

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.
- 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 federal government has not established MCLs for any PFAS.
- **In 2020, the NJDEP adopted an enforceable regulation or Maximum Contaminant Level (MCL) standard for perfluorooctanoic acid (PFOA) which significantly lowered the limit from its former guideline of 40 ppt to 14 ppt, which is effective for the first time this year.** 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. **A public notice regarding this violation was mailed to all customers who receive any amount of water from the Park Avenue Plant in accordance with NJDEP guidance and language and within the notification deadlines established by NJDEP.**
- The Park Avenue wellfield provides approximately 27% of water delivered from the Middlesex system. **Water delivered to customers served by the Park Avenue Plant is typically blended with supplies from our surface water treatment plant, which in effect, helps to diminish the impact of PFOA.**

- 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 effectively remove PFOA.** The plant, estimated at a 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>
- [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](#)
- [EPA Researchers Investigate the Effectiveness of Point-of-use/Point-of-entry Systems to Remove Per- and Polyfluoroalkyl Substances from Drinking Water](#)
- [**Household Treatment** \(point-of-use/point-of-entry systems\) for reducing PFOA/ PFAS in Drinking Water \(Standard NSF53\)](#)