



# New Regulations in NYS

## Monitoring Public Water Systems for Emerging Contaminants

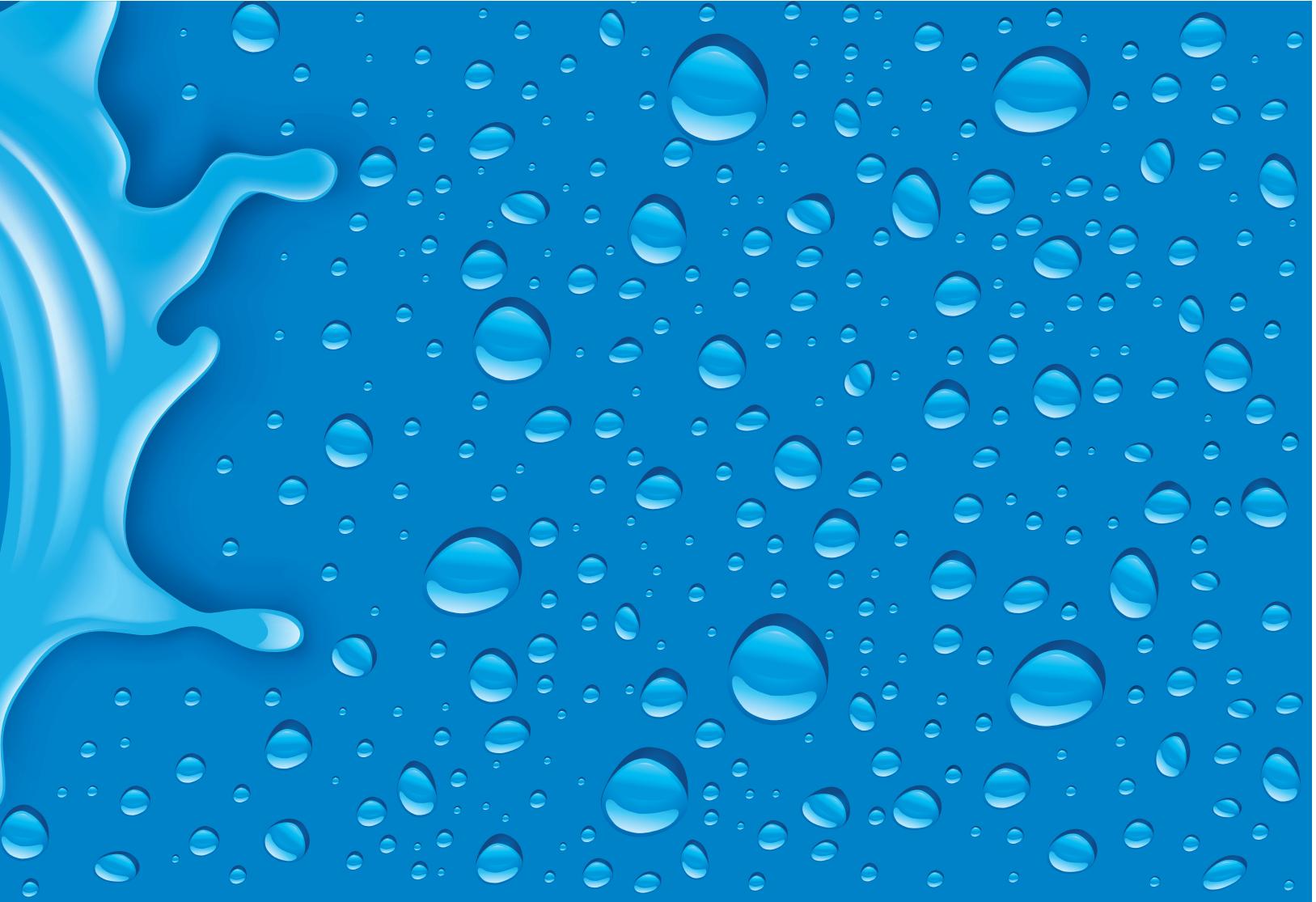
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Emerging contaminants in drinking water have become a hot topic nationwide with many being the subject of high-profile lawsuits. The most known contaminants include PFOA and PFOS, which belong to a family of chemicals known as per- and polyfluoroalkyl substances (PFAS), and can be found in consumer goods and firefighting foams. Another emerging contaminant is 1,4-dioxane, which is found in solvents used in chemical production.

These contaminants have been linked to various forms of cancers and other adverse health effects. Therefore, many states throughout the country have passed regulations with drinking water standards to limit the public's exposure to these compounds, the most protective being in New York State. In August 2020, New York State adopted maximum contaminant levels for 1,4-dioxane at 1 part per billion (ppb), and PFOA and PFOS at 10 parts per trillion (ppt). The new regulation follows other actions taken by New York State in limiting the public's exposure to PFOA, as well as investing millions of dollars into the State Superfund Program to install treatment systems to limit the spread of polluted groundwater to public water supplies.

The new regulation, which amends the New York State Public Health Law, requires public water systems (PWS) to initially monitor for PFOA, PFOS, and 1,4-dioxane. The date when initial testing must begin is dependent on the PWS's size as follows:

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- 10,000 customers and more: October 25, 2020
- Between 3,300-9,999 customers: November 25, 2020
- Fewer than 3,300 customers: February 25, 2021

Monitoring must be completed by a New York State Department of Health (NYSDOH) certified laboratory. A list can be found at <https://apps.health.ny.gov/pubdoh/applinks/wc/elappublicweb/>

The length of the initial monitoring period depends on the PWS's supply source for drinking water. If the supply is a groundwater source not under the direct influence of surface water, the municipality would show compliance by testing below the MCL for two consecutive quarters. If the supply source is either a surface water supply or groundwater under the direct influence of surface water, then the PWS must show compliance over four consecutive quarters. If no exceedances are recorded over these periods, then the PWS can proceed with standard monitoring and reporting, typically once per year or as specified by the local health department.

If a MCL exceedance is identified in any quarter, the PWS must report this finding to the NYSDOH within 48 hours and conduct follow-up sampling within 30 days of the initial test. If the MCL exceedance is confirmed, the PWS must select a corrective action procedure from the following options:

- Report a MCL violation (see below).
- Shut down the supply source (not usually feasible).
- Request deferral (up to 2 years, with a 1-year extension possible). This option pertains to PWS that proactively tested for PFOA, PFOS, and/or 1,4-dioxane prior to the adoption of the regulation and would otherwise be in violation if not sampling/notifying according to above schedule. The intent of the deferral is to recognize that the PWS is making a good faith effort to address the problem and provides them a chance to stay in compliance.

If a MCL violation is recorded, the PWS must present a plan and implementation schedule to the local health department and NYSDOH. This would typically involve engineering evaluation, design and construction of a treatment system.

NYSDOH has stated its preferred treatment technology for these contaminants. For PFOA and PFOS, granular activated carbon (GAC) is recommended for most implementations. GAC filters are effective at removing certain pollutants, including organic chemicals such as PFOA and PFOS, and have been long used in water treatment. GAC is used to adsorb chemicals to the carbon molecules while allowing treated water to pass through. Other types of treatment technologies for PFAS include

ion exchange and reverse osmosis. These are not yet commonly approved for treatment of PFOA and PFOS in New York State and need to be demonstrated (through the use of pilot studies) to the NYSDOH as effective site-specific solutions. When systemic MCL violations for PFOA and PFOS are recorded, NYSDOH will not approve proposed solutions involving point-of-use GAC treatment systems such as distribution of customer filters/pitchers (e.g. Brita, PUR).

For 1,4-dioxane, NYSDOH is currently recommending advanced oxidation process (AOP) treatment as the best available technology. This process was first used to treat 1,4-dioxane in the drinking water supply for the Suffolk County Water Authority in 2018. The treatment technology produces hydroxyl radicals to destroy 1,4-dioxane and other contaminants. The hydroxyl radicals can be generated by a number of methods, including the application of hydrogen peroxide, and modification by combining ozone or ultraviolet (UV) light. NYSDOH prefers combined solutions using UV to mitigate the creation of bromate, a carcinogenic byproduct, in ozone-based applications. Since 1,4-dioxane is miscible, barrier methods, such as filtration and adsorption are ineffective.

NYSDOH estimates the impact of the new regulations will lead to significant capital investment. For cash-strapped municipal PWS, this may seem daunting. Two potential funding sources administered by New York State include the Drinking Water State Revolving Fund (DWSRF) and the Water Infrastructure Improvements Act (WIIA). DWSRF typically provides loans with different interest rate levels depending on the community's income level. The WIIA program may fund up to a 60 percent of a project's cost by a grant (capped at \$3 million). Depending on the location of the PWS, other sources of funding for these important projects to address drinking water protection include the Community Development Block Grant (CDBG) and the US Department of Agriculture Rural Development funding programs. □

