



NEW MCLS FOR PFOA, PFOS, AND 1,4-DIOXANE

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INTRODUCTION

In the fall 2017 Aquafacts edition, I wrote an article entitled “Emerging Contaminant Monitoring Program”. In this article I discussed recently enacted state legislation that would eventually require all community and non-transient, non-community water systems to test for certain emerging contaminants. This same legislation required NYSDOH to consider the recommendations of a Drinking Water Quality Council (DWQC) regarding a maximum contaminant level (MCL) for perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS) and 1,4-dioxane. PFOA and PFOS are part of a group of chemicals known as per- and polyfluoroalkyl substances (PFAS). These are chemicals used to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. The chemical 1,4-dioxane has been used as a stabilizer in solvents, paint strippers, greases and wax.

PROPOSED MCLS

In December 2018, the DWQC released its recommendations for MCLs of 10 parts per trillion (ppt) for PFOA, 10 ppt for PFOS, and 1 part per billion (ppb) for 1,4-dioxane. On July 24, 2019, the NYSDOH proposed the acceptance of these recommended MCLs changes and opened a 60-day public comment period. The NYSDOH proposal at this time specified a staggered testing program. Public water systems serving 10,000 people or more would begin monitoring within 60 days of adoption of the new rule. Systems serving 3,300 to 9,999 people would begin monitoring within 90 days of adoption of the rule and water systems serving less than 3,300 would begin monitoring within 6 months of adoption of the rule.

On January 22, 2020, NYSDOH revised its proposed MCL rule for PFOA, PFOS, and 1,4-dioxane. NYSDOH indicated that based upon public comments it received, it added a provision for a public water system to defer an MCL violation. How this would work is that if a public water system had sample results that exceeded the MCL for PFOA, PFOS or 1,4-dioxane, it could request in writing that the NYSDOH defer actions for determining MCL violations for up to 24 months past the effective date of the PFOS, PFOA or 1,4-dioxane MCL. The deferral request must document that such a deferral period is

necessary for the system to implement corrective actions to comply with the MCL for PFOS, PFOA or 1,4-dioxane. Such a request must be made within 90 days of the effective date of the MCL. The deferral request must also include a timeline with specific milestones. If the NYSDOH grants the MCL deferral, the system must distribute a public notice within 30 days. Based upon demonstrated need, there is the potential for a one-year extension in addition to the original 24 month deferral.

IMPLICATIONS OF THE NEW RULE

For the first year of enactment of the new rule, community and non-transient non-community water systems will have to test for PFOS, PFOA or 1,4-dioxane on a quarterly basis for each entry point. The testing requirement would then be reduced to every three years unless a detection is found. Quarterly testing would then be continued in this case. NYSDOH estimates that the cost for a single PFOA/PFOS analysis is between \$200 and \$300 per sample and the cost of a single 1,4-dioxane analysis is between \$100 and \$250.

NYSDOH estimates that approximately 21% of all public water systems in New York will have PFOA or PFOS above the proposed MCLs of 10 ppt. This is very important given the significant treatment costs. As indicated in Table 1 below, the capital and maintenance costs for PFOA/PFOS are very substantial. This is an especially difficult burden for smaller systems. The best available treatment technology for PFOA/PFOS is granular activated carbon.

NYSDOH-Estimated Treatment Costs for PFOA/PFOS

Population Served	Capital Costs	Annual Maintenance Costs
< 3,300	\$400,000	\$25,000
3,300 - 9,999	\$2,400,000	\$125,000
≥ 10,000	\$15,000,000	\$725,000

Table 1. PFOA/PFOS Treatment Costs

Capital costs for treatment of 1,4-dioxane are estimated by NYSDOH to average \$3,570,000 per system, with an estimated average annual operation and maintenance cost of approximately \$150,000 per system. The best available treatment technology is oxidation (chlorination or ozonation) and advanced oxidation process (AOP). Fortunately, the >>>

number of public water facilities potentially impacted by 1,4-dioxane is estimated by NYSDOH to be eighty-nine. The vast majority of these are located on Long Island.

CLOSING

Unfortunately, there will be a large number of public water systems that will be impacted by the new state MCLs on emerging contaminants. The ability to defer an MCL violation may be very important to reduce the impact on

smaller systems. There is some dedicated state funding that is available to address potential treatment costs, and a deferral period will allow some systems to design and implement an effective solution to come into compliance. In some situations, it may even be more cost-effective to locate new wells that are less susceptible to PFOS, PFOA or 1,4-dioxane.

As always, feel free to contact me at winkley@nyruralwater.org or 1-888-NYRURAL, ext. 170 with any questions. 💧💧