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PFAS detected in Waipi'o Heights Wells

HONOLULU, HI – Chemicals known as PFAS (perfluoroalkyl and polyfluoroalkyl substances) have been detected in water samples collected at the Honolulu Board of Water Supply (BWS) Waipi'o Heights Wells, Pumps 1 and 2, which are part of the Waipi'o Heights water system (Public Water System HI0000334).

On March 14, 2023, the EPA issued proposed National Primary Drinking Water Regulation maximum contaminant levels (MCLs) for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). In addition, EPA proposed a Hazard Index to determine the combined risk of four specific PFAS chemicals in drinking water at a site and is calculated by summing the ratio of each detected compound relative to its Health-Based Water Concentration.

Final MCLs are anticipated in late 2023, at which time these values would become enforceable legal limits, and public water systems would be required to test for these chemicals.

The detected levels of PFAS at the Waipi'o Heights Wells Pumps 1 and 2 in February 2023 are listed in the table below.

PFAS Chemical	Detected Levels in Pump 1 (ng/L) ^{1, 2}	Detected Levels in Pump 2 (ng/L) ²	EPA's Proposed MCL (ng/L) ³	DOH Environmental Action Level (ng/L) ^{3, 4}
Perfluorohexanoic acid (PFHxA)	1.9 – 2.1	ND	-	1000.0
Perfluorooctanesulfonic acid (PFOS)	1.8 – 2.2	2.3 – 2.8	4.0	4.0
Perfluoropentanoic acid (PFPeA)	2.5 – 3.0	ND – 1.9	-	800.0
Perfluorobutanesulfonic acid (PFBS)	ND – 1.7	ND	Refer to Calculated Hazard Index ⁵	600.0

¹ ng/L = nanogram per liter = parts per trillion (ppt)

² ND = Non-detect / Not detected

³ Boxes left blank indicate that a level has not been set for that chemical

⁴ EALs for groundwater that is a source of drinking water

⁵ Proposed Hazard Index measures the combined risk for four compounds: hexafluoropropylene oxide dimer acid (HFPA-DA, commonly known as Gen-X), perfluorobutanesulfonic acid (PFBS), perfluorohexanesulfonic (PFHxS), and perfluorononanoic acid (PFNA). The Index is the sum of the ratios of the respective contaminants and needs to be <1.0 (unitless) to be in compliance. Final decision on the Hazard Index compliance level is anticipated in late 2023.

Hazard Index Calculation:

$$\text{Hazard Index} = \frac{\text{GenX}_{\text{water}}}{10 \text{ ppt}} + \frac{\text{PFBS}_{\text{water}}}{2000 \text{ ppt}} + \frac{\text{PFNA}_{\text{water}}}{10 \text{ ppt}} + \frac{\text{PFHxS}_{\text{water}}}{9.0 \text{ ppt}} = 0.00085 = <1.0 \text{ and in compliance}$$

Overall:

- The detections of PFAS in the Waipi'o Heights Wells did not exceed DOH EALs nor EPA's new proposed MCL limits for PFOS and PFOA in drinking water.
- The Hazard Index was less than 1.0 for the combined toxicity ratios of PFNA, PFHxS, PFBS and Gen X and is thus compliant with the proposed PFAS mixture criteria.

Currently, there is no acute (short-term) health risk associated with drinking the water. However, the detections of PFOA and PFOS are above EPA's lifetime health advisories for these chemicals, which could indicate a potential health risk over a lifetime of drinking water with these levels of the chemicals. Those concerned may use a home filtration option to reduce PFAS.

Click [here](#) for an EPA article describing technologies for reducing PFAS in drinking water. Filters should be NSF-certified for removing PFAS. A list of NSF-certified filters can be found [here](#).

According to the EPA, PFAS are fluorinated organic chemicals that have been used extensively in consumer products such as carpets, clothing, fabrics for furniture, paper packaging for food, and other materials (e.g., cookware) designed to be waterproof, stain-resistant, or non-stick. They are also a component of fire-fighting foam and have many industrial uses.

The Waipi'o Heights water system serves approximately 11,516 individuals and is located on the leeward side of the island of O'ahu.

For more information on PFAS, please see <https://www.epa.gov/pfas> or <https://health.hawaii.gov/pfas>. Users may also contact their water purveyor.

This press release is issued in accordance with Hawai'i Revised Statutes Section 340E-24(b).

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