



RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: JUNE 24, 2024

SUBJECT: REGULATORY UPDATE ON PER- AND POLYFLUOROALKYL SUBSTANCES, HEXAVALENT CHROMIUM, THE LEAD AND COPPER RULE REVISION, AND THE CONSUMER CONFIDENCE REPORT

ISSUE:

Consider receiving a regulatory update on Per- and Polyfluoroalkyl Substances, Hexavalent Chromium, the Lead and Copper Rule Revision, and the Consumer Confidence Report.

RECOMMENDATION:

That the Board of Public Utilities receive a regulatory update on Per- and Polyfluoroalkyl Substances, Hexavalent Chromium, Lead and Copper Rule Revision, and the Consumer Confidence Report.

BACKGROUND:

Per-and Polyfluoroalkyl Substances

Per- and Polyfluoroalkyl Substances (PFAS), also known as “forever chemicals” due to their persistence in the environment, are a large group of synthetic organic chemicals designed to repel oil and water. PFAS have been found to bioaccumulate in living organisms, which has the potential to cause adverse effects on human and ecological health. In October 2019, the RPU Board of Public Utilities approved a Study to evaluate PFAS as an emerging contaminant. On May 23, 2022, the RPU Board received and filed an update on PFAS and the developing regulatory limits. On November 14, 2022, staff updated the RPU Board on the results of a demonstration PFAS removal study at the Palmyrita Treatment Plant. Lastly, on April 24, 2023, the RPU Board received an extensive update on the proposed regulations and the results from RPU’s PFAS study that HDR completed, identifying treatment options and costs.

On April 10, 2024, the Environmental Protection Agency (EPA) finalized a National Primary Drinking Water Regulation establishing legally enforceable levels, called Maximum Contaminant Levels (MCLs), for six PFAS in drinking water. They are perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorohexane sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), and hexafluoropropylene oxide dimer acid (HFPO-DA, also known as Gen X). In addition, the EPA established a Hazard Index MCL for PFHxS, PFNA, HFPO-DA, and perfluorobutane sulfonic acid (PFBS) to account for mixtures containing two or more of these substances. The EPA also finalized health-based, non-enforceable Maximum Contaminant Level Goals (MCLGs) for these substances. MCLGs are non-enforceable public health goals, which are

the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of a persons would occur. For carcinogenic chemicals, the EPA sets the MCLG at zero if there is evidence that a chemical may cause cancer and there is no dose below which the chemical is considered safe.

Table 1. Federal Regulatory Levels for PFAS

Compound	Final Maximum Contaminant Level Goal (MCLG)	Final Maximum Contaminant Level (MCL)
PFOA	Zero	4.0 ppt
PFOS	Zero	4.0 ppt
PFHxS	10 ppt	10 ppt
PFNA	10 ppt	10 ppt
HFPO-DA (Gen X)	10 ppt	10 ppt
Mixture of two or more: PFHxS, PFNA, HFPO-DA, and PFBS	Hazard Index of 1	Hazard Index of 1

Note: PFBS Health-based water concentration = 2,000 ppt

Under the EPA's PFAS MCL, water systems will be required to conduct initial and ongoing compliance monitoring. In addition, water systems will have five years to comply with the MCL. Compliance will be based on a running annual average calculation derived from sample results. Water systems must issue public notifications if PFAS levels in drinking water violate the MCL.

California is still developing its own PFAS MCLs and has established Notification and Response Levels for PFOA, PFOS, PFBS, and PFHxS. Notification Levels are health-based advisory levels established by the Department of Drinking Water for chemicals in drinking water that lack an MCL, while a Response Level is a level at which DDW recommends removing a drinking water source from service.

In addition to finalizing the PFAS MCL, on April 19, 2024, the EPA designated PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLA, commonly known as Superfund, was enacted in 1980 and was established to hold polluters accountable and to address cleanup and hazardous sites and releases. By adding PFOA and PFOS, the EPA will have greater regulatory authority in addressing these constituents. In addition, the EPA also released a memorandum stating that the EPA does not intend to pursue entities where equitable factors do not support seeking response actions or costs under CERCLA, including but not limited to community water systems and publicly owned treatment works and other publicly owned infrastructure. This is relevant because when PFAS is found to occur within a water system, the system inadvertently could become responsible, including when PFAS are removed and hauled offsite through common treatment removal practices associated with Granular Activated Carbon (GAC) and Ion Exchange (IX). The memorandum reinforces that the EPA intends to refrain from pursuing water systems with PFAS concentrations.

Hexavalent Chromium

Hexavalent Chromium (Cr6) is a heavy metal that has been used in industrial applications and found to occur naturally throughout the environment. While chromium can exist in a nontoxic, trivalent form, the hexavalent form has been shown to be carcinogenic and toxic to the liver. On April 17, 2024, the State Water Resources Control Board adopted the proposed MCL of 10 parts per billion (ppb). The rule now must be filed and approved by the Office of Administrative Law before becoming final.

Initially, the California EPA Office of Environmental Health Hazard Assessment established a Public Health Goal (PHG) for Cr6 in 2011 at 0.02 ppb. In 2014, the State approved an MCL for Cr6 at 10 ppb. However, shortly after, the State was sued, and the MCL was invalidated because the court found that the regulation failed to properly consider the economic feasibility of complying with the MCL. The State ultimately re-evaluated the rule by conducting the necessary studies to conclude that the proposed MCL of 10 ppb is feasible and necessary to protect public health..

Lead and Copper Rule Revision

The EPA issued the Lead and Copper Rule (LCR) in 1991 to limit the amount of lead and copper allowed in public drinking water. On December 16, 2021, the EPA finalized the Lead and Copper Rule Revisions (LCRR), strengthening the LCR to protect families and communities better. The LCRR requires water systems to develop an inventory of service line materials connected to the public water distribution systems. The service line inventory will identify material on both the utility-owned portion of the service line (from the water main to the meter) and the customer-owned portion (from the meter to the building inlet). By October 16, 2024, RPU must post a public-facing inventory map that shows the Utility's findings. RPU will notify customers if their service lines are suspected to contain lead.

Consumer Confidence Reports

Per Health & Safety Code §116470 and California Code of Regulations, Title 22, Article 20, public water systems with more than 10,000 service connections must prepare an annual Consumer Confidence Report (CCR). The report provides customers with water quality results and information about their water systems. The report must be distributed to consumers by July 1st of each year. RPU's CCR will be published by the July 1st deadline and will show results from the compliance testing we completed, in addition to results from the EPA's Unregulated Contaminant Rule (UCMR), which includes a list of unregulated constituents selected by the EPA.

DISCUSSION:

PFAS

Of the PFAS constituents being regulated, PFOS is the driving constituent that may cause an exceedance under the new MCL if not addressed. In addition, PFOS treatment will also be effective in removing other regulated, co-occurring PFAS. Of the 45 potable wells RPU operates, 33 have had PFOS concentrations detected at or greater than 4 ppt. Fortunately, RPU has treatment technologies that assist in addressing PFAS and other constituents before entering the distribution system. Based on data from our 2023 CCR, on average, PFOS was not detected in our system. However, we did detect a maximum PFOS concentration of 4.3 ppt. Under the new MCL, compliance has been maintained because the running annual average is below 4ppt. Our highest PFOS detection was 5.9 ppt in 2021.

Additional treatment is necessary to provide flexibility and maintain compliance should well(s) go offline for maintenance or repairs and to meet increased seasonal demand. RPU Staff have been working diligently to identify the best possible treatment options to meet RPU's current and future compliance needs while keeping costs low and ensuring the treatment systems can be in place within five years. Ultimately, we anticipate that treatment systems will need to be in place for our main groundwater pumping areas, Waterman, Gage, Riverside North, and North Orange, to achieve reliability during water supply line maintenance or repair. Currently, staff are vetting three treatment options that would add treatment to the Gage and North Orange Supply mains, and staff will be coming back to the RPU Board to explain these options in more detail once vetting is

complete.

In addition to finalizing the PFAS planning efforts, we continue to work with the City Attorney's Office and outside counsel to pursue legal efforts to recoup compensation from PFAS manufacturers. The estimated long-term treatment cost for RPU alone to comply with the newly adopted Federal MCL ranges from \$250 to \$350 million, which is not currently considered in the current five-year rate plan.

Cr6

When the first Cr6 MCL was proposed, RPU monitored its groundwater wells and compliance points. Cr6 concentrations were generally found to occur at 2.2 ppb, with a maximum detection of 2.7 ppb. These samples were representative of 2014 to 2018. The Cr6 detected in RPU's sources is likely a naturally occurring element in the groundwater basins. Once the Office of Administrative Law adopts the MCL, RPU will begin collecting the required samples, and these results will be published in our annual CCR. However, since we have no requirements to sample for Cr6, there will be no Cr6 results reported in our 2023 CCR.

LCRR

RPU has participated in the triennial lead and copper sampling and has remained under the 90th percentile action levels of 15 ppb for lead and 1,300 ppb for copper. Our last round of sampling was conducted in 2022, resulting in a 90th percentile value of 2.3 ppb for lead and 520 ppb for copper. Since these metals are typically introduced within the service lines or the materials utilized within the customers' homes, first draw water samples are collected from residence household water fixtures after 6-8 hours of non-use.

In addition to sampling requirements, the State Water Resources Control Board (SWRCB) has also required Public Water Systems to conduct a service line inventory. On May 29, 2018, RPU completed an inventory of the utility-owned lines and had no reported lead service laterals.

Under the LCRR, we are to inventory all service laterals regardless of ownership and produce a public-facing map. The map will show the utility and customer-owned service lateral material categorized as Lead, Galvanized Requiring Replacement (GRR), Non-Lead, or Lead Status Unknown. RPU published a Lead Awareness webpage on January 31, 2024, to inform the public of the program. RPU will add the inventory map to our webpage before the deadline at the following web address: <https://riversideca.gov/utilities/residents/our-water/lead-awareness>.

On December 20, 2023, SWRCB approved our proposed methodology for categorizing our service laterals. At the time of this approval, it was estimated that RPU had 41,530 unknown service laterals, and a randomized sampling with a 95% confidence interval would result in field verification of 3,297 service laterals. Some of the criteria the SWRCB is allowing us to use are outlined below.

Table 2. Criteria for Classifying Unknown Service Line Material as Non-Lead

Criteria	Reasoning
Any pipe (4) inches and greater in diameter, regardless of building age or installation date will be classified as non-lead	Lead pipe was typically installed in smaller service line diameters. RPU will classify service lines (4) inches and greater as non-lead
Service lines installed after January 1, 1986, will be classified as non-lead	In 1986, California implemented a lead ban; pipe, solder, and flux was required to be "lead-free"
Assumes customer lateral is no larger or smaller than 1/2-inch of the utility service lateral (diameter)	Best practices

Under SWRCB’s approval, RPU will separate remaining unknown laterals into 11 subgroups based on installation dates and then use a stratified random sample method to identify 3,297 service laterals for a two-point inspection at the meter and the building inlet. If no lead pipes are found, the remaining unknown service lines will be categorized as non-lead. As part of the customer outreach effort, postcards were sent out to notify customers whose properties were to be included in the stratified random sample inspection locations.

RPU’s statistical approach provides 95% confidence with a plus or minus 5% margin of error that each subgroup of the total population of unknown service laterals would result in similar findings had RPU inspected the entire unknown service lateral population. As of the end of April 2024, field investigations are about 90% complete, and no lead pipes have been found.

Before the LCRR, the SWRCB required K-12 public schools to complete lead sampling at up to five drinking faucets or kitchen sinks per location in conjunction with their local water agency. From 2017 to 2019, all required schools completed sampling and remedial action plans where necessary. Of the 63 schools, three drinking fountains had action-level exceedances. The schools notified their respective populations, the fixtures were replaced, and samples collected after fixture replacement were non-detectible.

Under the LCRR, public water systems will be required to sample 20% of elementary schools and licensed childcare facilities each year for the next five years and upon request afterward. Facilities built or that have replaced all plumbing after January 1, 2014, are exempt. Samples must be collected after a stagnation period and before any use. This requires much coordination from our water quality staff, facility maintenance staff at each location, and our contract laboratory.

CCR

The CCR will be distributed before July 1, 2024, as required, and with these changing regulations, it may prompt more questions than usual. Our results are in line with historical data. Cr6 is not required to be sampled or reported in the 2023 calendar year. PFAS has been sampled, results have remained under the SWRCB notification and response levels, and RPU plans to comply with the EPA MCLs by the five-year compliance deadline. RPU will update lead information on our website in October and conduct public outreach to inform our customers. RPU water continues to meet or exceed the State and EPA MCLs.

STRATEGIC PLAN ALIGNMENT:

This item contributes to Strategic Priority No. 4, Environmental Stewardship and Goal 4.2 - Sustainably manage local water resources to maximize reliability and advance water reuse to ensure safe, reliable, and affordable water to our community.

The item aligns with EACH of the five cross-cutting threads as follows:

1. **Community Trust** – Transparency in our water quality data and regulations builds community trust.
2. **Equity** – RPU’s water supply is blended prior to entering the distribution system, all customers receive the same quality of water.
3. **Fiscal Responsibility** – RPU is analyzing new regulations and water quality data to assess how to move forward in a fiscally responsible manner.

4. **Innovation** – RPU is engaged with AWWA and ACWA regulatory workgroups to stay up to date with changes in regulations and treatment technologies.
5. **Sustainability & Resiliency** – RPU is striving to manage our groundwater supplies in a sustainable manner.

FISCAL IMPACT:

There is no fiscal impact with this informational update.

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Attachment:

1. 2023 CCR
2. Presentation