

# *PFAS Information*

## ***What is PFAS?***

PFAS are man-made chemicals that have been used in the manufacturing of certain fire-fighting foams, moisture and stain resistant products, and other industrial processes. These chemicals are found in everyday commonly used products. These are more commonly referred to as “forever” chemicals because they do not break down and can accumulate over time.

MassDEP has a PFAS Fact Sheet which is available at by [Clicking Here](#).

## ***New PFAS6 Regulations***

On October 2, 2020, the Massachusetts Department of Environmental Protection (MassDEP) promulgated a new drinking water regulation and maximum contaminant level (MCL) of 20 nanograms per liter (ng/L) or parts per trillion (ppt). An MCL is the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. The new regulation required water system to begin sampling for PFAS6 in 2021. There are as many as 4,700 PFAS that exist and increasing in number as industries invent new forms for this type of chemical.<sup>1</sup> For this particular sampling regulation, there are six per- and polyfluoroalkyl substances (called PFAS6) being included.

**PFAS6** includes perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS), perfluorodecanoic acid (PFDA) and perfluoroheptanoic acid (PFHpA).

## ***Sampling Results for DENNIS WATER DISTRICT***

The Dennis Water District proactively participated in MassDEP’s free PFAS analysis program in the last quarter of 2020 in advance of the 2021 sampling requirement. There were NO detections of PFAS6 at any level in Dennis’ drinking water sources in this sampling round.

However, samples taken on July 7, 2021, were returned with a detection of 2 parts per-trillion (ppt). The detection was found at a distribution entry point at the Southside Iron and Manganese Treatment Plant (South Plant). The detection was well below the Maximum Contaminant Level (MCL) of 20 ppt. As required by the sampling protocols, confirmation samples were taken on August 3, 2021 from the plant’s entry point as well as from all the source points that that pump through the treatment plant. Results confirmed that source Wells 5 and 16 were at 5.3 ppt and 8.5 ppt respectively. The detection for the South Plant itself was at 2.3 ppt.

After consultation with MassDEP about the detections it was agreed that there were no violations of any drinking water regulations and therefore, no immediate public notification was necessary. The District complied with direction from MassDEP and continued with the fourth quarter round of sampling. Again, a detection was found at the South Plant at 4.7 ppt on October 8, 2021. Once again, this detection remains well below the PFAS MCL of 20 ppt. Quarterly monitoring will continue.

As mentioned previously, the South Plant is an entry point into the distribution system. There are six groundwater wells that combine through the plant for a common entry point. As the source water enters the treatment plant, it essentially blends those sources together as it exits the treatment plant. MassDEP considers the blending of water as an approach to treatment as this blending of multiple wells effectively reduces the levels of contaminants. In order to further minimize the introduction of PFAS into the distribution system, even at these very low levels, the pumping rotation for Well 5 and Well 16 has been adjusted to further blend, control and reduce the detected levels. Continued sampling by MassDEP guidelines will be followed and results will be reported in the District’s Annual Water Quality Report for 2021 as well as future newsletters.

## ***PFAS – Contaminants of Growing Concern***

PFAS are found in a wide range of consumer products that people use daily such as cookware, pizza boxes and stain repellants. Most people have been exposed to PFAS. Certain PFAS can accumulate and stay in the human body for long periods of time. There is evidence that exposure to PFAS can lead to adverse health outcomes in humans. The most-studied PFAS chemicals are PFOA and PFOS. Studies indicate that PFOA and PFOS can cause reproductive and developmental, liver and kidney, and immunological effects in laboratory animals. Both chemicals have caused tumors in animals. The most consistent findings are increased cholesterol levels among exposed populations, with more limited findings related to:

- low infant birth weights,
- effects on the immune system,
- cancer (for PFOA), and
- thyroid hormone disruption (for PFOS).<sup>ii</sup>
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### ***For more information,***

- [\*\*MassDEP Fact Sheet - Questions and Answers for Consumers\*\*](https://www.mass.gov/media/1854351)
- [\*\*MassDEP Fact Sheet - Home Water Treatment Devices - Point of Entry and Point of Use Drinking Water Treatment\*\*](https://www.mass.gov/service-details/home-water-treatment-devices-point-of-entry-and-point-of-use-drinking-water) – (https://www.mass.gov/service-details/home-water-treatment-devices-point-of-entry-and-point-of-use-drinking-water)
- [\*\*CDC ATSDR Information on PFAS for consumers and health professionals\*\*](https://www.atsdr.cdc.gov/pfas/index.html)
- [\*\*Massachusetts Department of Public Health information about PFAS in Drinking Water\*\*](https://www.mass.gov/service-details/per-and-polyfluoroalkyl-substances-pfas-in-drinking-water) - https://www.mass.gov/service-details/per-and-polyfluoroalkyl-substances-pfas-in-drinking-water

## **ENDNOTES**

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<sup>i</sup> Linda S. Birnbaum, Ph.D., D.A.B.T., A.T.S., Department Of Health And Human Services National Institutes Of Health National Institute Of Environmental Health Sciences, [\*Hearing on the Federal Role in the Toxic PFAS Chemical Crisis\*](#), September 26, 2018.

<sup>ii</sup> U.S. Environmental Protection Agency, [\*Basic Information on PFAS\*](#), Last Reviewed: April 27, 202

