



City of Brighton
Utilities
500 South 4th Avenue
Brighton, CO 80601
www.brightonco.gov

To: City of Brighton City Council and Utility Customers
From: City of Brighton Utilities Department
Subject: Statement of Brighton Water Fluoridation
Date: Monday, February 10, 2025

City Council and Brighton Utility Customers,

Following the recent federal court ruling regarding fluoride levels in drinking water, I wanted to provide an update on its potential impact on our operations. The court has directed the Environmental Protection Agency (EPA) to reassess fluoride regulations due to concerns about potential neurodevelopmental effects at certain exposure levels. While no immediate regulatory changes have been enacted, this may lead to future adjustments in federal fluoride standards.

Historically, the U.S. Public Health Service (USPHS) recommended fluoride concentration ranging from 0.7 to 1.2 mg/L, adjusted for regional temperature variations. Cooler climates would have a higher fluoride concentration to compensate for lower water consumption and warmer climates would have lower fluoride concentration to prevent overexposure due to increased water consumption. In 2015, the USPHS updated its recommendation, replacing the temperature-based range 0.7–1.2 mg/L with a single optimal level of 0.7 mg/L. This revision was based on modern research showing that 0.7 mg/L provides sufficient cavity prevention while minimizing the risk of dental fluorosis in an era where fluoride exposure from other sources (i.e. toothpaste, food, beverages) has increased.

It is important to note that the optimal level of 0.7 mg/L is a recommendation, not a mandate. The USPHS and Center for Disease Control and Prevention (CDC) promote this level as the ideal concentration for cavity prevention, but water utilities are not legally required to follow it unless state or local regulations mandate compliance. The United States Environmental Protection Agency (EPA), which sets enforceable drinking water standards, has established a Maximum Contaminant Level (MCL) of 4.0 mg/L for fluoride based on health risks, and a Secondary Maximum Contaminant Level (SMCL) of 2.0 mg/L, which is a non-enforceable guideline to address aesthetic concerns such as staining. In states that require fluoridation, utilities typically adjust fluoride levels to match the USPHS recommendation, but systems with naturally occurring fluoride above 0.7 mg/L are not required to reduce it unless state laws dictate otherwise.

Currently, our natural groundwater fluoride concentrations range between 1.0 and 1.1 mg/L, which is above the suggested optimal level of 0.7 mg/L but remains well below the EPA's SMCL

of 2.0 mg/L and the World Health Organization's (WHO) guideline limit of 1.5 mg/L. The recent court case referenced studies suggesting potential cognitive effects at sustained fluoride exposures around or above 1.5 mg/L, but no regulatory revisions have been enacted at this time. Additionally, the National Toxicology Program (NTP) report, which was cited in the court ruling, explicitly states that there were insufficient data to determine whether fluoride at 0.7 mg/L negatively impacts children's IQ. The National Academies of Sciences, Engineering, and Medicine also reviewed the NTP report and emphasized that most of the evidence came from studies involving significantly higher fluoride concentrations than those typically found in U.S. drinking water.

At our current treatment facility, we utilize Reverse Osmosis (RO) in conjunction with Greensand Direct Filtration. Greensand filtration does not remove fluoride, whereas RO removes fluoride along with other dissolved solids to nearly 0 mg/L, requiring the reintroduction of sodium fluorosilicate to restore fluoride levels to the recommended optimal of 0.7 mg/L. The required amount of sodium fluorosilicate needed is highly depended on the amount of water bypassing RO treatment either through direct RO bypass or greensand filtration. This blending technique has been and will continue to be our way of adjusting the fluoride concentrations to closely align with the minimum recommended optimum.

Looking ahead, our new water treatment facility, scheduled to become operational in 2027, will no longer use RO as the primary treatment process. Instead, RO will only be used for chemical feed water, with brine discharge directed back to the head of the plant. Once operational, fluoride levels will be dictated entirely by the natural concentrations in our source water, which, while above the new optimal level of 0.7 mg/L, will remain well below the EPA's 2.0 mg/L SMCL and WHO's 1.5 mg/L guideline limit.

At this time, our system remains fully compliant with all federal and state drinking water standards. We will continue to monitor EPA guidance and any regulatory changes resulting from the recent court decision. The American Water Works Association, the American Dental Association, the American Academy of Pediatrics, and the American Fluoridation Society have each reaffirmed their support for community water fluoridation as safe, effective, and essential to public health. If fluoride limits are revised, we will evaluate and implement any necessary operational modifications accordingly.

Sincerely,

A handwritten signature in black ink, appearing to read 'JA', with a long horizontal flourish extending to the right.

Jordan Anderson
Water Treatment Plant Manager