Memorandum

To: Erik Helm, EPA

From: Bree Seiler and Jerry Stedge, ICF

Date: April 29, 2024

Re: Discussion of lead filter capacity in response to concerns that demand for filters will outpace production and lead to supply challenges.

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1 Introduction

The Lead and Copper Rule Improvements (LCRI) would require water systems to supply either point-of-use (POU) filters or pitcher filters to their customers in specific situations, such as when a system has multiple action limit exceedances (ALEs) or during service line disturbances.[1] In response to this requirement some commenters expressed concern over industry capacity to meet the increased demand for lead filters. This memorandum responds to these concerns citing predictions of a growing water filtration market and state water filter programs.

2 Addressing Capacity Concerns

2.1 A Growing Water Filtration Market

Multiple sources expect the water filtration market to expand over the next few years (Fortune Business Insights, Accessed 2024; Razgaitis, 2023). Precedence Research estimates that the global water filter market will nearly triple in size over the next 10 years, reaching an estimated $120.38 billion by 2032, with a compound annual growth rate of 10.79% (Razgaitis, 2023). The factors driving growth include advances in purification processes, consumer preferences, such as re-mineralization to enhance taste, self-cleaning features, and rising awareness of the harms of single use plastic water bottles (Razgaitis, 2023).

2.2 The Denver Lead Reduction Program

Denver Water sought and received special permission from the EPA to implement the Lead Removal Plan (LRP) as a holistic alternative to using orthophosphate for corrosion control

[1] A point-of-use device filters water directly from a single fixture, outlet, or tap, while a pitcher filter refers to a non-plumbed device consisting of a filtration cartridge and a filtered drinking water reservoir.

(Denver Water, 2023).[2] Under the LRP, Denver Water pledged to remove all customer-owned lead service lines (LSLs) by 2035 (Harvard School of Public Health, 2024). Additionally, since LSL disturbance can cause short term spikes in lead exposures, Denver implemented a filter program under the LRP (Harvard School of Public Health, 2024). The filter program uses an equity-based prioritization model and community partnerships to supply and distribute filters to eligible families. Specifically, the filter program:

1. Determines priority areas to receive filters and educational materials based on LSL inventory data and the prioritization model,
2. Mails filter kits and replacement cartridges to residents,
3. Tracks the consumer adoption rate through surveys; and
4. Promotes the filter program through Denver Water and community partners (Harvard School of Public Health, 2024).

The filter program has an estimated total cost of $33-48 million and is funded by a combination of sources including water rates, bonds, new service fees, hydropower generation, loans, and grants (Harvard School of Public Health, 2024).

A pilot of the program began in the summer of 2019 and supplied 300 ZeroWater filter pitcher kits and educational materials by mail and door-to-door delivery. Survey results find that 67 percent of the participants filtered their water for drinking and cooking (Harvard School of Public Health, 2024). Given the success of the program Denver Water kicked off the full program in 2020, with some revisions including entering a 3-year contract with Brita to supply lead filters. Denver Water explained that they decided to use Brita filters over ZeroWater filters to reduce costs, provide longer lasting filter cartridges, and limit fluoride removal (Harvard School of Public Health, 2024).

Denver Water estimates that nearly 100 thousand households participate in the program with a calculated filter adoption rate of 80 percent. Surveys indicate that 93 percent of households filter their drinking water with filters provided by Denver Water while 68 percent report using filtered water for cooking (Harvard School of Public Health, 2024). ICF did not find evidence that Denver Water faced challenges supplying filters to residents.

[2] The Colorado Department of Public Health and Environment (CDPHE) designated orthophosphate as the optimal corrosion control treatment in 2019 and ordered Denver Water to install and operate this corrosion control treatment by March 20, 2020 (Denver Water, 2023). However, concerns over the harmful ecological effects to Colorado's rivers and streams from additional phosphorus loadings prompted Denver Water to pursue a variance request (Denver Water, 2023).

2.3 Filter First Bills

Other states are also turning towards filters to reduce lead levels in drinking water. In Michigan, the Filter First bills require all schools and childcare centers in Michigan to:

1. Develop a Drinking Water Management Plan (DWMP),
2. Install filters on fixtures used for drinking water; and
3. Test filtered water for lead (MI EGLE, Accessed 2024).

To implement this program statewide NRDC estimates it would cost schools $54 million in the first year and $166 million over 10 years.[3] In comparison NRDC estimates that it would cost schools $80 million in the first year and $497 million over 10 years to test and replace fixtures containing led (NRDC, Accessed 2024). Advocates of this rule argue that Filter First offers schools a cheaper alternative to addressing lead in school drinking water. Schools are expected to complete their DWMPs by January 24th, 2025 and have approved filters on all drinking water sources by the end of the 2025-2026 school year (MI EGLE, 2024). Since the program has not been implemented yet, ICF did not find evidence of schools facing filter supply challenges.

[3] Assuming each school installs and monitors one filtered drinking water station for every 100 students and staff and for schools with less than 50 students and staff at lease five taps would be equipped with POU filters.

3 References

Denver Water. (2023). *Denver Water Lead Reduction Program: Semi-Annual Report - 2023*. Retrieved from https://www.denverwater.org/sites/default/files/lead-reduction-program-semi-annual-report-2023.pdf

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