

UNDERSTANDING PFAS – ADDITIONAL BACKGROUND AND RESOURCES

Per- and Polyfluoroalkyl Substances (PFAS) are an emerging group of common and widespread compounds that can be found in numerous types of everyday products treated to make them non-stick. Most notably, these include food packaging, carpets, leather and apparel, textiles, paper and packaging materials, and non-stick cookware. PFAS has spread throughout the environment and has been found in both soil and water. Perfluorooctanoic Acid (PFOA) and Perfluorooctane sulfonic acid (PFOS) belong to this large class of synthetic chemicals known as PFAS.

- PFOA is the most common of these PFAS compounds and has been detected in drinking water sources across the country.
- Exposure to PFAS in drinking water is primarily from ingestion. Exposure to PFAS through other household uses of water such as showering, bathing, laundry and dishwashing is not significant. Exposure through vegetables from gardens and washing of vegetables is not significant.
- Like many other water systems in the U.S., Middlesex Water has been required to test for some PFAS as part of the USEPA Unregulated Contaminant Monitoring program. The Company has been reporting PFAS detections in its annual Consumer Confidence Report (CCR) since 2008.
- The U.S. Environmental Protection Agency (EPA) has established a lifetime of exposure health advisory at 70 parts per trillion (ppt) for both PFOA and PFOS in drinking water. This EPA health advisory level was established to provide a margin of protection to all Americans as well as those who are immuno-compromised or in special populations (elderly, children). EPA's health advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. The EPA has since announced it will be proposing MCLs for PFOA & PFOS.
- **In 2020, the NJDEP adopted an enforceable regulation or Maximum Contaminant Level (MCL) standard for perfluorooctanoic acid (PFOA) of 14 ppt, which is effective for the first time this year. Its former guideline for PFOA was 40 ppt.** The newly established limit is applied on the basis of a “Quarterly Running Annual Average” (QRAA) in which four most recent quarters of monitoring data are averaged. Formal monitoring under the new rule began in 2021.
- Middlesex Water received notice in early September that its Park Avenue system exceeded the new PFOA limit based other QRAA from samples collected from our Park Ave. Treatment Plant in the 1st, 2nd, and 3rd quarters of 2021, 25 ppt, 23 ppt, and 36 ppt respectively. Regardless of the next quarter results, the current QRAA for PFOA is 21 ppt, which is above the MCL. The Park Avenue wellfield is expected to exceed the MCL until new treatment is installed.
- In anticipation of more stringent regulation, **Middlesex Water has designed treatment utilizing Granulated Activated Carbon filtration and is constructing a plant at its Park Avenue wellfield designed to support compliance with the new standard.** The

plant, estimated at an initial cost of approximately \$47 million, is expected to be complete in 2023.

- Litigation has been initiated in U.S. District Court against the alleged polluter responsible for the presence of PFAS in groundwater with intent to recover the capital costs of PFAS remediation.

Please see additional helpful links below to learn more about PFAS:

- <https://www.epa.gov/pfas>
- <https://www.nj.gov/dep/watersupply/pfas/>
- [Maximum Contaminant Level Recommendation for Perfluorooctanoic Acid in Drinking Water](#)
- [NJ DEP Contaminants of Emerging Concern](#)
- [NJDEP Press Release on More Stringent Standards](#)
- [Drinking Water Health Advisories for PFOA and PFOS](#)
- [“Forever Chemicals” in Water Systems](#)
- [Mapping the PFAS Contamination Crisis across 49 affected states](#)
- [How to Treat PFAS in Your Drinking Water](#)
- [Search for NSF Certified Drinking Water Treatment Units, Water Filters](#)