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PFAS Detected in the Halawa Wells Pump 1 & 2 Chlorinator and Moanalua 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's (BWS) Moanalua Wells and Halawa Wells Pump 1 & 2 chlorinator. Both sources are part of the Honolulu-Windward-Pearl Harbor water system (Public Water System HI0000331).

On March 14, 2023, 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, which is calculated by summing the ratio of each detected compound relative to their individual 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 Halawa Wells Pump 1 & 2 chlorinator and Moanalua Wells in January and February 2023 are listed in the table below.

PFAS Chemical	Halawa Wells Pump 1 & 2 chlorinator (ng/L) ¹	Moanalua Wells (ng/L) ¹	EPA's Proposed MCL (ng/L) _{1,3}	DOH Environmental Action Level (ng/L) ^{1,3,4}
Perfluorooctanoic acid (PFOA)	ND – 2.1 ⁵	ND	4.0	6.0
Perfluorobutanoic acid (PFBA)	ND	ND – 2.8		7600
Perfluorohexanoic acid (PFHxA)	ND – 2.0	ND		1000.0

PFAS Chemical	Halawa Wells Pump 1 & 2 chlorinator (ng/L) ¹	Moanalua Wells (ng/L) ¹	EPA's Proposed MCL (ng/L) _{1,3}	DOH Environmental Action Level (ng/L) ^{1,3,4}
Perfluorohexanesulfonic acid (PFHxS)	ND – 2.5 ⁵	ND	Refer to Calculated Hazard Index ⁶	40
Perfluorooctanesulfonic acid (PFOS)	ND – 2.1	ND	4.0	4.0
Perfluoropentanoic acid (PFPeA)	ND – 2.1	ND		800.0

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 This PFAS chemical was originally observed and press release issued on October 1, 2020 (article may be viewed [at https://health.hawaii.gov/news/files/2020/10/2020-079-Trace-levels-of-contaminants-detected-in-two-wells-in-lower-Halawa-Heights.pdf](https://health.hawaii.gov/news/files/2020/10/2020-079-Trace-levels-of-contaminants-detected-in-two-wells-in-lower-Halawa-Heights.pdf))

⁶ 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:

$$\text{Hazard Index} = \frac{\text{GenXwater}}{10 \text{ ppt}} + \frac{\text{PFBSwater}}{2000 \text{ ppt}} + \frac{\text{PFNAwater}}{10 \text{ ppt}} + \frac{\text{PFHxSwater}}{9.0 \text{ ppt}} = 0.2778 = <1.0 \text{ and in compliance}$$

Overall:

- The detections of PFAS in the Halawa Wells Pump 1 & 2 chlorinator and Moanalua Wells did not exceed DOH EALs nor EPA's new proposed MCL limits for PFOS and PFOA in drinking water.
- The Hazard Index for Halawa Wells 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 standard.

Currently, there is no acute (short-term) health risk associated with drinking the water.

According to the EPA, PFAS, which have been used since the 1940's, 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.

Halawa Wells have not been in use since December 8, 2021. Moanalua Wells serves water to Halawa Valley, Moanalua Valley and Mapunapuna.

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 Hawaii Revised Statutes Section 340E-24(b).

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