



Protecting the Common Waters of the Great Lakes Basin
Through Public Trust Solutions

January 31, 2020

Drinking Water and Environmental Health Division
Michigan Department of Environment, Great Lakes, and Energy
Attention: Suzann Ruch
PO Box 30817
Lansing, Michigan 48909-8311
egle-pfas-rulemaking@michigan.gov

VIA ELECTRONIC SUBMISSION

**FLOW (FOR LOVE OF WATER) COMMENTS ON THE PROPOSED SAFE DRINKING WATER ACT RULE SETTING
MAXIMUM CONTAMINANT LEVELS (MCLS) FOR SEVEN PFAS COMPOUNDS IN PUBLIC DRINKING WATER**

Dear Ms. Ruch:

We are writing to express support for the proposed Safe Drinking Water Act rule setting maximum contaminant levels (MCLs) for seven PFAS compounds in public drinking water, Ruleset 2019-35 EG, R 325.10101 R 325.12820. These rules will provide critical public health protection from multiple compounds found to be widespread in Michigan public drinking water supplies.

It is imperative for Michigan to promulgate the proposed rules as soon as practicable. Testing continues to turn up new sites of PFAS contamination in Michigan, many of them exposing citizens to substantial health risks. Federal rules are likely years away and may not provide the level of protection that the people of Michigan want and need for public health and the environment. We applaud Governor Whitmer and the Michigan Department of Environment, Great Lakes and Energy (EGLE) for your initiative to address the problem head-on.

We are particularly pleased with the science-based process used to develop the rule and the fact that it generally takes into account emerging research findings, resulting in proposed limits more protective of human health than those in place or proposed by some other states. However, New Hampshire performed new analysis of research conducted in 2018 to set an MCL for PFHxS of 18 ppt on research that shows a relationship between PFHxS exposure and impaired reproduction. The HBV recommended in Michigan for PFHxS is 2.5 times higher, or 51 ppt. Given the rapid pace at which new toxicological information on the low dose effects of PFAS chemicals on human health is emerging, Michigan should strive to reflect the very best science in its assessment of water safety.

We also urge the following improvements to the rules:

- **A total PFAS MCL.** We urge a treatment-based water standard for drinking water systems with detectable PFAS. A focus on treatments that are effective for broad numbers of PFAS chemicals will

have significant co-benefits of reducing the bulk of unclassified PFAS chemicals, which include precursors to PFOS, PFOA and other PFAS chemicals with individual health-based values.

- **Class-based regulation.** The proposed values for individual PFAS chemicals are not protective against the likelihood of additive effects from multiple PFAS. Michigan water testing confirms that when water is contaminated with PFAS, people are nearly always ingesting multiple chemicals. PFAS chemicals, including newer generation PFBS and GenX, share many of the same toxicity endpoints, including harm to the liver, thyroid, and kidney. The state should set group values, at minimum for all the carboxylic acids (PFOA, PFNA, PFHxA, Genx) and a separate combined HBV for all the sulfonic acids (PFOS, PFHxS, PFBS) on their list.

In addition to setting numeric standards for individual compounds of PFAS, the state should set a cumulative limit. A cumulative limit would create a level of protection for residents exposed to multiple PFAS chemicals at a time.

- **Require a health review in two years.** The state is moving forward with setting drinking water standards for seven PFAS compounds. While a step in the right direction, that approach leaves thousands of PFAS compounds unregulated. The science on the risk and toxicity of PFAS chemicals is rapidly developing; standards set today could quickly become out of date as new research on toxicity comes in. To ensure Michigan remains ahead of the curve and maintains science-based standards that are protective of public health, the state should conduct a health review two years after the PFAS drinking water standards go into effect. This requirement should be written into the PFAS drinking water rules.
- **Conduct at least three years of quarterly sampling.** We do not know enough about how PFAS moves in the environment or if there are seasonal changes to discharges of PFAS to be able to set reduced sampling frequencies. The current rule requires some quarterly sampling, but also allows water plants to reduce in some cases to sampling every six months or only once a year. At a minimum, given the unknowns, all water systems should test quarterly for three years. That will give the state a solid baseline of knowledge to know when PFAS may or may not spike and which supplies are most at risk of exposure. From there the state can better establish a reduced sampling frequency process.
- **Protect fetuses, infants and children.** Fetuses and infants have greater exposure to PFAS than adults, and are also more sensitive to the effects of these contaminants. Almost all fetuses and infants will have some degree of exposure, including exposure as fetuses during pregnancy through placental transfer. For infants, exposure may be further elevated due to ingestion of contaminated breastmilk (a result of the mothers' ingestion of contaminated water and other sources) or infant formula prepared with contaminated drinking water.
Levels of PFOA and PFOS in breast milk are much higher than what is typically found in drinking water, as PFOA and PFOS bioaccumulate in the body and are then transferred into the breast milk. Moreover, since infants consume approximately five times more water per body weight than adults, their exposure is likely higher than adults regardless of whether they are breastfed or are fed infant formula prepared with PFAS- contaminated drinking water. Infant blood serum levels of PFAS are often the highest of any age group in studies that compare people in multiple stages of life.

Compounding the issue of increased exposure, fetuses, infants, and children are also more vulnerable

to exposure-related health effects than adults. The young may be more sensitive to the effects of PFAS due to their immature, developing biological systems (such as the immune system), and rapid body growth during development. For example, exposure to PFAS before birth and/or in early childhood may result in decreased birthweight, decreased immune responses, and hormonal effects later in life.

The National Academy of Sciences (NAS) has recommended the use of an additional uncertainty factor of 10 to ensure protection of fetuses, infants and children who often are not sufficiently protected from toxic chemicals such as pesticides by the traditional intraspecies (human variability) uncertainty factor. Congress adopted this requirement in the Food Quality Protection Act for pesticides in foods. Considering the many health effects linked to PFAS that affect this vulnerable population and the substantial data gaps on exposure and toxicity of these compounds in complex mixtures, we recommend the use of this uncertainty factor when deriving health-protective benchmarks for PFAS.

These proposed rules are a critical bulwark in the defense of our families, fish and wildlife from the risk of exposure to PFAS. They are strongly supported by cutting-edge science. We urge their adoption with the improvements noted above.

Sincerely,

A handwritten signature in black ink that reads "Kelly Thayer". The signature is written in a cursive, flowing style.

Kelly Thayer
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