



April 27, 2022

Environmental Quality Board  
P.O. Box 8477  
Harrisburg, PA 17105-8477

**Re: Proposed Rulemaking on Safe Drinking Water PFAS MCL Rule**

Dear Pennsylvania Environmental Quality Board,

Thank you for the opportunity to comment on the proposed Safe Drinking Water PFAS MCL Rule (#7-569). My name is Talor Musil, and I am writing to you on behalf of the non-profit Women for a Healthy Environment, an organization that addresses environmental exposures that impact public health through educational programming, technical assistance, and advocacy. We believe every community, and especially children, should have healthy homes, schools, and early learning centers. Our organization participates in the Cancer and Environment Network of Southwestern Pennsylvania, a cross-sector collaboration of cancer-focused organizations, environmental advocates, scientists, healthcare professionals, and more working to end our region's "twin crises": high cancer rates and elevated environmental exposures. Prevention of exposure to environmental carcinogens such as PFAS in drinking water is essential to achieve our vision of a future free of cancer.

Public health experts have warned us about the dangers of PFAS exposure for decades. PFAS exposure has been associated with a range of adverse health effects, from cancer, immunotoxicity, neurotoxicity, reproductive toxicity, developmental effects on the mammary gland, and effects on the thyroid, liver, and kidney.<sup>iiiiiiiiv</sup> In 2017, the International Agency for Research on Cancer (IARC) classified PFOA as a possible human carcinogen.<sup>v</sup> The Centers for Disease Control and Prevention (CDC) notes that beyond cancer, high levels of PFAS may lead to increased cholesterol levels, decreased vaccine response in children, changes in liver enzymes, increased risk of high blood pressure or pre-eclampsia in pregnant women and decreases in infant birth weights.<sup>vi</sup> These impacts lead to burdensome healthcare costs. Recent estimates pose €52-84 billion as the annual costs of PFAS-related health effects in Europe.<sup>vii</sup> The equivalent health-related costs for the United States, accounting for population size and exchange rate differences, would be \$37–59 billion annually.<sup>viii</sup>

The Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) has found PFAS in the blood of 97% of Americans.<sup>ix</sup> Around 200 million people in the United States are drinking PFAS-contaminated, municipally provided water,<sup>x</sup> creating the need for widespread concern for all members of this chemical class.<sup>xi</sup> Pennsylvania's continued use of PFAS-containing firefighting foam and concentration of industrial activities, including, but not limited to, the extraction of oil and natural gas only heightens residents' concern about exposure. In fact, a recent report from Physicians for Social Responsibility found that oil and gas companies utilize large quantities of PFAS.<sup>xii</sup> Because the chemicals and the respective quantities used by oil and gas companies are not disclosed to the public (or to regulators), the full extent of Pennsylvania groundwater contamination via operations and waste disposal practices may be underestimated by analyses such as these.

The science relevant to the human health impacts of PFAS is rapidly evolving. Every month, hundreds of new PFAS studies are published in peer-reviewed journals. Increased monitoring studies as well as toxicological assessments demonstrate that substitutes for PFOA and PFOS are of concern. In October 2021, the EPA's human health toxicity assessment concluded that GenX – a predominant PFOA/PFOS substitute – is even more toxic than the compounds they replaced.<sup>xiii</sup> The recent sampling effort in Pennsylvania identified eight PFAS chemicals present (of the 18 for which they tested).<sup>xiv</sup> Disappointingly, this effort did not test for GenX.<sup>xv</sup> The prominence of PFOA and PFOS in these moment-in-time results led to the proposed regulation for only two PFAS chemicals (PFOA and PFOS). DEP needs to ensure through continued testing and monitoring (not just a 1-time state-wide monitoring effort) and review of the research literature that additional PFAS are not threatening the health of Pennsylvania. Otherwise, this regulation may lose its effect in short order.

The technical feasibility to test and treat PFAS in drinking water is also rapidly evolving. In December 2019, the European Commission agreed within three years to develop testing protocols as well as a legal limit for ALL PFAS under its Drinking Water Directive. Simply as a result of the EU's efforts, new analytic methods specific for use in regulation, such as the validation of testing to address total fluorine in water or use of Non-Targeted Analysis techniques, will become available as well as new regulatory approaches for developing drinking water standards for PFAS.

The public health threat of PFAS-contaminated drinking water is known all too well by communities across Pennsylvania. In Allegheny County alone, there have been at least four known areas with recently compromised drinking water—half of which are designated Environmental Justice (EJ) areas by the PA DEP.

Last summer, our organization partnered with residents of McKeesport to conduct grassroots education and outreach following the use of PFAS-containing firefighting foam on an uphill, upstream mechanic shop fire and a back-flow of this toxic foam into a fire hydrant. Nearly 500 households went without running water for two to three weeks while the local water authority performed testing and flushing contaminated fire hydrants in the impacted area into the immediate environment (and likely into the nearby source waterways). Residents reported difficulties obtaining information about the contamination. Shower facilities were available at a local high school (about 3.5 miles away), but access to this building is limited to able-bodied residents. Water buffaloes and bottled water were eventually available in the neighborhood, and

an incredible community resident personally delivered bottled water to residents who could not transfer it themselves.

This story highlights the compounding stressors in EJ communities. McKeesport already carries the burdens of unhealthy housing conditions, historic economic disinvestment, and air pollution from nearby Title V facilities. There is one corner store with food, one church for gathering, one and thrift shop for clothing in this neighborhood. It is surrounded on two sides by rivers that are used for boating but are too polluted to enter for swimming. Protecting these residents' human right to healthy drinking water is critical.

The water authority's testing revealed that the foam used in McKeesport contained PFOA and PFOS, among other PFAS<sup>xvi</sup>.

PFAS exposure is a well-known public health problem that threatens the well-being of residents across the commonwealth. As such, the utmost precaution must be taken when regulating these hazardous and carcinogenic substances. While we commend the Environmental Quality Board and Department of Environmental Protection for setting Maximum Contaminant Levels (MCLs) for these two PFAS, these standards fail to match the severity of the threats posed by this class of chemicals, and neglect to address the thousands of other (current and future) PFAS

**We recommend the following changes to the proposed regulations:**

- **Regulate PFAS as a class:** Currently, the proposed regulation only includes limits for PFOS and PFOA. With more than 12,000 types of PFAS currently identified by the EPA,<sup>xvii</sup> it is impossible to regulate each individually; it is recognized that they, as a class, share similar properties of health concern.<sup>xviiiix</sup> Therefore, it is imperative to set standards for the entire class of PFAS and regulate all PFAS for which there is technology to detect and remove them from drinking water. We encourage DEP to track developments in the EU; testing and treatment limitations will no longer be a reason why regulating PFAS as a group cannot proceed.
- **At a minimum, the Cambridge Environmental Consulting recommendations for PFOS and PFOA MCLs<sup>xx</sup> should be adopted as MCLs.** In order to uphold the right to clean water per the Pennsylvania Constitution, drinking water must not threaten any resident with the risk of developing cancer. We recommend adopting MCLs per the Drexel Study's goal levels of:
  - 6 PPT for PFOA
  - 5 PPT for PFOS
- **Include language in the regulation that within 5 years after the adoption of the MCL for PFOA and PFOS, the Department will consider additional substances in light of new scientific evidence and new analytical testing methods for PFAS, and amend as necessary to protect the public's health.** As new PFAS continue to be studied, testing and filtering technologies improved, and evidence emerges regarding endpoints such as carcinogenicity of PFOS and PFOA, amendments to the regulations must be considered in line with the pace of research and technological developments. For example, an MCL that is health-protective must be developed for GenX and other substitutes for older PFAS chemicals.

- **Make funding available for residential private well owners to conduct testing and mitigation:** The proposed rulemaking should guarantee equal protection by applying to all water supplies. The plan in its current form applies only to Public Water Systems, excluding private water wells and leaving about one quarter of Pennsylvania's population out of the sampling and in the dark about whether their drinking water contains PFAS.<sup>2</sup> Pennsylvania homeowners are unlikely to have the funds to identify and remediate PFAS contamination in their private drinking water wells. We encourage the state to develop a subsidy/support program for private-well owners to help offset the tremendous costs associated with PFAS testing and treatment.

The proposed standards represent great progress towards protecting public health, but we cannot claim victory until primary prevention measures for exposure to all PFAS from every source are put in place. If we fail to introduce these measures proactively, we will continue the injustice of relying on already overburdened environmental justice communities to demonstrate the risks associated with exposure before setting health protective standards for everyone.

Thank you again for the opportunity to provide comments on this critical issue.

Sincerely,

*Talor Musil*

**Talor Musil**

Health Policy Manager

Women for a Healthy Environment

- <sup>i</sup> Agency for Toxic Substances & Disease Registry (ATSDR). 2021. "Toxicological Profile for Perfluoroalkyls." Last updated May 5th, 2021. <https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=1117&tid=237>.
- <sup>ii</sup> Cordner, A., Goldenman, G., Birnbaum, L. S., Brown, P., Miller, M. F., Mueller, R., ... & Trasande, L. 2021. The True Cost of PFAS and the Benefits of Acting Now. *Environmental Science & Technology* 55(14): 9630–9633.
- <sup>iii</sup> Rappazzo, K.M., Coffman, E., Hines, E.P. 2017. Exposure to perfluorinated alkyl substances and health outcomes in children: A systematic review of the epidemiologic literature. *International Journal of Environmental Research and Public Health*, 14, 691.
- <sup>iv</sup> Yang, C., Tan, Y.S., Harkema, J.R., & Haslam, S.Z. 2009. Differential effects of peripubertal exposure to perfluorooctanoic acid on mammary gland development in C57Bl/6 and Balb/c mouse strains. *Reproductive Toxicology*, 27, 299-306.
- <sup>v</sup> <https://dceg.cancer.gov/research/what-we-study/pfas>
- <sup>vi</sup> <https://www.atsdr.cdc.gov/pfas/health-effects/index.html>
- <sup>vii</sup> Goldenman, G., Menna, F., Michael, H., Tugce, T., Amanda, N., Cindy, S., Alicia, M. 2019. *Cost of Inaction: A Socio-economic Analysis of Environmental and Health Impacts Linked to Exposure to PFAS*. Nordic Council of Ministers, Copenhagen. <http://norden.diva-portal.org/smash/record.jsf?pid=diva2%3A1295959&dswid=6315>
- <sup>viii</sup> <https://pubs.acs.org/doi/pdf/10.1021/acs.est.1c03565>
- <sup>ix</sup> Lewis RC, Johns LE, Meeker JD. Serum Biomarkers of Exposure to Perfluoroalkyl Substances in Relation to Serum Testosterone and Measures of Thyroid Function among Adults and Adolescents from NHANES 2011-2012. *Int J Environ Res Public Health*. 2015 May 29;12(6):6098-114. doi: 10.3390/ijerph120606098. PMID: 26035660; PMCID: PMC4483690.
- <sup>x</sup> Andrews, D. Q.; Olga, V. N. Population-wide exposure to perand polyfluoroalkyl substances from drinking water in the United States. *Environ. Sci. Technol. Lett.* 2020, 7, 931–936.
- <sup>xi</sup> <https://www.atsdr.cdc.gov/pfas/health-effects/blood-testing.html>
- <sup>xii</sup> <https://www.psr.org/wp-content/uploads/2021/07/fracking-with-forever-chemicals.pdf>
- <sup>xiii</sup> US Environmental Protection Agency. 2021. Technical Fact Sheet: Human Health Toxicity Assessment for GenX Chemicals. October. <https://www.epa.gov/system/files/documents/2021-10/genx-final-tox-assess-tech-factsheet-2021.pdf>
- <sup>xiv</sup> <https://www.ahs.dep.pa.gov/NewsRoomPublic/articleviewer.aspx?id=21961&typeid=1>
- <sup>xv</sup> [https://files.dep.state.pa.us/Water/DrinkingWater/Perfluorinated%20Chemicals/SamplingResults/PFAS\\_Sampling\\_Final\\_Results\\_May\\_2021.pdf](https://files.dep.state.pa.us/Water/DrinkingWater/Perfluorinated%20Chemicals/SamplingResults/PFAS_Sampling_Final_Results_May_2021.pdf)
- <sup>xvi</sup> [https://www.mawc.org/sites/default/files/2021-08-10\\_mck\\_537\\_533summarized\\_results\\_1.pdf](https://www.mawc.org/sites/default/files/2021-08-10_mck_537_533summarized_results_1.pdf)
- <sup>xvii</sup> U.S. Environmental Protection Agency. 2021. PFAS Master List of PFAS Substances. Published August 11th, 2021. <https://comptox.epa.gov/dashboard/chemical-lists/PFASMASTER>.
- <sup>xviii</sup> American Public Health Association. 2016. Reducing Human Exposure to Highly Fluorinated Chemicals to Protect Public Health. *Policy Statement Database*. November 1st, 2016. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2016/12/21/reducing-human-exposure-to-highly-fluorinated-chemicals#:~:text=%5B22%2C42%5D%20Strategies%20that,products%20in%20a%20way%20that>.
- <sup>xix</sup> Birnbaum, L., Southerland, B., & Sussman, R. 2021. EPA must protect public health by regulating PFAS as a class. *The Hill*. <https://thehill.com/opinion/energy-environment/565528-epa-must-protect-public-health-by-regulating-pfas-as-a-class>.
- <sup>xx</sup> <https://www.delawariverkeeper.org/sites/default/files/cvr%20ltr%20PFOA%20mcl%20cmnt11.19.cobinedpdf.pdf>