse**

Effective 1 January 2019, Article 8 was added to Chapter 7 of Division 7 of the Water Code (13558 et seq.), requiring the State Water Board, on or before December 1, 2022, to adopt regulations for risk-based water quality standards for the on-site treatment and reuse of non-potable water for non-potable end uses in multi-family residential, commercial, and mixed-use buildings. This work is currently underway. Targeted stakeholder outreach has commenced, with a notice of proposed rulemaking tentatively planned for publishing in late spring 2023.

**4. Recycled Water Regulations**

Assembly Bill 1180 amended the Water Code section 13521.2 to require the State Water Board, on or before 1 January 2023, to update the uniform statewide criteria for nonpotable recycled water uses. The update is to incorporate by reference the criteria and applicable backflow protection provisions that are contained in the Cross-Connection Control Policy Handbook. The regulations that pertain to nonpotable recycled water uses have not been updated since 2000. This work is

currently underway, with a Notice of Proposed Rulemaking issuance tentatively planned for early spring 2023.

## **5. Cross-Connection and Backflow Protection Control Regulations**

Assembly Bill 1671 added section 116407 to the Health and Safety Code and requires that on or before January 1, 2020, the State Water Board adopt standards for backflow protection and cross-connection control and authorizes the State Water Board to do so through the adoption of a policy handbook. Public workshops were held on 27 April 2021 and 5 December 2022. Board adoption consideration is anticipated in late 2023.

## **6. Lead and Copper Rule Revision**

U.S. EPA promulgated final revisions to the Lead and Copper Rule (LCRR) on January 15, 2021. On June 10, 2021, U.S. EPA extended the effective date of the LCRR to December 16, 2021 and made the compliance deadline October 16, 2024. The State Water Board will have two years to promulgate its own regulations and seek primacy for the new rule, unless an extension is requested. U.S. EPA intends to further revise the LCR by late 2024 in a Lead and Copper Rule Improvements (LCRI) rulemaking. Staff have been participating in national implementation workgroups and focusing on the following priority work:

### **a. Lead and Copper Rule Revision**

DDW is working to identify and develop potential additional changes to the new federal regulatory requirements to increase public health protection and harmonize the new federal regulations with California's existing statutes on lead. The revisions could include elements such as proactive lead service line replacement programs, additional public education and outreach, additional monitoring, and a lower action level.

### **b. Lead and Copper Rule Improvements**

In the LCRI, U.S. EPA intends to explore and propose changes to the following components of LCRR; lead service line replacements, tap sampling methods, action and trigger levels, small system flexibility, school and child-care sampling, and corrosion control treatment. U.S. EPA will also take additional actions to ensure equitable distribution of funding to reduce lead in drinking water, to improve risk communication, to support water systems through guidance and tool development, and to discourage partial lead service line replacements.

### **c. Assistance to Department of Social Services for Daycare Regulations**

AB 2370 (Chapter 676, Statutes of 2018) added section 1597.16 to the Health and Safety Code, requiring licensed child day care centers located in buildings constructed before 2010 to conduct initial sampling of drinking water for lead contamination between January 1, 2020 and January 1, 2023, and to repeat lead sampling every five years from the date of the initial test. The analytical results of these tests must be submitted electronically to the State Water Board. If the

results show elevated levels of lead, the State Water Board must report to the results to the Department of Social Services (DSS).

## **7. Detection Limits for Purposes of Reporting (DLR)**

DDW is continuing work to evaluate potential for reporting to concentrations closer to PHGs, beginning with metals. As lower reporting levels are determined to be feasible, staff proposes revising DLRs to allow occurrence data collection to better inform the MCL review process. A preliminary proposal based on the results of surveys of California Environmental Laboratory Accreditation Program (ELAP) certified laboratories was presented at a November 2022 workshop. Staff anticipate publication of a notice of proposed rulemaking for new or revised metal DLRs in spring 2023. Laboratory surveys regarding costs and capabilities for analysis of organic compounds are expected to start in summer 2023.

## **8. Primacy Package Approvals**

California has a backlog of primacy packages demonstrating that California drinking water regulations and program administration are no less stringent than federal requirements, with some dating back to pre-1997. DDW is coordinating with U.S. EPA to reduce the backlog. U.S. EPA Region 9 has provided formal comments on submitted primacy packages for its Consumer Confidence Report, Public Notification, and Groundwater rules describing needed changes in primacy applications. Proposed revisions to the Public Notification Rule are projected to be released in spring 2023 as part of a package of minor revisions.

## **9. Electronic Reporting of Drinking Water Quality Data**

DDW is developing revised regulations requiring electronic submittal of drinking water analytical results to be reported in a format compliant with U.S. EPA's Cross Media Electronic Reporting Regulation (CROMERR). The proposed regulations would revise the format and form for reporting electronically delivered water quality data. Proposed revisions to the existing regulation are projected for State Water Board consideration in spring 2023.

## **10. Notification and Response Levels**

### **a. Harmful Algal Bloom**

Harmful algal blooms—and the cyanotoxins they produce—are overgrowths of algae caused by a combination of sunlight, slow-moving water, and nutrients. In February 2021, DDW requested that OEHHA develop notification level recommendations for the cyanotoxins microcystins and cylindrospermopsin and assess data for anatoxin-a and saxitoxins, and make notification level recommendations if warranted. In May 2021, OEHHA provided recommendations for a short-term exposure anatoxin-a notification level, interim short-term exposure notification levels for microcystins, and cylindrospermopsin, and an interim acute (less than one day) exposure for saxitoxins. In June 2022, OEHHA provided notification level recommendations for anatoxin-a,

microcystins, and cylindrospermopsin based on acute exposure. Proposed notification and response levels for anatoxin-a, microcystins, and cylindrospermopsin are projected for spring 2023, with analytical method validation for saxitoxins underway.

#### **b. Manganese Update**

Manganese is a naturally occurring element found in soil and mineral deposits. California currently has a secondary maximum contaminant level of 50 µg/l based on consumer acceptance, and notification and response levels of 0.5 mg/l and 5 mg/l, respectively. Manganese is known to cause neurotoxicity, with recent studies indicating it as a developmental toxin. DDW provided notice of proposed revised notification and response levels of 20 µg/l and 200 µg/l, respectively, on 16 February 2023, with an informational item scheduled for the 21 March 2023 Board meeting.

#### **c. PFAS**

Per- and polyfluoroalkyl substances (PFAS) are a group of chemicals manufactured since the 1940s and used in industrial and consumer products such as fire-fighting foam, nonstick cookware, food packaging, and stain- and water-repellant household products. California has established notification and response levels for perfluoro-octanoic acid (PFOA), perfluoro-octane sulfonic acid (PFOS), perfluoro-butane sulfonic acid (PFBS), and perfluoro-hexane sulfonic acid (PFHxS) and has requested notification level recommendations for an additional five PFAS compounds. Adverse health effects associated with PFAS vary widely across the chemical group.

### **11. Quinquennial Maximum Contaminant Levels Review**

HSC subsections 116365(a) and (b) require the State Water Board to set primary drinking water standards as close to the corresponding public health goal (PHG) as technically and economically feasible, placing primary emphasis on the protection of public health.

HSC 116365(g) requires review of each primary drinking water standard at least once every five years. If changes in technology or treatment techniques permit materially greater protection of public health, the State Water Board must amend the standard. Existing MCLs were last reviewed in 2018. The results of that review are available at the State Water Board's [MCL Review Process webpage](#).

In conducting the 2018 review, staff found that detection limits for purposes of reporting (DLRs) at concentrations greater than the corresponding PHGs limits the ability to evaluate public exposure to contaminants at concentrations greater than the PHG but less than current DLR, hindering evaluations of whether it is technologically feasible to establish MCLs closer to the PHGs. Thirty-three current MCLs have associated DLRs set at concentrations greater than their corresponding PHGs. A discussion of proposed work on lowering DLRs for metals is provided above.

In February 2020, OEHHA issued final revised PHGs for individual trihalomethanes bromoform, chloroform, bromodichloromethane, and dibromochloromethane. Final PHGs for five haloacetic acids—monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid (collectively, HAA5)—were issued in December 2022. Both trihalomethanes and haloacetic acids are disinfection byproducts; MCL revisions for all nine of these contaminants will likely be grouped for concurrent, coordinated development in 2023/2024. Draft PHGs for PFOA and PFOS were issued in 2021 and expected to be finalized soon. A draft 1,4-dioxane PHG is also expected to be issued for public comment in 2023.

## **12. Financial Assurances**

HSC 116375(g) requires the State Water Board to develop regulations for minimum acceptable financial assurances that a public water system shall be required to submit as a demonstration of its capability to provide for the ongoing operation, maintenance, and upgrading of the system, including compliance with monitoring and treatment requirements and contingencies. DDW is engaged in preliminary data gathering to support regulation development.

### **POLICY ISSUE**

Should the State Water Board adopt the proposed resolution setting priorities for and guiding staff development of regulations?

### **FISCAL IMPACT**

There is no fiscal impact and no funds are being requested.

### **REGIONAL BOARD IMPACT**

None.

### **STAFF RECOMMENDATION**

The State Water Board should adopt the proposed Resolution.